

Crossroads of Cuisine

Crossroads – History of Interactions across the Silk Routes

Edited by

Angela Schottenhammer
(Catholic University of Leuven, Belgium)

VOLUME 2

The titles published in this series are listed at brill.com/cros

Crossroads of Cuisine

The Eurasian Heartland, the Silk Roads and Food

By

Paul D. Buell

E.N. Anderson

Montserrat de Pablo Moya

Moldir Oskenbay



BRILL

LEIDEN | BOSTON



This is an open access title distributed under the terms of the CC BY-NC-ND 4.0 license, which permits any non-commercial use, distribution, and reproduction in any medium, provided no alterations are made and the original author(s) and source are credited. Further information and the complete license text can be found at <https://creativecommons.org/licenses/by-nc-nd/4.0/>

The terms of the CC license apply only to the original material. The use of material from other sources (indicated by a reference) such as diagrams, illustrations, photos and text samples may require further permission from the respective copyright holder.



An electronic version of this book is freely available, thanks to the support of libraries working with Knowledge Unlatched. More information about the initiative can be found at www.knowledgeunlatched.org.

Cover illustration: The Mongolian Cinggis-qan memorial monuments. Photo by Montserrat de Pablo.

The Library of Congress Cataloging-in-Publication Data is available online at <http://catalog.loc.gov>
LC record available at <http://lcn.loc.gov/2020016568>

Typeface for the Latin, Greek, and Cyrillic scripts: "Brill". See and download: brill.com/brill-typeface.

ISSN 2589-885X

ISBN 978-90-04-43205-5 (hardback)

ISBN 978-90-04-43210-9 (e-book)

Copyright 2020 by Paul D. Buell, E.N. Anderson, Montserrat de Pablo Moya and Moldir Oskembay.

Published by Koninklijke Brill NV, Leiden, The Netherlands.

Koninklijke Brill NV incorporates the imprints Brill, Brill Hes & De Graaf, Brill Nijhoff, Brill Rodopi, Brill Sense, Hotei Publishing, mentis Verlag, Verlag Ferdinand Schöningh and Wilhelm Fink Verlag.

Koninklijke Brill NV reserves the right to protect this publication against unauthorized use.

This book is printed on acid-free paper and produced in a sustainable manner.

Seeing Off Yuan 元 the Second on a Mission to Iran

Wei 渭 City morning rain wets light dust,
Guest house green green willows color fresh
Admonish my lord again sample liquor one cup
West past Yang Pass no old friend.

WANG WEI 王維 (c. 699-759)

This telegraphic poem became so universal a farewell to those traveling west that it is still quoted and alluded to at thousands of partings.



Wild Strawberries (Kazakh Folk Song)

Greetings my brothers!
Wild Strawberries!
Whose collars are covered with white silk?
Wild Strawberries!

For you my brothers I sing this song!
Wild Strawberries!
Do let my words be mistaken, oh my Fathers!
Wild Strawberries!

Chorus:

Wild Strawberries grow on the Mountain,
Wild Strawberries grow on the plain,
If it were not my brothers,
Who would know your value?
Brother of noble soul,
Who would know your value?

For now a larch tree, a larch!
Wild strawberries!
Many horses roam the larches!
Wild strawberries!

Good when noble people gather!
Wild strawberries!
It is not good to just sit and watch!
Wild strawberries!

Translation by MOLDIR OSKENBAY



Contents

Acknowledgements	IX
List of Illustrations	X
Introduction	1
1 The Eurasian Heartland: Overview of a Link between Worlds	7
1 Physical Geography	7
2 Vegetation	13
3 Animal Life	21
4 Nations of Today	29
5 Agriculture and Environment	30
6 Integrating Agriculture and Livestock	38
7 Nomads	39
8 The Crossroads	48
9 Overall View of Foods	49
10 Building Foodways	52
2 Prehistory and History: The Long Record of Foodways	53
1 Prehistory: From Hunting to Agriculture	53
2 Prehistory: Domestication	54
3 Domesticated Plants	56
4 Domestic Animals	63
5 Languages	70
6 The Origins of Civilization and High Culture in the Eurasian Heartland	74
7 Religion	82
3 Histories	86
1 Ancient and Medieval History (Before the Mongols)	86
2 Chinese Food Meets Western Food on the Silk Road	95
3 China after Tang	108
4 Witnesses: Travel Accounts from Late Antiquity and Early Medieval Times	110
5 Medicine and Food in Medieval Central Asia	116
6 History during the Mongol Empire	125
7 The Eurasian Heartland and Its Silk Roads in Mongol Times	135
8 Food and Medicine in Mongol Times	142

9	History after the Mongols	161
10	Travels and Excursions after 1500	163
11	On to the Twentieth Century	177
4	Contemporary Food	180
1	Lifestyles	180
2	Bread	182
3	The All-Important Noodle	184
4	Other Grain Foods	190
5	Cooking Meat	192
6	Dairy Foods	197
7	Other Drinks	198
8	Vegetables	199
9	Sweets	200
10	Spicing	201
11	Cooking Utensils	202
5	Food by Country	204
1	Afghanistan's Food	206
2	Eastern Iran's Food	219
3	Uzbekistan's Food	221
4	Tajik Food	234
5	Kyrgyz Food	238
6	Kazakh Food	239
7	Azerbaijan Food, and Central Asian Food in Turkey	250
8	Uighur Food	255
9	Mongol Food	257
10	Kalmyk Food	268
11	Chinese Food, the Central Asian Connections in Ming and Today	271
12	Chinese Food Today: The Central Asian Connection	279
13	Korea and the Eurasian Heartland	281
	Conclusion—The Next Step: Silk Road as Metaphor, Seattle, the Silk Road, and the Pacific Rim	287
	Appendix: Summary of Western Plants in the YSZY and the HHYF	293
	Bibliography	296
	Index	325

For reasons of privacy, the Acknowledgements have been omitted from the online version of the book.

Illustrations

All photos, except 43-46, are by Montserrat de Pablo and are strictly copyright. For an additional consideration of this material see <<http://www.silkroadcrossroads.com>>. Photos 43-46 and maps are by Moldir Oskenbay.

Maps

- 1 Mongolia on the eve of Empire 8
- 2 Kazakhstan and its neighbors 30

Photographs

- 1 Mongolian steppe 8
- 2 The mountains of Kazakhstan 10
- 3 Sand desert in Mongolia 11
- 4 The Orkhon 11
- 5 Saksaul 16
- 6 Protected tree with cloth 17
- 7 The Yurt district in Ulaanbaatar 17
- 8 *Büldirgen* 19
- 9 An *Ovoo* 20
- 10 Mongol hunting bird 23
- 11 Mongolian landscape 33
- 12 Mongolian landscape 33
- 13 Mongolian landscape 34
- 14 Qaraqorum today 36
- 15 Hybrid Yak 43
- 16 An *Ovoo* 45
- 17 Almaty market 50
- 18 Almaty market 50
- 19 Almaty market 51
- 20 The public market in Almaty 61
- 21 A public market in Ulaanbaatar 61
- 22 Mongolian fat-tailed sheep 65
- 23 Fermented mare's milk prepared for a guest 68
- 24 A Mongolian shaman in traditional attire 85

25	The Orkhon inscriptions, Tonyukuk's grave	91
26	The steppe and Tonyukuk's grave	92
27	Mongol inscription from Qaraqorum	132
28	The Egyptian or Spice Market in Istanbul	138
29	The Egyptian or Spice Market in Istanbul	138
30	Spices and dried foods for sale in Ulaanbaatar, Mongolia	139
31	Milking mares	143
32	<i>Grut</i>	154
33	Sweet <i>Börek</i>	157
34	Sour soup	158
35	<i>Tutumash</i>	160
36	<i>Güllach</i>	160
37	A modern Mongolian still of metal	167
38-42	The feast at Moldir Oskenbay's house in Almaty	243-244
43	Kazakh <i>qara qazan</i> (black pot)	246
44	Bread	247
45	<i>Bauyrsaq</i>	248
46	<i>Qattama</i>	250
47-53	A still and the making of cow's milk vodka	260-261

Figures

1	Cranes	25
2	Swans	25
3	Shore birds	27
4	The <i>Tarbaqan</i> marmot	28
5	A Kalmuck still	169
6	Mongolian still	169

Table

1	The modern nations of the Eurasian heartland and the associated areas of China	31
---	--	----

Introduction

Central Asia—the Eurasian heartland—has been the crossroads of the Old World since Neanderthals hunted mammoths there. The vast steppes provided little barrier to travel. Vast mountains and deserts made harder barriers, but were not insurmountable. Wanderers, then migrant herders, then vast caravans of camels and mules traveled the fabled routes that came to be known as the Silk Road, a term coined in 1877 by explorer Ferdinand von Richthofen.¹ There were many roads, and silk was only the most famous of countless commodities, but the name conveys the unity and mercantile nature of the routes. Over it came silk from China for the luxury-loving Romans, but also spices, seeds, agricultural ideas, books on food and pharmacy, and other influences on foodways.

Agriculture and herding spread largely from west to east, about as rapidly as they spread through Europe. China contributed little, and that only late. Central Asia itself gave the world the domesticated horse, and most of the knowledge about how to use it, from riding gear to fermented mare's milk. The region became innovative at integrating nomadic and seminomadic stockraising with settled oasis agriculture. Later, mounted warriors from the heartland rode out to conquer much of the known world.

Central Asia includes the modern nations of Kazakhstan, Turkmenistan, Uzbekistan, Kyrgyzstan, Tajikistan, Afghanistan, and Mongolia. It also includes much of western China: Xinjiang 新疆, and by extension (“inner Asia” rather than “Central Asia”) Inner Mongolia (Nei Menggu 内蒙古, Öbör Mongol), and Gansu 甘肅 Province west of the Yellow River valley.

The Eurasian heartland blends into China in the west, Tibet in the south, and in the north goes into Russian Siberia. We have generally limited ourselves to this area, but have also followed the trail of Central Asian food to neighboring Korea and Azerbaijan, to show the great influence of Central Asian cooking there. We have not been able to follow it farther south and west, for lack of good available materials on Khorasan (northeast Iran) and neighboring points; our travels in Iran, like the available cookbooks, focused on the Caspian-Tehran-Isfahan corridor.

Within this vast area, larger than the United States, foods are rather similar, the result of a long interaction of human groups and geography. The human record in prehistory and history shaped the available foodstuffs. Geography made some things—such as herding of livestock—easy and appropriate, other

¹ Wikipedia, “Silk Road,” <https://en.wikipedia.org/wiki/Silk_Road>.

things difficult, and many things impossible. No tropical crops survived. Extensive rainfed agriculture was limited to the far northwest and northeast. Steppe, desert, and fertile but limited oases shaped foodways. Meat, dairy products, and intensively farmed oasis vegetables and fruit were important.

This book tells the story of food in Central Asia: the natural environment, the coming of agriculture, the domestication of the horse (Central Asia's great gift to humanity), the rise of cities, the progress of trade. Central Asia has always been the crossroads of Eurasia—a fact far more important in the days of caravan trade than in later centuries when sea trade dominated the world. Central Asia has had its periods of glory, including the Medieval years when the Mongols controlled the largest contiguous empire the world has ever seen. It also had periods of eclipse, especially when cold dry weather shut down much of its economic activity.

Central Asia is a world of breads, fermented dairy products, grilled and stewed meats, and fruit, often dried. It is a land of noodles and dumplings—wheat made into pastes that serve countless functions. We chronicle the refined cuisines of the great oases, but also the rough but excellent cooking of remote mountain valleys and steppes.

We are a historian and a human ecologist, not chefs or food writers. Thus this book spends considerable time setting the stage—the regional ecology—and telling the back story, the prehistoric and historic development and course of food in the world crossroads. We follow an early Medieval Arab as he tries to make sense of birch beer, a Russian writer exploring the steppes now in Kazakhstan, and the wanderings of Chinese monks seeking Buddhist scriptures in the heartland. We follow archaeologists in examining dumplings from tombs fourteen centuries old. We track caravans over the Silk Routes.

We begin the book with the physical setting, then tell the spread of agriculture and stockraising, then recount such of the history as is directly related to foodways. That includes some detail about the nomadic regimes, even when “food” is not directly mentioned, because it was the nomads that carried foodways for thousands of miles in a few years. Then we talk of the caravan trade, the early European explorers, and the coming of modernization. Finally we introduce current foodways.

We also present traditional recipes, usually from rare and often personally-published books or from our own experience. We try to present enough of these to give a real flavor of Eurasia's inner heart.

As the Kazakhs say: *As bolsyn!* May the food benefit you!

1 A Note on Languages and Transcription Systems

Central Asian languages are highly diverse, belonging to a variety of distinct language groups, and are hard to represent in English spelling. The Turkic languages in particular are notably sound-rich, with many vowels and consonants English lacks. Most also exhibit vowel harmony. A number of transcription systems exist (here we either follow direct transcription systems used by the Foreign Broadcast Information Service in its JPRS publications, or follow our sources in how they spell, authority Charles Perry, for example, trying to be as consistent as possible). The results may be somewhat confusing at times because of the great diversity of languages, but those knowing the relevant languages will have no problems sorting out the sounds and the words they represent.

Note also that while the JPRS transcription systems for the Central Asian languages, particularly the Turkic ones and for related Mongolians, are uniform and based upon the same fundamental understanding of the languages in question, other transcription systems used in this book may be based on different logics, the Pinyin system we employ throughout for Chinese, for example, as well as our simplified system for texts written in the Arabic script, including Arabic and Persian, with variations due to different sources, e.g. Turkic languages written in the Arabic script such as the Kazakh used in China. Differently based transcription systems may likewise lead to apparent confusion. For example, in the standard transcription systems, “q” in Turkic languages represents a back *k*, but in Chinese it represents a palatalized *ch*. “Y” usually means the English *y*, but transcriptions of Turkic languages use it to transcribe a sound rather like the *u* in *sum*, so *kazy* “horsemeat sausage” is pronounced *kaz-uh*, not *kaz-ee*. The *pinyin* system now used for Chinese is maddeningly confusing for non-adepts, but no satisfactory alternatives exist. Not just Chinese, for Korean there are two systems in use; we prefer McCune-Reischauer to the new Korean national system.

To add to the complexity, Uzbekistan in 1992 and Kazakhstan in 2017 decided to shift from Cyrillic (in most cases the standard Russian system but with a few extra letters for sounds not in the Russian mix of Cyrillic letters) to a Latin script. The situation has not yet stabilized; both countries use both scripts. Their Latinization systems are very different from the traditional one we use, and represent local pronunciations that we ignore; Bukhara, for instance, becomes Buxoro, using “x” instead of “kh” to write the sound of German and Irish *ch*, and representing the backing of *a* to the short *o* characteristic of Uzbek (also of the unrelated Afghan and Pushtun languages). Kazakh, meanwhile, tends to front the *a* to short *a*. So *chaikhana*, the Farsi word for “tea

shop,” becomes *choyxana* in Uzbek and *sháyxana* in Kazakh, with the accented *a* representing the *a* in English *at*. Nevertheless, we continue to use standard traditional systems, as seen in most western writings on Central Asia, as much as possible. One pronunciation change that leads to endless confusion is the frequent change of *k* and *q* (back *k*)—largely in Turkic loanwords—to *kh* (German *ch*), in modern Mongolian. Thus Cinggis-qan has become Chinggis-khan and *kök* (Medieval Turkic for “sky blue”) has become *khökh*.

While we mostly use modern forms for our words from Central Asian languages, also occurring and so-designated are older and even reconstructed forms, including forms in Middle Mongolian, which is now written in a standard way based on a complete reconstruction. Also occurring from time to time are Medieval or Ancient Chinese readings. Such forms are also standard, early words of dog or honey, for one example. In many cases the reconstructions are not ours but follow authorities. We apologize for the complexity of it all, which we have done our best to bridge.

2 The Heartland of Heartlands: Xinjiang Focus, the Uighurs and Uighur Progenitors (MAP 1)

A cameo of Central Asia is provided by the Uighurs, situated at the center of the old Silk Road, but now under extreme cultural threat from Chinese governmental action. Today’s Uighurs, until recently the majority population of Xinjiang (a situation now changed by large-scale Chinese migration), represent the major cultural tradition in oasis Central Asia, as it has existed for the past thousand years or more.² Before that, other groups lived in much the same way.

The modern Uighurs live in towns usually situated in oases. There they trade or practice an intense, irrigated garden agriculture, one of the most productive in the world. It produces wheat and barley for bread, carrots and other vegetables to flavor meat dishes, and a variety of fruit. Xinjiang now also has industry and other occupations, but this has not greatly changed the basic way of life. Before the Turkic Uighurs moved in from the north, the predominant languages were Indo-European, including Eastern Iranian Sogdian and Tokharian. The present Uighurs represent, in part, Turkicized descendants of earlier Indo-European groups.

Throughout much of the region’s long history, Xinjiang’s sedentary population has coexisted with pastoral nomadic neighbors, living in steppes and

² Millward (2007), *Eurasian Crossroads, a History of Xinjiang*; Foltz (2010), *Religions of the Silk Road*.

mountain areas beyond the agricultural pale. In times past, the nomads supplied the sedentary Uighurs with most of their meat and dairy foods, receiving in exchange the grain and fruits of the oases. Today, there are far fewer nomads, and relationships have changed. Still, more than a million Kazakhs live a largely traditional lifestyle in the Altai Mountains, not far from oasis Uighurs and the Han Chinese. Mongols are also present. Far to the south there are a few Tibetan pastoralists as well, but not many.

Any domination of the area by once powerful nomadic groups is now just a memory. This includes dominion by the "Uighurs" themselves, who have nomadic as well as sedentary ancestors. There was once even an Uighur steppe empire (744-840), although the exact relationship between the denizens of the Uighur steppe empire and the present oasis Uighurs is not entirely clear. They share a name, and there was some early migration of nomads to take up residence in the oases. The Uighurs of Xinjiang today speak a Turkic language, and this Turkic language came from the steppe. Modern Uighur is akin to Uzbek, and the Uzbeks practice an agriculture like that of the Uighurs. Showing different ancestry even if Turkic, and strongly Iranicized, both Uighur and Uzbek differ greatly from the languages of the formerly purely steppe Turkic peoples, languages including Kazakh, Khirghiz, Tatar, and the others of the Northern Turkic group.

Besides nomadic incursions and rule, other outside influences have washed over the area. Noteworthy among these is religion. Xinjiang was predominately Muslim until Han immigration followed by repression of Islam in the 21st century. Before that it was Buddhist. There were also large numbers of Zoroastrians. Also once present, although now gone, were Christians, Manicheans, and Jews. Manicheanism was long the official religion of the Uighur steppe empire. Despite such external influences, the underlying cultural complexion of the area remained unchanged. Garden agriculture went on, nomads invaded, and trade continued at several levels, including long-range Silk Roads trade.

With religion came communities who brought their own ways of life, including foods. Religions also brought with them active religious links with areas beyond, alongside cultural and commercial links. For Xinjiang, religions were paths of attachment to a larger world lying outside. The Buddhists had strong connections, for example, to India and Afghanistan, and even to Western Turkistan. Buddhist influence remained strong there prior to Islam. China was also long primarily Buddhist. Islam, in turn, was part of an even larger continuity stretching far west, south, and east, with Arabic serving as a universal language.

Change has been constant, and this change has always been connected with the larger world beyond Xinjiang. Throughout the last two or three thousand

years,³ much more has been involved in this change than religious exchange. Fueling interactions on the one side has been China. China is by no means a cultural unity, and has often been disunited during its long history, affecting contacts. Central Asia has been influenced largely from northwest China, which in turn has been profoundly influenced by Central Asian cultures.

Symbolical of China's connection with Xinjiang in times past was the oasis basin of Dunhuang 敦煌. It served as a barrier to Islam, and has had a long history of predominantly Buddhist communities serving as direct links to places beyond.

Beyond Dunhuang, an important gateway to the west was Chang'an 長安, today's Xian 西安. Chang'an 長安 was once the Tang 唐 capital. It is still an important city. As a center of culture, Chang'an was home to many important communities from without. Sogdians, for example, lived there in numbers in Tang times.⁴ Further north in what is now Inner Mongolia was a Turkic presence, with Xinjiang and steppe connections. Flowing into China were Central Asian groups, but also communities from the South Seas and even the Indian Ocean and beyond. These had various origins, including Persian and Arab, and the local groups that in the later Vietnam became today's Cham, later Islamized.

Westward of Xinjiang were the large oasis cities of Western Turkistan, principally Bukhara and Samarqand. There were other trading cities as well. The Mongols created new ones, often with populations forcibly removed from elsewhere. Most of the centers were connected with points in India. There were additional links through Tibet and Yunnan 雲南, through Iran, the Middle and Near East, and through them to points beyond. This even included Africa during Mongol times. Much that was from Africa came in by sea, for instance the African small cardamoms called "grains-of-paradise." Xinjiang was a destination of its own, but also a transition zone to elsewhere, even the whole world beyond China and Western Turkistan.

3 Cunliffe (2015), *By Steppe, Desert, and Ocean*.

4 Valerie Hansen (2017), *The Silk Road, A New History with Documents*. Full details in Rong Xinjiang 榮新江 (2014), *Zhongguo zhongguo yu wailai wenhua* 中古中國與外來文華.

The Eurasian Heartland: Overview of a Link between Worlds

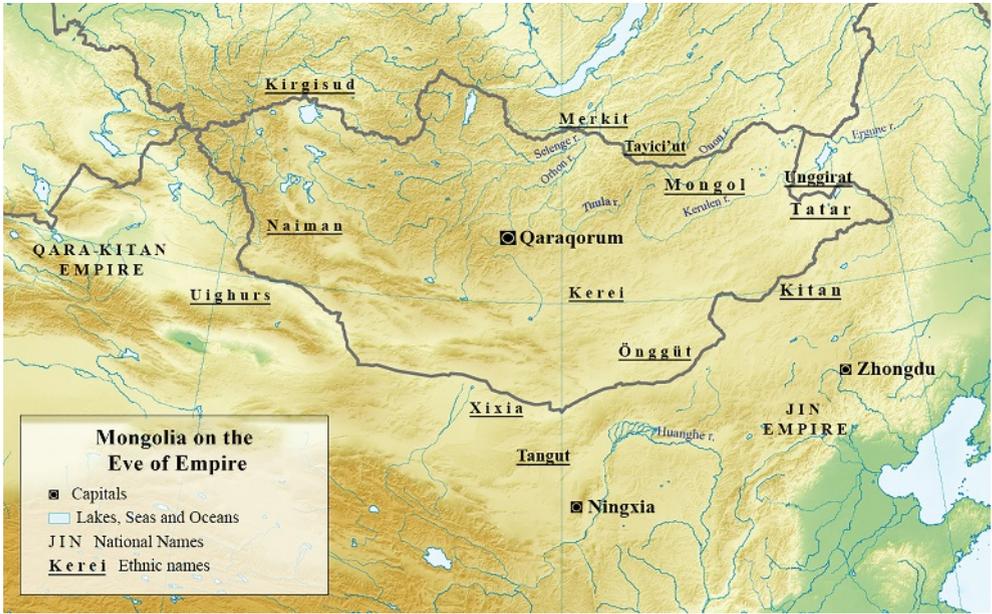
1 Physical Geography

Geography has powerfully shaped Central Asian foodways, rendering some pursuits more successful than others. Dry, mountainous, and ranging from very hot to very cold, the region is stressful for farmers. Food production always depends on extremely careful management of landscapes. Thus, some introduction to the Central Asian environment begins our work.

The Eurasian heartland is built on a vast scale. The region stretches from north of 55 degrees north latitude at the north tips of Kazakhstan and Mongolia, to just south of 30 degrees in southern Afghanistan. The classic centers of Bukhara, Samarkand, and Tashkent lie near the 40th parallel. The region lies quite far north, though with a small subtropical fraction. The span is that between southern Canada and southern Texas in North America.

Dry steppes and deserts seem endless until they suddenly come up against mountain walls several miles high. Lakes big enough to be called seas appear from nearly rainless dunes and salt flats. Huge rivers create fertile strips of oasis land bordered by lifeless plains. Travelers by plane, bored with watching the endless flat brown surface of the Kazakhstan steppe far below, are startled when the Tianshan 天山 peaks suddenly appear, so high that they seem to threaten an imminent crash.

The heartland is bordered by a vaguely-defined East Asia, and an even more vaguely-defined western Asia, with extensions south towards the Himalayas and the Tibetan Plateau, and north into Siberia. It contains the second lowest land elevation in the world—the Turpan (Turfan) Depression, sinking to 154 m (505 feet) below sea level. The Caspian steppes are also below sea level in portions near the Caspian Sea. Conversely, mountains soar to world-shadowing heights. The Tianshan rise to 7439 m (24,406 ft) at the center of the heartland. South of them is the vast Pamir Knot, a complex of ranges reaching 7495 m (24,590 ft). At the south edge rise the Karakoram Mountains, including the second highest peak in the world, K2, at 8611 m (28,251 ft). The vast Altai range, rising to 4500 m (about 15,000 feet), slashes across the region, from southern Siberia into southern Mongolia. These ranges are part of a single vast rugged



MAP 1 Mongolia on the eve of Empire



PHOTO 1 Mongolian steppe

upland that cuts the Eurasian heartland in two. Modern boundaries, notably those between China and the states of the former USSR, follow this divide.

Other major mountain chains subdivide the region. A bit east of Central Asia, the Xing'an 興安 range stretches through Inner Mongolia, and north to the Amur River. The long, narrow mountain chains of Xinjiang divide that province into several basins, the major ones being Dzungaria in the north and the Tarim Basin in the south. The Altai and Pamirs connect the Tianshan with the Karakoram, creating a vast mountain wall that divides Central Asia in two. Traditionally the western part has looked to Iran; the eastern to China. The current political and linguistic boundaries reflect this divide, as do to some extent, food regions.

Sub-ranges stretch west and have great cultural as well as geographical importance. The Hindukush ("Hindu killer") range cuts Afghanistan in half, separating the Turkic and Tajik north from the predominantly Afghan-Pathan south. The latter is also separated from an ethnically diverse Pakistan by still more ranges. The Kopet Dagh separates Iran from Turkic Turkmenistan.

Thus, much of the region is exceedingly high, useless for human purposes other than rough grazing. Communication usually involved going over high and difficult passes, or through salty and very dry deserts with only occasional oases; this formerly inhibited long-distance trade. Lacking coca leaf—the one genuinely effective folk remedy for altitude sickness—traditional people fell back on long-shot measures. Benedict Goes, a monk traveling in high Asia in the 17th century, reported use there of "garlic, leeks, and dried apples, and the horses' gums were rubbed with garlic."¹ How well this worked is unclear.

The mountains bring down orographic rain and are drained by great rivers. The most sizable, and one of the most historically important, is the Volga. It flows into—and largely creates—the Caspian Sea, a vast lake with no outlet. The Ural and Kura (Mtskvari) Rivers are smaller feeders of the Caspian. These rivers are associated more with European than Central Asian history, although the Volga and Ural River zones have strong connections to the Eurasian heartland. During the Mongol period, some of the largest trading communities involved in long-distance trade were focused on the Volga, where many new cities, many of them specially created by the Mongols, were found.²

Farther east, the Amu Darya (anciently Oxus) and Syr Darya (Jaxartes) rivers drain the high Pamirs and feed the Aral Sea, now almost dry. Of the older fabled cities of Central Asia, Samarqand and Bukhara are in the Amu Darya drainage, Farghana and Tashkent in the Syr Darya basin. Well east of these, the

1 Yule (1915), *Cathay and the Way Thither*, p. 217.

2 Federov-Davydov (2001), *The Silk Road and the Cities of the Golden Horde*.



PHOTO 2 The mountains of Kazakhstan



PHOTO 3 Sand desert in Mongolia



PHOTO 4 The Orkhon

Tarim River waters much of Xinjiang, including the ancient city of Kashgar. The river creates fertile farmland, but it dies out in the vast sand wastes of the Tarim Basin. It no longer reaches Lop Nor, the famous “wandering lake,”³ which would change location or dry up entirely, depending on the flow of the Tarim. Other smaller rivers create local oases. Unfortunately, most of the drainage from the northerly mountains flows north towards the Arctic Ocean. It is lost to the Eurasian heartland. The northern Altai, for instance, give birth to two of the greatest rivers in the world, the Irtysh and Yenisei, but the Central Asian Altai sees not a drop of their water. (A tiny part of the Irtysh drainage is now in Kazakhstan, in an area with little historical connection to lands southward.) Arctic-flowing rivers also drain northern Mongolia with little historical importance there.

The pervasive problem of the region is lack of rain. Being at the center of a vast continent, and surrounded by mountains, the Eurasian heartland has little chance of being well-watered. The only areas with rainfall adequate to grow much vegetation are the mid-levels of the mountains, and even there, actual forests are rare. Overall, rainfall diminishes from north to south. The steppes of northern Kazakhstan are now dry-farmed; the southern half of the country, and most of the rest of a wider area beyond the mountains, is desert, with farming possible only in irrigated river and lake valleys.

Rain comes largely with the winter and spring westerly winds in the western part of the region. Vast low-hanging storm fronts move slowly through, bringing slight rain to the lowlands, snow to the mountains. Cooler cycles of years produce more rain, because the North Atlantic Oscillation shifts the storm belt southward.

The eastern parts of the Eurasian heartland get their rain largely from the monsoon that brings water across China from the South China Sea. The summer monsoon reaches far north. Also, northerly storms sometimes sweep down from Siberia. In this case, cooler years bring drought, not more rain; they weaken the monsoon and drive south the Intertropical Convergence Zone that lies near the origin of it. Western Xinjiang is the zone of meeting of winter-wet west and summer-wet east, and can have confusing patterns depending on local mountain geography.

Climate change brought several major inflection points to the region. After the Ice Age glaciations, it warmed rapidly, with a long and very warm period starting around 8000 BCE. This came to a rather sudden stop between 2400 and 2000 BCE, and colder temperatures supervened, meaning very dry times in the east, and unevenly moister ones to the west. The Han Dynasty coincided

3 Sven Hedin (2010 [1920]), *The Wandering Lake*.

with better times from 200 BCE to 200 CE; the climate change at 200 CE may have hastened its fall. A very cold period, devastatingly dry in the east, followed volcanic eruptions that darkened the skies in 536-538; cold lasted until around 650, followed by rapid warming. Then after 900 the Medieval Warm Period (or Medieval Climatic Anomaly) gathered force, peaking in the 1200s. After 1300 it gave way rapidly to the Little Ice Age, which savagely depressed temperatures until around 1800. After that, warming reappeared, accelerated since at least 1850 by human release of greenhouse gases. The effects of all this on history will appear below.

In all cases, it is the mountains that bring down the precipitation. They wring the clouds dry, leaving almost nothing for lands to the leeward. The Turpan and Tarim Basins, surrounded by high ranges on all sides, have almost no rain. Agriculture, and in many cases life itself, depend on the rivers and streams flowing down from the relatively well-watered high country. In the highest places, glaciers and snowfields retain moisture, releasing it when it is most needed, in the heat of summer. Unfortunately, some of these may not store water much longer. Local environmental conditions are changing, in part due to human action.

2 Vegetation

The vegetation of the Eurasian heartland, both the native and the cultivated, is diverse and well suited to the area. Among the various natural vegetation zones, the Siberian taiga, a beautiful forest, primarily of pine and larch, extends south into northern and Inner Mongolia, and into northeast Kazakhstan. Some of the taiga forests are greatly important in early sources such as the 13th century *Secret History of the Mongols*, since they were then large enough for ancestral figures such as Chinggis-qan to hide in, when fleeing from his many enemies.

By contrast, most of the mountains of the Central Eurasian heartland are dry and rocky, covered largely with short grass and mountain flowers. There are local belts of forest, including pine, fir, and various hardwoods including birch and hornbeam; these belts get very lush in the ranges of east Kazakhstan and northeast Uzbekistan.

Good pastures, the type of terrain that most quickly comes to mind when thinking of the Eurasian heartland and its stock-raisers, exist only along streams and in valleys where water has seeped into the ground or drained into marshes and lakes. Otherwise, the region is desert or desert-grassland with scattered tufts of grass and small herbs. True grassland, with a fairly continuous cover

of good grasses, exists, or existed, in northern Kazakhstan, northern and especially northeast Mongolia, Inner Mongolia, and in a few mountain valleys. It has now been replaced by cultivation in most areas outside Mongolia. Many grasslands have been seriously overgrazed in recent years, especially in Inner Mongolia. The grass and herb steppes of northern and central Kazakhstan can bear a standing crop of 48 tons of vegetation per hectare, while the edge of the forest-steppe produces 28 and the desert steppe only 9.⁴ Perennial grasslands store carbon, fixed by a glycoprotein substance called glomalin that is secreted by symbiotic root fungi. Grasslands comparable to northern Kazakhstan's can fix .3 to 1.7 metric tons per acre per year,⁵ producing the famous *chernozem* soils—black, extremely fertile, dryland soils. The only richer soils in Central Asia are the alluvial soils of the river valleys.

Like other grasslands, the steppes, when not cultivated or overgrazed, accumulate biomass; although they do not grow lushly like tropical forests, they do not decay so fast either.⁶ Dead grass builds up. Especially important is the fact that much, or most of the accumulated biomass is underground, in the form of roots and rhizomes (many of which are important sources of food for livestock and humans). Here it is protected from erosion. Hence the buildup of the famous black soils of moister grasslands: the *chernozems* of Russia, the prairie soils of the American Midwest, and the darker parts of the loess of Inner Mongolia and northwest China. Even desert grasslands have good, if sometimes fragile, soils. Unfortunately, when stripped of grass cover, all these soils erode rapidly.

Romantic photographs have accustomed Westerners to seeing the steppes as waves of lush green grass. This is true only in a few blessed areas. Most of the steppe and desert land is as brown, dry, and desolate as the bleakest parts of the American Great Basin, or the Sahara fringes of Morocco and Algeria. To survive, nomads range over huge areas. Moving seasonally, they lead their hardy breeds of stock from thin winter pasture in the plains to lush but hard-to-reach mountain meadows. They also move to and along seasonal watercourses in the lowlands. These are the two basic patterns of movement, the first being known in Turkic languages as *yailaq kishlaq*, “summer and winter pastures.”

4 Kuzmina (2008), *The Prehistory of the Silk Road*, 11.

5 Tallgrass Ontario (2014), “Tallgrass Prairie and Carbon Sequestration.” <https://www.tallgrassontario.org/carbon_sequestration.html?fbclid=IwAR3bWOGegsGcdmGeWRSE2vsDEjpFIyQgiZ_h7zcowscoDKI_2vF3IP5WE>.

6 Carvalhais, Forkel, Khomi, et al., “Global Covariation of Carbon Turnover Times with Climate in Terrestrial Ecosystems,” *Nature* 514 (2014), 213–217.

Thin dry steppe grasses prevail in the next belt south, slowly giving way to desert, but the desert is not homogeneous. It ranges from rocky montane country with a highly diverse cover of small perennials and annuals to vast lifeless fields of dunes and salt flats. Most of it is level plain, often covered with pebbles; this is “desert pavement,” created when floods wash sand and pebbles down from mountain streamways; wind subsequently blows the dust and sand away, leaving only the stones. These pebble plains have short grass and thin brush. The Chinese learned more than 2000 years ago that pebbles hold in the soil moisture, and thus make good protective cover for fields.

Mountain landscapes range from lush forests in the north to utterly barren, desolate rock piles in the lower desert mountains of the south. Large glaciers exist in the highest ranges, but some of these are now melting. They endured previous cycles of melt around 7000-5000 and again 1000-700 years ago. Many disappeared, to be re-created by the Little Ice Age between 1400-1800. Today they supply vital water to the rivers; this may change in the future.

Mountain conditions in the Eurasian heartland are notoriously harsh and variable over both long-term and short-term time frames. On the other hand, natural selection has done its work, and a truly incredible range of plants have adapted to these conditions. Many of them bear edible fruits and leaves or serve as medicinal herbs. Roger Phillips and Martyn Rix have done yeoman service in comprehensively photo-documenting west and central Eurasian montane plants in a long series of books and articles (see e.g. *Perennials*⁷; this book has been available online for literally one cent [*sic*]).

A fascinating, now vanishing, component of the desert is desert woodland. This is made up of various shrubs, including tamarisks, wild almond species, and the amazing saksaul, which grows into a large tree on 5 cm of rain a year. These plants depend on sand dunes to trap and hold water from infrequent rains, also seepage from rivers and streams. They thus colonize dune fields of sand blown from river and lake beds. Always local, desert woodland has rapidly disappeared under human pressure; it is good firewood and the plants are good camel or goat browse.

Also almost gone—or at best grazed into senescence as livestock eat all young trees—are the riparian forests, known as *toghai* in Kazakh, and by the same or similar words (*togai*, *tugai*) in other Turkic languages. These forests of poplar and willow, with understories of oleaster, tamarisk and other trees, once lined the rivers and streams. They were hosts to red deer, wild boar, tigers, and other wildlife. They too have been replaced by cultivation, except in Mongolia, where careful integration of herding with the natural ecosystem has

7 Phillips and Rix (1991), *Perennials*.



PHOTO 5 Saksaul

preserved them. Mongolians still revere trees; sacred blue scarves are tied around thousands of riparian poplars, hawthorns, and others, to protect them from being cut down.

Such strips of trees had extremely fertile soil, concentrating the nutrients of the mountains and plains. They also had abundant water, and almost permanent sunny weather. They are thus perfect for agriculture, and today are intensively cropped. Most have been irrigated for thousands of years. Many key innovations in irrigation were made in Central Asia. Most of the rest were made in the Near East, and soon spread to Central Asia. The great Central Asian cities—Samarkand, Bukhara, Khiva, Kashgar and the rest—are all, as a matter of necessity, found in the major river valleys. In no case do these riparian strips cover more than some 10% of the land. In eastern Kazakhstan and Uzbekistan, however, they are very extensive. Here the main threat is urban sprawl, which is taking out a disturbingly large amount of farmland.

Areas not suitable for agriculture usually support nomad herding, which thus occupies far more of the land, though it supports far fewer people, than farming does. Decline in herding has led to concentrations of former herders in cities, with results often including poverty and overcrowding. Only northern Kazakhstan, the domain of the (formerly) “virgin lands,” has extensive rain-fed agriculture.



PHOTO 6 Protected tree with cloth



PHOTO 7 The Yurt district in Ulaanbaatar

Most of the Eurasian heartland has no outlet to the sea. Internal drainage once ended in vast lakes and marshlands. It still does in places where the rivers that feed them have not all, or nearly all, been diverted for irrigation, or in Mongolia used in gold extraction. These wetlands once hosted spectacular fish, waterfowl, and wildlife resources. This includes the mineralized swamp that once was the vast Aral Sea, with its resources of largely fresh water. The deltas of the rivers that feed these internal drainage basins, being among the most fertile and lush riparian lands, support a highly productive agriculture. In much of the area, alas, this has meant cotton monoculture, the cause of the near destruction of the Aral.

An astonishing feature of the Eurasian heartland is the sheer diversity of the vegetation, despite the horrific climate, and the stony, salty, or sandy soils. Those familiar with comparable dry lands in North America and Turkey will correctly expect a fantastic wonderland of spring flowers in the mountain regions. The plants get enough moisture from melting snow to put on a dramatic flush of growth, followed by a mad competition for the pollinators available. Then the plants die or go dormant for the year. Many have evolved to survive by means of underground storage structures, so Central Asia is a great storehouse of bulbs, corms, and other “root” resources that are often edible.

More relevant to foodways are the many medicinal herbs,⁸ and wild fruits. Apples certainly come from the Eurasian heartland; they have been genetically traced to southeast Kazakhstan, near the modern city significantly named Almaty, “father of apples,” although the name is popularly said to go back to a Russian equivalent of Johnny Appleseed in the 19th century. Apricots, peaches, walnuts, and almonds are native, and local stock probably contributed to domestic forms. All are good eating, as are the local fruits such as alpine wild strawberries, the celebrated *büldirgen* (*Fragaria vesca*). Less familiar to the outside world is sea buckthorn (*Hippophaë rhamnoides*, the Mongol *chatsar-gana*), a wonderful-flavored yellow fruit and medicinal herb of the colder parts of the region.⁹

The importance of trees in Asia is shown by the widespread tree worship. Virtually everywhere in Asia that is not solidly Muslim or Christian, there is a high religious and spiritual regard for trees. Throughout the Eurasian heartland, vitally important religious regard keeps trees alive and flourishing. Even

8 Eisenman, Zaurov, and Struwe (2013), *Medicinal Plants of Central Asia: Uzbekistan and Kyrgyzstan*, trans. Zaurov, Eisenman, Yunusov, and Isaeva; Boldsaikhan (2004), *Encyclopedia of Mongolian Medicinal Plants*.

9 Tungalag and Jamsran (2012), *A Field Guild to the Trees and Shrubs of Mongolia/Mongol Orni Zarim Mod, Söög Tanikh Garin Avlaga*.



PHOTO 8
Bildirgen

in areas that are now Muslim,¹⁰ or Christian,¹¹ there are many survivals of the ancient religion, except where modern extremism has entered. The Russian scholar Olga Gorshunova¹² reports sycamores up to three meters thick being venerated; they were locally held to be protected, and honored with flags, ribbons, and protective fences. She notes similarities to ancient Sumerian tree cults, and we can certainly see similarities to Chinese ones.

In Mongolia, where there are not so many trees, the landscape is dotted with *ovoo* (*obo* in earlier pronunciation), rock cairns sometimes built up with and frequently covered with cloth offerings. *Ovoo* celebrate the spirits and mark particularly beautiful plots or other places where the spirits are likely to congregate.

The climate is no less a threat than the landscape. Winter cold is brutal, often down to Arctic levels. Frederick Burnaby's classic 19th-century account *A Ride to Khiva* (1876) gives a harrowing account of his nearly losing his hands because he failed to put on heavy mittens over his already heavy traveling gloves. The Arab traveler Ibn Fadlān (born 877), writing almost a millennium earlier, provides a very similar account. In the northern portions there occurred the dreaded ice-storms called *dzud* in Mongolian (also transliterated *zhud* or *dzuud*; in Kazakh and other Turkic languages *jut*), when masses of snow or late wet snow or sleet can cover the grazing and form an icy, impenetrable sheet over everything (Mongolian *qara dzud*, "black dzud") or just snow

10 Gorshunova (2012), "Pray, Howl and Take My Power: Sacred Images and Nature Cult in Central Asian Islam," Presentation, International Society for the Study of Religion, Nature and Culture, Malibu CA, Aug. 9.

11 Shutova, "Trees in Udmurt Religion," *Antiquity* 80 (2006), 318-327.

12 Gorshunova, "Pray, Howl and Take My Power."



PHOTO 9 An *Ovoo*

too deep for animals to paw through (Mongolian *chaghan dzud*, “white dzud”). Such an event still means mass death for livestock and starvation for herders. “In Mongolia in 2008-9 a period of drought followed by an unusual cruel winter (a *dzud*) killed eight million animals.”¹³

Summer temperatures in such lowlands as the Turpan Depression are among the highest in the world, comparable to Death Valley and the Sahara oases. In the Helmand lowlands of Afghanistan, temperatures up to 45 C (120 F) have been recorded at *midnight* in June; yet freezes can occur as early as September. The Helmand is also blessed with the “Wind of 120 Days,” which resembles the Santa Anas of southern California: a blazing, bone-dry, down-valley wind, up to over 140 km/hr, that uproots trees and drives dust storms.¹⁴ Santa Anas usually last only a few days, and the thought of one that lasts 120—late summer and much of fall—is staggering. Genial, moderate climes are nowhere found. Temperatures in desert mountain valleys can change over 20 degrees C in a single day.¹⁵

13 Cunliffe, *By Steppe, Desert, and Ocean*, 8; Ibn Faḍlān (2012), *Ibn Faḍlān and the Land of Darkness: Arab Travellers in the Far North*, 8-9.

14 Dupree (1980), *Afghanistan*.

15 Nabhan (2014), *Cumin, Camels and Caravans*, 148.

3 Animal Life

With its geographical diversity and many environmentally rich areas, the Eurasian heartland once hosted a vast amount of wildlife. It was notable especially for herds of thousands of gazelles, and up to millions of saiga antelope. Wild Bactrian camels, wild asses (onagers, kiangs), red deer, wild boar, mountain sheep, gazelles, wild horses, and other animals occurred in vast numbers. There were—and still are—masses of domesticated livestock everywhere; this includes mostly sheep and goats, but also thousands upon thousands of horses in Mongolia and Kazakhstan, used as a source of meat as well as for riding. V. M. Masson points out that “the fauna...is characterized by a large number of fast-moving animals which can rapidly travel great distances in search of waterholes.”¹⁶ Their young must be able to run a few hours after birth, to escape predators.

Hunting was once a major subsistence activity. Hunting is an understudied aspect of Central Asian food, as is the gathering of wild resources. We know that humans managed to hunt, kill, and butcher a mammoth as early as 45,000 years ago in Siberia.¹⁷ Hunting continues today, although depletion of game, fish, and even wild plants in the last two centuries has made it a marginal part of life. People had to compete with wild predators: leopards in the lowlands, tigers wherever there was forest, snow leopards in the high peaks, and wolves everywhere. Flocks of mountain sheep were common in the mountains. Fish thronged the few rivers and the great lakes. Birds abounded in incredible numbers, especially during migration, when the tens of millions of birds that nested in Siberia moved to or from winter quarters in the warm South.

Hunting is less prevalent today, though it continues. The Kazakhs still list the necessary accoutrements of a warrior as including a hunting hound (*tazy*), hunting eagle (*byrkyt* or *bürkit*), and snare, listed along with horse and beautiful wife! Kazakh, Kyrghiz, and Mongol herdsmen use great and powerful hunting eagles, falcons, and even owls to hunt a variety of animals. This includes wolves, a tabu animal for Kazakhs and some other Turkic groups to take directly; their origin story holds that the Turkic peoples are descended from a wolf. Falconry may have originated in Inner Asia.¹⁸ Such hunting provided not only food and spectacle, but also fur for clothing and trade. Hunting foxes for their fur, with the aid of golden eagles, is still a custom in the wildest parts of

16 Masson (1992), “The Environment.”

17 Pitulko, Tikhonov, Pavlova, et al., “Early Human Presence in the Arctic: Evidence from 45,000-year-old Mammoth Remains,” *Science*, Vol. 351 (2016), 260, doi: 10.1126/science.aad0554.

18 Erdenebat (2014), *Mongol Shuvuulakhui*.

the region. (Imagine being tough enough to have a golden eagle land on your arm—leaving aside the skill needed to train and manage such a bird. The sheer momentum of the bird's landing can knock a strong man into the dust.) Predator control was also involved, since the eagles are sometimes flown at wolves by the Kazakhs to remove the stain of a human killing a wolf, a major issue in traditional society.

Kazakhs even lack a word for wolf. The commonly used one, *qasqyr*, is a tabu word, “gray worm.” Such nervousness about saying the true name of a dangerous animal is universal in Eurasia; tigers are often similarly euphemized. (The same logic gave us, in Germanic languages, “bear” and its cognates—from an old root for “brown”—instead of the expected cognate of *ursus* and *arctos*.)

As so often, Marco Polo said it best: ... when the “the great lord goes birding with his gyrfalcons and other birds, there are a good 10,000 men, arranged 2 by 2, who are called *toscaor*,¹⁹ which in our language means “men who stand guard” ... Each one has a falconer's whistle and a hood, so that he can call and hold the birds.”²⁰ He continues: “there are also a great number of eagles trained to catch wolves, foxes, fallow deer and roebucks, and catch a good many of them. But those trained to catch wolves are very large and very powerful, for know that no wolf is so big as to escape being taken by these eagles.”²¹ In Shangdu 上都 (the summer capital that Samuel Taylor Coleridge immortalized under the Portuguese spelling of Xanadu) Marco notes the gyrfalcons and falcons were kept in cages and, he says: ...“there are more than 200 gyrfalcons.”²²

In more modern times, kings flew eagles and gyrfalcons. The nobles preferred peregrine and saker falcons, and the court ladies might train rosy starlings to hawk for butterflies! Modern Mongols today commonly use owls to hunt, as well as eagles and hawks of every sort. Little has been forgotten.

Writings on hunting are scarce from Central Asia, thus of major importance is Thomas Allsen's study *The Royal Hunt in Eurasian History*, and, more recently, the specialized work on falconry by Ulambayaryn Erdenebat (Ulaanbaatar, 2014). No doubt Central Asian royal hunts were as complex as they were elsewhere, with much special terminology and manners, as the accounts of Marco Polo and other witnesses make clear.

This world persisted until the coming of high-powered rifles, and modern landscape alteration through agriculture and mineral extraction. Now, the

19 This is *tutqa'ul*, an official manning a watch station associated with the postal system, a transportation policeman. See Buell and Fiaschetti (2018), *Historical Dictionary of the Mongol World Empire and its Successor States*, 298.

20 Kunoshita, trans. and ed. (2016), *Marco Polo, the Description of the World*, 83.

21 Kunoshita, *Marco Polo*, 82.

22 Kunoshita, *Marco Polo*, 64.



PHOTO 10
Mongol hunting bird

saiga antelope is desperately endangered. One third of the few survivors were killed by a respiratory epidemic in 2015. Horses are extinct in the wild except for a few recently-reintroduced Przewalsky's horses in Mongolia. There are still a few feral horses on Jeju Island, Korea, left over from the 13th century Mongol invasions of Japan. Fish have disappeared with the drying of lakes, overuse of most rivers and overfishing in the few rivers that still have livable conditions for them. Thus, few writers could observe a hunting way of life. Those early travelers who could observe it were quick to emphasize its importance. Thomas Allsen, and Richard Almond in *Medieval Hunting*,²³ have combed this literature; they show how important hunting was not only for food, but to train nobles for war, to demonstrate royal power, and to establish royal charisma through vast impressive spectacles.

The inhabitants of the Eurasian heartland certainly agreed with the Elizabethan English author who wrote that: "...he cannot be a gentlemen [*sic*] which loveth not hawking and hunting... The like saying is that he cannot be a gentleman which loveth not a dog" (anonymous author in 1568, quoted by Richard

23 Allsen (2006), *The Royal Hunt in European Prehistory*; Almond (2003), *Medieval Hunting*.

Almond).²⁴ Everywhere, hunts were highly ritualized and very much an extended social activity. Qubilai-qan (r. 1260-1294) took much of his court with him when he went hunting—even his court ladies. He also took his birds and even hunting leopards or cheetahs (*bars*)—the latter trained to perch on a horse. A famous Chinese painting shows just such a hunting leopard.

Most spectacular indeed were the royal hunts. These produced, if our sources may be believed, hecatombs of game, which fed the court and often many ordinary people. The sizes of the takes from these hunts must be highly exaggerated, for the environment would simply not sustain hunting at that level, and the Mongols and their courtiers were too savvy to destroy it by overhunting. They wanted to come back for later hunts.

Game obviously entered into the elite medieval diet in Central Eurasia on a vast scale, as is witnessed, in particular, by the many wild game recipes found in the *Yinshan zhengyao* 飲膳正要. “Proper and Essential Things for the Emperor’s Food and Drink” (*YSZY*), the official Yuan 元 Dynasty dietary manual and presented to the court in 1330. One of these recipes, an appropriate first recipe for our book, even calls for cooking a wolf. Hu Sihui 忽思慧, the court dietitian, and main author of the text who was probably an Uighur, has even assigned the wolf suitable medical qualities. The spices mark this as an adaptation of a lamb recipe. A *qian* 錢 is a Chinese ounce:

Roast Wolf Soup

Ancient *pencao* 本草 [herbals] do not include entries on wolf meat. At present we state that its nature is heating. It treats asthenia. I have never heard that it is poisonous for those eating it. In the case of the present recipe, we use spices to help its flavor. It warms the five internal organs and warms the center.

Wolf meat (leg; bone and cut up), tsaoko cardamoms (three), black pepper (five *qian*), *kasni* (one *qian*), long pepper (two *qian*), grain-of-paradise (two *qian*), turmeric (two *qian*), *za’faran* (one *qian*).

Boil ingredients together into a soup. Adjust flavors of everything using onions, sauce, salt, and vinegar.²⁵

Birds exist in great variety in Central Eurasia. Birds concentrate their urine and find other ways to conserve moisture as well, and thus can flourish in deserts.

24 Almond (2003) 33.

25 Hu (2010), *Yinshan zhengyao*, Sibu congkan xubian 四部叢刊續編子部, I, 36A-B; Buell and Anderson, with Perry (2010), *A Soup for the Qan: Chinese Dietary Medicine of the Mongol Era as Seen in Hu Sihui’s Yinshan Zhengyao*, 286-87.



FIGURE 1
Cranes (YSZY, III, 23A). Shown are the "White Crane," the "Black-headed Crane," and the "Iranian Crane," *Grus leucogeranus*, *G. nigrocollis*, and *G. grus* respectively



FIGURE 2
Swans (YSZY III, 21B). Shown are the *Yeke siraqun qun*, "Greater Golden-headed Swan," *Cygnus cygnus*, the *Surqyl*, the Mute swan, *Cygnus olor*, and *Alaq qun*, "Variegated Swan," unidentified

天鵞味甘性熱無毒主補中益氣鵞有三四等金頭
 鵞為上小金頭鵞為次有花鵞者有一等鵞不能
 鳴者飛則翎響其肉微腥皆不及金頭鵞

速見乞刺
 不能鳴鵞

阿刺澤
 花鵞也

Recently, overgrazing, and conversion of wildlands to intensive agriculture have greatly reduced their numbers. The Eurasian heartland was a world center of eagles and falcons, and of vultures the size of condors. Water birds and bustards provided good food. Cranes were common enough for Marco Polo to describe, obviously from experience, several species. (His detailed, accurate accounts of them are one of the proofs that he actually traveled where he said he did.²⁶) All are rare or endangered now. Birds also appear, along with wolves and other large animals, in the *YSZY*, including cranes and swans, the latter named in transliterated Mongolian, and some shore birds, all presumably hunted and eaten (Figures 1-3):

Small mammals were also hunted and included a wondrous variety of marmots, jerboas, ground squirrels, hamsters, and other rodents, as well as pikas (rock rabbits). Every major mountain range has its own species of marmot and pika. The rodents contributed importantly to history by being the definitive hosts of the bubonic plague. How it got to Europe is still a bit of a mystery. In the Plague of Justinian (541-542), and the far worse Great Plague of 1346-1350, and in many smaller but still savage later epidemics, it changed history profoundly. Despite speculative claims to the contrary, it is not known to have caused similar epidemics in China; the plague ecology of eastern Asia is different enough to have kept it a minor endemic rather than a disastrous epidemic.²⁷ Within Central Asia itself, nomads knew enough to avoid sick rodents, even if outbreak years could not be avoided entirely. Such years could occur several poor years leading to a die-off of predators were followed by suddenly improved conditions that allowed rodent populations to explode before predators like wolves could catch up.

Sadly, increasing “modernization,” whether it has been Christian, Islamic, communist, or merely economic, has been deadly to animal conservation, and to other kinds of preservation of nature. It has changed the basic character of the culture, and even geography of the Eurasian heartland. Whatever “progress” may have come from these modern ideologies, they have been intensely regressive in this regard. Comparison with Mongolia, the last refuge of traditional attitudes to the environment, confirms the general finding that early and local Asian religions were aware of the values of forests, wildlife, clean water, and other environmental benefits,²⁸ while today’s modern ideologies are almost totally destructive. Fortunately, enough traditional attitudes survive

26 Haw (2006), *Marco Polo's China: A Venetian in the Realm of Kubilai Khan*; E. N. Anderson, “Birds of the Mongol Empire,” *Ethnobiology Letters* 7:1 (2016), 67-73.

27 Benedict (1996), *Bubonic Plague in Nineteenth-Century China*; Buell, “Qubilai and the Rats” *Sudhoffs Archiv*, Band 96, 2 (2012), 127-144.

28 Anderson (2010), “Indigenous Traditions: Asia,” 216-221; Anderson (2014), *Caring for Place*.



FIGURE 3
Shore birds (YSZY, III, 23B)

in much of the region to give the worldwide environmental movement some traction. The collapse of the USSR has proved devastating in the Central Asian republics. Local greed, corruption and crime have since run rampant. Parks were ravaged, carefully restored game populations shot to extinction, public works allowed to fall apart. Repairs have, however, begun, and the more progressive Central Asian nations are reasserting their traditional conservation ethics.

The most dramatic bit of ruin has concerned the Aral Sea.²⁹ It was once a vast body of inland water with a rich fishery, including its own varieties of sturgeon. In the USSR days the rivers feeding the Aral water were diverted to irrigate cotton fields. Salts flooded into the sea from salt flats left behind after the retreat of the rivers, and land and water became saturated with deadly toxic pesticide and herbicide residues carried by the river water. The water table sank. This meant that more and more water was needed to irrigate and replenish the Aral basin. More water, in turn, meant more minerals in what water there was, and tended to concentrate pesticide and herbicide runoff. The level of the sea

29 Kobori and Glantz, eds. (1998), *Central Eurasian Water Crisis: Caspian, Aral, and Dead Seas*.



FIGURE 4
 The Tarbaqan marmot (YSZY, III,
 19B)

sank drastically, leaving mineralized sea bottoms. Over the years, the Aral Sea shrank to a few small lakes too salty for fish. Misuse of the remaining water flow since then has not helped.

Today Turkmenistan, Uzbekistan, Kyrgyzstan, and Tajikistan freely take the water of the Aral Sea's main feeder river, the Amu Darya. Though a huge river, the waste of water is so enormous that the flow no longer reaches the Aral. The four countries are, respectively, the first, fourth, fifth, and seventh largest users of water per capita in the entire world. (The other top countries are Iraq and Guyana, dependent on irrigated farming, and the notoriously water-profligate United States.) Yet the incomes of these nations (and of Afghanistan, which also depends on the Amu Darya) are all very low, meaning that the five are almost unique in the world in use of water per dollar of GNP; only impoverished, rice-dependent Madagascar and Guyana are competitive.³⁰

Kazakhstan, where environmentalism has become a significant force, has somewhat restored its part of the sea, complete with a few fish species³¹. The larger Uzbekistan portion is now almost completely dry, having dramatically shrunk during the summer of 2014. This has created vast salt flats with little

30 Varis, "Curb Vast Water Use in Central Asia," *Nature* 514 (2014), 27-29.

31 Micklin and Aladin, "Reclaiming the Aral Sea," *Scientific American*, April (2008), 64-71, with update from satellite photographs on google maps.

hope of recreating the sea even if the resources were available to do so. Uzbekistan is trapped; having largely destroyed all other sources of wealth, it depends on cotton, the main source of the Aral's problems, for economic survival. The Aral and associated regional problems remain one of the world's most chilling lessons that those who "struggle against nature" (in Mao Zedong's famous phrase) must inevitably lose in the long run. The whole episode proves man's capacity to change not only the physical environment but even the climate. The area once enjoyed a climatic moderation due to proximity to the water of the Aral Sea. It is now colder, with longer-lasting winters.

Despite such catastrophies, there is hope. Conservation is far from dead in the ex-USSR nations, and has been sporadic but locally effective in parts of Chinese Central Asia. Mongolia is a relative success story, even with modern overgrazing around Ulaanbaatar and a few other places. Mining threatens this, but so far wild vegetation and animal life still flourish. Current protection has allowed the successful reintroduction of the wild horse, among other projects. Environmental awareness continues to grow in Central Asia, to a great extent because of resurgent traditional values among Turkic and Mongol peoples.

4 Nations of Today

The Eurasian heartland is part of the great Eurasian land mass, and both geography and early history make it, and not Asia the continental unity. Asia is very much a construct. Only an ingrained Europocentrism and habit have justified separating "Europe" as a separate continent, in contradistinction to Asia.

The heartland is a unified region geographically, and to an extent historically, but it has rarely been a political unit. The Mongols conquered it, and Tamerlane conquered much of it; otherwise it has been a battleground for contending polities, often based far outside the region. This tendency climaxed in the 19th-century rivalry of Russia and Britain. At the same time, the Ottomans in the West, and the Qing 清 Dynasty in China, vied for influence. The will of the inhabitants of the area was not even considered, except as something to break; the Qing went so far as to wipe out the Dzungar people in an 18th-century genocide.³² At times, the Eurasian heartland was split into many small polities, which were at times mere city-states, constituting little more than a dense settlement and an associate oasis and water source. Ancient and medieval ancestors indulged in endless petty rivalries. This history calls into question the conventional Europe-based wisdom that a region divided into many little polities is bound to progress.

32 Perdue (2005), *China Marches West*.



MAP 2 Kazakhstan and its neighbors

5 Agriculture and Environment

The world of the Eurasian heartland is famously divided between “the desert and the sown.” The quote derives from Omar Khayyam’s *Rubá’iyat*, as translated by Edward FitzGerald:

With me along the strip of Herbage strown
That just divides the desert from the sown ...³³

Khayyam came from Nishapur in northeast Iran. Although Nishapur lies just outside our politically-defined region of the Eurasian heartland, it remained part of it ecologically.

His “strip of herbage,” the driest bit of watered land, lying just beyond the outermost irrigation canal, was the home of the migrant stockraisers. It divided steppes, deserts, and mountains from intensively cultivated river and lake

³³ Khayyam (1900), *The Rubáiyát of Omar Khayyam*, trans. FitzGerald, 97.

TABLE 1 The modern nations of the Eurasian heartland and the associated areas of China (some figures are approximate and are from the 2019 *World Almanac and Book of Facts*, New York, 2019)

Nation	Area (sq km)	Population	Density	% Arable
Afghanistan	652,230	34,940,837	53.6	11.9
Kazakhstan	2,724,900	18,744,548	6.9	10.9
Kyrgyzstan	199,951	5,849,246	30.5	6.7
Mongolia	1,564,116	3,103,428	2.0	0.4
Tajikistan	143,100	8,604,882	60.8	6.1
Turkmenistan	488,100	5,411,012	11.5	4.1
Uzbekistan	447,400	30,023,709	70.6	10.1
Chinese provinces:				
Inner Mongolia	1,183,000	25,050,000 (2014 est.)	20.2	>10
Xinjiang	1,664,900	22,980,000 (2014 est.)	13.0	>5
Gansu 甘肅	425,800	25,640,000 (2011)	60.0	>10
Totals	9,492,497	180,035,661		
United States	9,826,675	329,256,465	36	16.6

Note that some of the countries have high population densities, while others are very low. The United States provides comparison, being about the same size as the region.

valleys. “The Strip of Herbage” was thus a very important area, even if economically not so significant as the “sown.”

For 7,000 years, agriculture in the better-provided areas of the Eurasian heartland has meant primarily barley and wheat. Other grains—millet, sorghum, and (post-Columbian) maize—are minor back-up crops, often are grown for animals. Various vegetables and spices have remained minor crops. Cotton has long been the fiber crop and a commercial mainstay. Grapes are important, but since Islam in theory forbids alcohol, the large wine industry of ancient times has given way to table grape and raisin growing. Melons are

important, and their quality is world-famous; the dry air, along with the contrast of hot days and cold nights cause excellent flavor to develop.

The most distinctive thing about heartland agriculture is the extreme importance of tree crops. Apricots, apples, cherries, plums, peaches, mulberries, pomegranates, and other crops are very widely grown. Walnuts are grown in mountain areas where water is available, largely in the south-central parts of the region. Many communities subsisted heavily on tree crops; some even relied on them more than on grain. Unfortunately, the escalation of war, and development of military technology, has led to scorched-earth tactics on a mass scale in many areas in the last two centuries. This has destroyed many highly productive orchards in war-torn areas like Afghanistan. Orchards take years to come into bearing, whereas grain can be ready in a few months. Thus, large-scale scorched-earth war often leads to rapid replacement of tree cropping by grain. Comparing travel accounts from the 18th and 19th centuries with the situation today makes this clear. So does the modern tendency to bring back “food forests” by planting dooryard and street trees that bear fruit. In Tashkent, for instance, the destruction of the city by an earthquake in 1966 led to rebuilding as a “green city,” with many of the trees being mulberries—the rain of pavement-staining fruits in May being welcomed. In any case, a characteristic of Central Asian food—derived from the early Near East—is use of fruit in meat dishes. Almaty, similarly afflicted by earthquakes in the 19th century, supposedly required young men to plant 15 trees (per man) before getting married³⁴; the present cityscape indicates that many of these were apricot, mulberry, apple, cherry, and plum. Apricots and raisins, especially, find their way into pilafs and stews. Iranian influences include use of barberries and pomegranate seeds as well.

Agriculture in the heartland, where possible, usually demands irrigation. The agricultural valleys are usually long and thin, following rivers. Some are wide, and here the great cities arose. Others are so narrow that only one or two fields can be irrigated from the rivers. The rivers drain mountains whose rainfall is often so erratic and uncertain that the water one year may almost fail, and the next year may cause major flooding.³⁵ This explains the rather scattered appearance of cultivation in some of the less heavily managed and more erratic river drainages. Inspecting satellite photographs of the Syr Darya valley (draining west into the Aral Sea), for instance, shows many temporary marshes, cutoffs, and salt flats. Cultivation is limited to securely irrigable and non-saline areas. Fertile if isolated mountain valleys give way to a long and narrow

34 Brummell (2018), *Kazakhstan*, 109.

35 Brite (2011), “The Archaeology of the Aral Sea Crisis,” 13-14.



PHOTO 11 Mongolian landscape



PHOTO 12 Mongolian landscape



PHOTO 13 Mongolian landscape

strip of river hundreds of kilometers, surrounded by vast, level desert plains. The more reliable flows of the larger Amu Darya (also draining into the Aral Sea, and largely in Uzbekistan) and the more controllable Tarim in Xinjiang are more neatly checker-boarded with fields.

Such an environment was not conducive to building up great wealth or resisting conquest. Imagine the difficulty of ruling the Syr Darya and Amu Darya drainages. At stake were extremely long, extremely narrow, meandering ribbons of cultivated land, broken up by mountains and salt flats. Most of their courses were wide open to nomad raiders. Only the mountain-protected, and reliably fertile valleys of the headwaters could sustain cities and dynasties. Similar constraints applied to the shorter rivers of Turkmenistan, Afghanistan, and elsewhere. In these countries the deltas of the rivers, where they end in internal drainage basins, were the best land, supporting cities like Herat in Afghanistan. The Helmand sinks into the sand shortly past Herat, but reappears again as a large river in Iran—a rare trick even for a Central Asian stream. Often, desert rivers unite at the point where they exit the mountains, and then split up again into countless usually-dry channels, ending in internal dry lakes or salt flats. The uniting point then becomes the logical place for a city, and this is where cities like Isfahan (in Iran), Merv (located in what is now Turkmenistan), and Qaraqorum (in Mongolia) are located.

Unfortunately, the lower delta areas of the greater rivers have often been too saline and unreliably watered to be of great use. The rivers could suddenly fail, or change course and strike out into the desert. Human mismanagement can make this far worse.³⁶ Today is not the first time the Aral Sea has almost dried up. Northern Kazakhstan and Mongolia, both cold and dry, have few sites that can support any cities at all. The capital of Ögödei-qan (r. 1229-1241), planned by Cinggis-qan, Qaraqorum, was originally a “place where the commoners met on the pastures to feast;”³⁷ it took advantage of a small fertile valley surrounded by almost uninhabitable mountains and dry steppes.

Agricultural societies in the region were therefore organized on the oasis level, with the biggest village or city serving as center and regional capital. The soils of desert oases are famously fertile—consider the Nile—and the near-permanent sunshine makes them ideal for photosynthesis. Since it is often easy to bring water to sunny places but impossible (under normal circumstances) to bring sunshine from afar to rainy places, irrigated desert-valley agriculture has been a mainstay of wealth in many great civilizations.

The Eurasian heartland perfected many advances in irrigation, including backward-arch dams, complex canal systems and shifting of settlements to follow changing river channels. One striking feature of Central Asian irrigation is the *sardāba*, a deep cistern to trap rain and snow, which was protected by a domed cover to prevent wind from blowing the snow away or evaporating the moisture.³⁸ It could probably trap dew also. Stone mulch for trapping dew and saving groundwater, as well as harrowing to break up capillary action and save groundwater, were well known in northwest China by early Han 漢 times.³⁹

Another vitally important invention is the *qanat*, in the eastern part of the region called *karez*. A *qanat* is a water tunnel, dug back into the large outwash fans that form where mountain streams debouch into valleys. Released from canyons, the streams spread out and drop their load of gravel, sand, and soil. They sink into these porous fans. The water is still there, far below the surface; it is lost to the upper world. Tunnels driven back deep into the fan can tap the underground flow. A series of deep shafts—essentially, wells—is driven, until one strikes water or water begins to accumulate in the bore of the shafts. Then a tunnel is built from that point down to the valley, with shafts every few dozen meters to remove the dirt.⁴⁰

36 Brite, “The Archaeology of the Aral Sea Crisis,” 14.

37 On the structure of Mongolian society over time see Gongor (1970, 1978), *Khalkh Tovchoon*, 2 vols.

38 Pugachenkova, Dani, Liu, and Alexandre (2003), “Architecture,” 477-526 (491).

39 Anderson (1988), *The Food of China*.

40 See good description and diagram in Dupree (1980), *Afghanistan*, 49-51.



PHOTO 14 Qaraqorum today

This technology was apparently developed in Iran, perhaps 2000 years ago or more. It spread into the heartland, which became its major stronghold. It allowed cultivation of tens of thousands of acres that would otherwise have been waterless. It is now rare, but satellite images, especially in remote parts of western Afghanistan and in the Turpan basin, still show the characteristic lines of holes, ringed by dirt, in desert outwash fans. Between Qandahar and Lashkar Ga in Afghanistan, some of the villages are even named “(Such-and-such) *Karez*.” The *karez* system that waters the Turpan oasis in Xinjiang is particularly impressive, tapping aquifers in the Flaming Mountains with 1784 channels totaling 5272 km. Some 614 are operating today.⁴¹

In the other direction, the technology spread to North Africa and thence to Spain with the Moors. When Moorish converts to Christianity were sent to Mexico in the 16th century, they brought their technology to the Tehuacan Valley. Tehuacan Valley migrants brought the idea of “water tunnels” to San Bernardino, California, in the 19th century (information to Anderson from oldtimers half a century ago). So southern California is linked to ancient Iran in a most surprising way.

⁴¹ Baumer (2014), *The History of Central Asia. Vol. 2: The Age of the Silk*, 170.

One problem in the modern heartland is urban sprawl onto the extremely limited irrigated land. Even in medieval times, Turkistan had large cities, and the idea of expanding them desertward was made problematic by water supply difficulties. Villages are, at least in Afghanistan, sited off the farmland.⁴² This fact is confirmed by satellite photos and our personal observations. Villages in ex-USSR areas, and in western China, by contrast, are usually sited on farmland. Despite this, since every household has its garden and orchard, the irrigated land is still in use. In Mongolia, the issue did not arise until recently because of the dispersed, nomadic settlement pattern. Now Ulaanbaatar has a serious case of sprawl. Cities pave over everything. Today, although there is no excuse for urbanizing the limited farmland, it goes on. In imperial times, the Chinese and Koreans worked hard to keep cities from claiming any more farmland than they had to. This idea has now been abandoned because of modern “rationality.” Tashkent, for instance, is now a city of about two million, and has devoured a large percentage of the arable land in north Uzbekistan.

Other areas of fertile soil are the far northwest and northeast corners of the heartland, where thousands of years of grass growth led to the development of incredibly fertile soils. Grass, unlike trees, is largely underground; the roots, especially of perennial steppe grasses, outweigh the leaves. Also, grass does not produce the acid litter that trees do; it produces a neutral to slightly basic litter that improves the soil over time. Grass retards erosion and holds the soil. In a grassland or dense brushland, every incipient gully is choked by vegetation taking advantage of the extra moisture. This creates negative feedback that checks gullying—the erosion that causes rapid formation of deep gorges in the soil.

Today, people have learned the hard way that stripping off the grass cover immediately destroys this feedback. This leads to catastrophic gullying. Thousands of years of accumulated soil can be washed away in one rainy season. This is happening now in Inner Mongolia, where there is the added complication of huge open-pit mines, and it has happened in Russia and Kazakhstan with cultivation of the grass steppes. The “virgin lands” campaign to cultivate the Kazakh steppes ended in abandonment of about half the land after erosion set in.

Heartland grasslands are dry and cold. They have thus always been marginal for agriculture. The frontier of farming would expand in moist, warm decades and contract in cold, dry ones, as famously pointed out by Raphael Pumpelly. His theory was later transmitted by Ellsworth Huntington,⁴³ and then followed

42 Dupree, *Afghanistan*, 134.

43 Huntington (1907), *The Pulse of Asia*.

by Owen Lattimore,⁴⁴ and by almost everyone since. Less often noted is the long-term damage wrought by farming expansions. Abandoned farms eroded fast. Farmers depleted game, by hunting but more often by destroying habitat, and thus closed off another mode of subsistence. The dynamics of nomadism and its interfacing with “the sown” have been explored at length by Thomas Barfield.⁴⁵

6 Integrating Agriculture and Livestock

Central Asia displays every possible type of integration of stockrearing and farming, from stalled livestock on farms on the northern and southern fringes to full nomadism and occasional trade for farmed goods in the Mongolian and Kazakh steppes.

While individuals and families may manage independently for a while, as they certainly have in the past, nomad societies as a whole cannot.⁴⁶ They depend on the settled world for such things as metal tools, some clothing items (though they make much from wool), and minor commodities such as tobacco. For at least part of the year, they depend on grain (especially wheat flour). In the past, grain could be provided by captive farmers moved to oases in the steppe. Nomads could also grow millet themselves, especially during warmer, wetter periods such as the 12th and 13th centuries. Millet matures in as little as two months, allowing people to grow it at summer campsites. Nomads may also depend on stubble in agricultural fields for winter fodder.

Unlike many East African herders, Central Asian herders cannot live entirely on the dairy products from their herds. Pastures are too poor or limited in size to allow high levels of milk per animal, and thus a surplus of dairy products. So wool, skins, products of the hunt, and meat are traded with settled folk.

Around the riverine oases, herders use flood-prone river bottoms, grassy margins, hills, and areas of steppe too dry for farming. They are thus in daily contact with farmers, and trade frequently. They grow all the species and many varieties of stock. They are not nomadic, or not for long distances.

Often found with them, at least in winter, are transhumants: semi-nomads who move from lowlands in winter to mountain pastures in summer, thus

44 Lattimore, Owen (1940), *Inner Asian Frontiers of China*.

45 Barfield (1981), *The Central Asian Arabs of Afghanistan*; Barfield (1989), *The Perilous Frontier*; Barfield (1993), *The Nomadic Alternative*; Barfield, “Centralization/Decentralization in the Dynamics of Afghan History,” *Cliodynamics* 3:1 (2012), 94-104.

46 Honeychurch and Amartuvshin, “States on Horseback: The Rise of Inner Asian Confederations and Empires,” in Stark (2006), *Archaeology of Asia*, 255-278.

having two homes, and taking anything from a few days to several months to make the journey. Transhumance is a worldwide phenomenon, very common among herders from Mongolia to modern America.

At the other end of the scale are Mongolian mountain herders who have permanent homes around springs and streams, but were extremely isolated until recently. Also remote are steppe nomads of the Mongolian gobi and the Kazakh and Turkmen steppes; they might go for months without seeing settled people, coming to markets to trade, make political deals, and find spouses for their young adults. Usually sleepy market towns would be suddenly jammed and packed with humans and livestock as whole tribes met to deal. Every imaginable variation on the above basic types is found somewhere. The diversity of adjustments allows maximally efficient use of grazing and browsing resources while allowing at least occasional access to settled oases and trade centers for agricultural and urban products. There is, in short, a symbiosis of settled farmers and merchants with several different types of stockraisers, from settled mixed-crop farmers with barns (or lower house-floors dedicated to livestock) to full steppe nomads.

7 Nomads

Although nomads have been a minority of the population of Central Asia, at least until recently they were the occupants of most of the land and have been important in maintaining contacts and in large movements of culture, goods and things. Nomads generally conserve the grasslands carefully. Not doing so would be suicidal, and shows nomadic understanding of environmental balances. By contrast, modern policy makers love to claim that nomads are ignorant fools. Three thousand years of accumulated experience counts for nothing. These policy makers do everything they can to change traditional management, with invariably catastrophic results. The detailed studies by Dee Mack Williams⁴⁷ should be essential reading for all students of grassland management.⁴⁸

47 Williams, "The Barbed Walls of China: A Contemporary Grassland Drama," *Journal of Asian Studies* 55 (1995): 665-691; Williams, "Grassland Enclosure: Catalyst of Land Degradation in Inner Mongolia," *Human Organization* 55 (1996), 307-313; Williams, "Representations of Nature on the Mongolian Steppe: An Investigation of Scientific Knowledge Construction," *American Anthropologist* 102 (2000), 503-519; Williams (2002), *Beyond Great Walls*.

48 Murphy, "Booms and Busts: Asset Dynamics, Disaster, and the Politics of Wealth in Rural Mongolia," *Economic Anthropology* 1 (2014), 104-123.

Mongol nomads are so careful that they do not allow heavy grazing near water holes, though this is changing.⁴⁹ We have observed both traditional use and unfortunate modern changes in Mongolia. Good management is also reported for Afghanistan by Louis Dupree and others, and observed by Anderson in the 1970s. Dupree notes the nomads' pride in their lifestyles, and the sorry history of forced sedenterization in Iran and in the former USSR. In both areas, particularly in the USSR, the cost was horrible bloodshed and economic havoc. Dupree concludes, with some exaggeration, that "any nomad desiring to settle down would be considered psychopathic by his peers."⁵⁰

Traditional collective management has worked well. Ironically, in light of the well-known "tragedy of the commons" concept (the idea that people will overuse common-pool resources from lack of a real stake in them),⁵¹ privatization and the changes associated with privatization, de-collectivization, for example, are the real problem.⁵² Usually, overgrazing by nomads occurs only when they are prevented from moving, or are trapped by impoverishment. This may be due to a population increase beyond a constrained environment's carrying capacity. It is also possibly associated with a semi-urbanization of herding communities for one reason or the other. How this plays out we see clearly in the vast urban fringes of Ulaanbaatar, where a substantial part of Mongolia's population now lives, still in yurts. These yurt-dwellers usually have animals too, sometimes whole herds, making the constrained areas even more hard-used. To keep warm, the yurt-dwellers burn coal, mostly in open stoves, making Ulaanbaatar's air pollution problem, already one of the worst in the world, still more difficult. Only a few months of the year have reasonably good air now.

Ulaanbaatar, a city of 1.4 million, now grows continuously, and is unable to cope with the growth; meanwhile, too much housing in rural areas is derelict and decaying, thanks to changes since the communist era. In any case, whether the range is fenced, or built upon, pastures are destroyed. When there is fencing, the result is overgrazing of the fenced enclosures, a loss of wildlife (they are fenced out of necessary feeding grounds), and a catastrophic decline of overexploited range resource. The effects of a buildup were painfully obvious to us in and around the yurt districts of Ulaanbaatar. It is now expanding

49 Sternberg, "Piospheres and Pastoralists: Vegetation and Degradation in Steppe Grasslands," *Human Ecology* 40 (2012), 811-820.

50 Dupree, *Afghanistan*, p 168.

51 Hardin, "The Tragedy of the Commons," *Science* 162 (1968), 1243-1248.

52 Wenjun and Huntsinger, "China's Grassland Contract Policy and Its Impacts on Herder Ability to Benefit in Inner Mongolia: Tragic Feedbacks," *Ecology and Society* 16:2 (2011), article 1.

everywhere into very sensitive areas, as far as the eye can see. The process is still more advanced in Inner Mongolia, with massive recent Han 漢 Chinese settlement.

One problem with nomadism is that nomad herders are unkind to underbrush. Underbrush interferes with grass, makes good firewood, and is grazed by camels, goats, and cattle. Trees and grass may flourish, but the variety of brush communities are still at risk. The thin stands of trees along Asian rivers, and the savanna-like landscapes of Afghanistan foothills, are due to elimination of undergrowth rather than to natural spacing. Valuable desert plants like saksaul and wild almond are diminishing.

On the whole, nomads are extremely careful of their lands. Modernizing agents are not, and usually have little respect for stockraisers. The contempt of town bureaucrats for grazers is not even confined to scorn for traditional nomads. It extends to modern Asian stockraisers. In fact, it even extends to well-to-do, college-educated ranchers in the United States, when an urban bureaucrat with no experience on rangeland patronizingly tells a third-generation rancher how to manage his grass.⁵³ Admittedly, American ranchers are often much worse managers than Mongol herders. This occurs, however, only when they have cynically written the land off because they plan to sell out or otherwise change course. Serious ranchers know how to manage range. Many a bureaucratic plan has had the same effect in California as in Mongolia. So, one does not have to be an “ignorant nomad” to fall afoul of bad plans. James C. Scott’s sour meditations on bureaucracy are relevant.⁵⁴ The heartland, between communism, extremist religion, and world-traveling economic advisors, is suffering from crises caused by bureaucratic insolence, including disregarding local knowledge and practice. This is even visible from space, if one compares satellite photos of Chinese Inner Mongolia and independent Mongolia. The role of Communist party policies in the former makes its frontier with independent Mongolia conspicuous by the desertification on the Chinese side.

The nomads are intensive stockraisers, specializing in sheep, also keeping goats, camels of both species, horses, cattle, donkeys, and yaks, as climate and altitude permit. Sheep, goats, and dromedaries dominate the hot zones; sheep, goats, and horses the cooler and better-watered ones; sheep, horses, and yaks flourish in the highest and most remote parts of eastern Central Asia. Bactrian camels are common in the hotter, drier parts of the East, especially in Xinjiang

53 Kimberly Hedrick (2007), “Our Way of Life: Identity, Landscape, and Conflict,” and personal communications to Eugene N. Anderson, 2000-2010.

54 Scott (1998), *Seeing like a State*.

and southern Mongolia. Donkeys and cattle are rarer everywhere, being creatures of better-favored climes. In the popular mind, yaks are identified with Tibet. They also flourish in the mountains of northern Mongolia and elsewhere, raised as a herd animal in some areas.

The livestock are ecologically diversified. The horse and donkey do not have the fore-stomachs (*n.b.*, fore-stomachs are not four stomachs) that allow sheep and cattle to use the full range of vegetation. Horses (but not donkeys) require high-quality food: good protein-rich species of grass, such as oats, or protein-rich clovers. The Iranians early domesticated alfalfa, a clover that is an almost perfect horse feed. (It is a bit too rich; the horses must eat some grass hay to keep from overenthusiastic digesting resulting in colic.) Horses spend much less time and effort digesting, compared to cattle, and donkeys can eat relatively coarse food that would clog the fore-stomachs of cattle. Conversely, cattle (including yaks) and goats can eat anything with carbohydrates in it. They thrive perfectly happily on wood, as long as it is either browsable on a bush or finely ground in the form of sawdust. They eat sugar cane, processing waste, chicken manure, cotton stalks—almost anything. Goats are famous for their ability to thrive on what the Greeks so aptly called *tragacanth*—“goat thorn”—vegetation. Sheep are much choosier, but they too have fore-stomachs and can eat forage that would not sustain a horse.

Each animal has its place: horses on the grass steppe, cattle in low warm valleys, sheep anywhere that has grass, goats anywhere that has brush, donkeys in warm areas with rough forage, yaks in high mountains, and camels in the desert. A herder will always have a mix, tailored to the climate and vegetation of his or her area of nomadizing.

Normally, this will involve migration. The stockraisers usually winter in low valleys; today grazing occurs whenever possible in winter-fallowed fields. They then migrate with their flocks to higher country, if possible to lush mountain pastures for the summer. This pattern of transhumance is common among stockraisers everywhere that mountain meadows exist. If no mountains are nearby, herders must take their chances on the vast open steppes, finding local water sources and grassy vales. This means they must know the routes perfectly, to be able to calculate how much water is available for themselves and for their animals along a given route.⁵⁵

Nomads do not usually own lands outright; they have customary grounds and routes, and tribal territories that are recognized fluctuating with weather and with rivalries. Fighting over rights to graze a particular area used to be

55 Classic studies of nomads include Louis M. J. Schram (1954-1961), *The Monguors of the Kansu-Tibetan Frontier*, *American Philosophical Society, Transactions*, 44:1-51:3.



PHOTO 15 Hybrid Yak

frequent. Settling such disputes was a major reason for the existence of higher-level authority among the early Mongols.

Black tents in the south, reindeer-skin tipis in far north Mongolia, and stone houses in the mountains are local housing types, but the great contribution of Central Asian nomads to the world is the felt-covered wood-framed house known as *yurt* in Turkic languages and *ger* in Mongolian. The skeleton is a collapsible fabric of split poles. A yurt can be knocked down or set up in a very few hours, yet it is a stable, convenient, extremely comfortable home, warm in the harshest winter, cool in summer. Its popularity in the modern United States is adequate testimony to its success.

Nomads also hunt, as noted above, and have strikingly good traditional conservation rules that keep their game numerous—a wise measure often lost on farming settlers, especially pioneering ones.⁵⁶ The Mongols teach respect (*shuteekh* or *khundlekh* in Mongolian) for nature, and Mongols today still refrain from overfishing, overhunting, and overcollecting. Even mountains, water, and rocks are respected and guarded usually by an *ovoo*, focusing spiritual

⁵⁶ Anderson (2014), *Food and Environment in Early and Medieval China*; also Arseniev (1996), *Dersu the Trapper (Dersu Uzala)*. The latter is a romanticized account but true to Tungus culture in this regard.

power when people are not available. We talked to one young Mongol woman of nomad background who liked pretty rocks but she did not collect them, because it is disrespectful to rocks to move them around for no good reason.⁵⁷ In early times in Mongolia the land and waters belonged to special gods, *ejen*, “lords.”

A major problem for understanding the Eurasian heartland is the myth of the “barbarian” nomad, stemming from the ancient Greeks and especially the later Byzantine Greeks. It was reinforced by similar stereotypes among Chinese.⁵⁸ Nomads are not uncouth, savage beings who wander aimlessly over the vast steppe. In fact, the extreme opposite is true: they must know every inch of their landscape. Water and forage sources adequate for a herd are so limited that anyone not knowing the terrain will certainly die.

It is chilling if not terrifying enough to ride in a modern four-wheel-drive vehicle with a GPS unit on the back roads (and nearly all roads are back roads except in a few favored areas) of the Mongolian Gobi. There are few true roads. There are only wheel ruts, sometimes quite deep ones, on the desert pavement. Sometimes these are nearly big enough to swallow a vehicle. In rainy times, a moderate drive means much fording of streams. These back roads constantly branch, with forks going off in all directions—almost all of them petering out in the midst of desolation, or in some sand flat, or gully where the vehicle will get stuck. Getting lost or stuck can mean death. Fuel soon runs out. The nearest cellphone service is hundreds of miles away, and in summer temperatures up to 40 C guarantee that life does not last long without water. Problems are just as severe, or more so, in winter. Obviously, the dangers were much greater 100 or 1000 years ago, and the need for exquisitely thorough and accurate knowledge correspondingly greater. So nomads followed well-known trails. They moved from well-known wintering grounds to well-known summering territories. They had to know many alternatives, since the grass was apt to fail in one or another area in any given year.

On the other hand, if they could live by raiding, or were assured of trade opportunities, there was once little or nothing to stop them from riding off across the vast landscape (so long as they had a guide to lead them to water) and swooping down on settled communities. Cultural and tribal groups spread rapidly. The Rouran 柔然 of China’s western frontier, for example, apparently departed en masse when the Tarim River shrank dramatically during a dry

57 Eugene N. Anderson, field notes, 2013.

58 Barfield, *The Perilous Frontier*; Barfield, *The Nomadic Alternative*.



PHOTO 16 An Ovoo

period,⁵⁹ appearing (at least in part) as the Avars (Abars) in Eastern Europe.⁶⁰ There they gave the Byzantine Emperor a run for his money, establishing relationships typical of those between nomadic and sedentary people. This is reflected among other things in a wonderful story in the histories of Byzantine historian Theophylactos (*Historiai*, 1, 3-5) where the khan of the Avars demanded that the Byzantine emperor send him a tax-in-kind on all his animals. This the emperor did. He also did the khan one better by sending an elephant from the imperial zoo. The khan had no idea what to do with his elephant and had to return it. This story may have little to do with food, it still stands as one of the clearest examples of an age-old lack of understanding between the desert and the sown.

Central Asian nomads, whether they have access to elephants or not, are not entirely self-sufficient; they cannot live from the products of their herds alone. Today, a solar panel, a radio, if possible a TV, a GPS system, even a motorcycle are increasingly seen as necessities. Solar panels are easily powered in sunny Central Asia. Authors Anderson, de Pablo and Buell saw several installed as the

59 Fontana, Sun, Huang, and Xiang, "The Impact of Climate Change and Human Activity on the Ecological Status of Bosten Lake, NW China, Revealed by a Diatom Record of the Last 2000 Years," *The Holocene* 29 (2019), 1871-1884.

60 Golden (2011), *Studies on the Peoples and Cultures of the Eurasian Steppes*.

sole source of electrical power for nomads living in yurts far from Ulaanbaatar in Mongolia. Except for the initial investment in the panel, and its mounting, such systems provide a lot of power cheaply. De Pablo and Buell did not see any TVs, but GPS locators were certainly in use, radios, and yurts even had electric lights. Anderson has found solar cells powering TVs in remote parts of the steppe where outsiders were almost unknown.

Although the overwhelmingly dominant type of nomadism is sheep management on horseback, with or without subsidiary animals, many different types of nomadism exist in the heartland. In addition to variants on the sheep-goat-horse theme, there are reindeer herders in the extreme north and specialized camel herders in the southernmost deserts. Sevyan Vainshein⁶¹ provided a classic account of the development of reindeer herding in the Altai from earlier forms of herding.

Throughout history, nomads have often settled down, and settled groups have become nomadic. Often this is a function of conquest; often it follows climate change that makes one, or the other mode of livelihood less attractive. Partial nomad groups exist: both groups that move from settled villages for part of the year, and groups that are divided into some who nomadize, and some who do not. In short, we do not find the wholly nomadic, self-sufficient world that is still a living memory in Somalia and Kenya. Therefore, we do not find the sharp differences in ethnicity between herders and farmers that characterize some parts of Kenya.

Nomads were usually organized by kinship, with descent traced primarily through the father. Women were also important, so the maternal lines were not ignored. Tribal or larger horde (from Middle Mongol *hordo*, “palace tent”) groups, where they existed, usually only in conquest situations, could be based on extensions of kin too, often reaching back to mythical paternal ancestors. Commonly, if not always, these were the symbols of power: wolves or other fierce, dominant animals. According to ancient tradition, the Mongol people descend from the union of a gray wolf and a fallow doe—symbolically, indomitable social power mated to gentle beauty. The Turks also descended, mythically, from a wolf.

More recent ancestors are more human: Uzbekistan takes its name from the Uzbek (or Özbek) Turks, a group put together by an Uzbek *qan* in the 14th Century. Like all good steppe leaders, he developed an ever-expanding circle of kin by attracting more and more distant relatives, and thus a descent group that still survives emerged. Over the years, it attracted more and more distantly related or totally unrelated individuals, until it now dominates a whole nation.

61 Vainstein (1980), *Nomads of South Siberia*.

Descent is not just an imaginary commodity. A very large percentage of the current inhabitants of the Eurasian heartland, and beyond, trace descent from Cinggis-qan, and genetics show that many do indeed have a common male ancestor at about the right time. Nonetheless, real kinship was never a limit; people could form huge confederacies based on all sorts of fictive or purely imaginary kinship lines. Failing even that, they could, and did, form adoptive, sworn-brother, and marriage links. Pledging one's son to one's ally's daughter was universal. In the *Secret History*, such a practice is formalized as a duty of daughters and other female relatives as *yeke töre*, "imperial system."⁶² These kinship relations are critical to maintaining the social support necessary to subsistence and survival, and thus a part of the wider food system.

The nomadic lifestyle does not date back to "time immemorial." It developed between three and five thousand years ago, as farming and metal came to the region. Critical was the domestication of the horse for eating and milking around 3000 BCE. Riding came much later, but was an equally critical innovation. Nomadism has changed rather dynamically over the millennia.

The "nomad" empires of the steppes were not literally that. The idea of wild horsemen charging down on the settled farmlands is romantic. Both the Chinese and the Byzantines loved to portray the "barbarians" this way. In fact, most of the empires had to have substantial cultivated areas within their limits. Otherwise they simply could not feed or supply their capitals and troops. Nomads might create huge forces of raiders but could not maintain a state simply by raiding. Any sensible conqueror, from the Shanyu 單於 of the Xiongnu 匈奴, to Cinggis-qan, and on down to modern times, would conquer a large area of settled farmland early in the game, and use it as a supply source. This had huge long-term effects on the food economies of Central Asia. For one thing, it led to cultivation of vast areas that were agriculturally marginal, but politically central--such as what is now northwest China, when the Xiongnu Empire conquered it.

Similarly, the great agrarian empires based in the oases usually incorporated nomadic and partially nomadic groups. They also had to work with, and fend off, the nomadic confederacies. Often, the nomads won, settled down in the oases, and in turn had to fend off new nomadic groupings.

A final note on the Eurasian heartland nomadic world is conflict. Consistently, throughout space and time, it has been dedicated to war. Every group is a potential or actual enemy to every other group. Kinship groups snowball into vast hordes. But these hordes can just as easily break up again. Loyalties shift

62 Buell and Kolbas (2016), "The Ethos of State and Society in the Early Mongol Empire: Chingiz Khan to Güyük," 43-64.

readily. Yet this no-holds-barred world was also a world of great freedom and power for both men and women. Queens were important and often ruled whole states. Women had independence and authority in the family. One can still see this in Mongolia, where neither Islam nor Chinese culture has been able to introduce more restrictive norms (as they have elsewhere).

Not only in Mongolia, but in all nomad and in many settled societies, respect for nonhumans and thus care for all creation was universal. This has been the true root of Mongolian and other Heartland environmentalism.

8 The Crossroads

The Eurasian heartland has always been the crossroads of Eurasia, but this has meant very different things at different times. Since it is largely dry and desolate, with much of it downright uninhabitable, it has rarely been a great center of culture and civilization. Nonetheless, Medieval developments in the Eurasian heartland in food, diet, and medicine, had effects still powerfully felt in China, and in the Western world today. Scientific writers such as al-Bīrūnī (973-1048), and Avicenna (980-1037), both from the heartland, for example, transmitted or created a good fraction of the medical knowledge of their time. Much of this has come down to us.

The Eurasian heartland has always been a linking area between the Western world—the Middle East and Europe—and the Eastern world of China and the realms it influenced. This has had a somewhat unfortunate effect on our understanding, since it has often been seen *merely* as a link, interesting only for what it revealed about the West or the East. This has resulted in many fruitless debates about how much influence each had on the other, with little attention paid to the thousands of miles in between or the people that have lived there, often enjoying a high level of civilization.

Foodways in the Eurasian heartland have come largely from the West, but the area has witnessed its own developments. Some of these may appear forgettable to outsiders, such as fermented mares' milk, but all have had their place in nutrition. The dairy-products culture of the steppe areas is, in fact, a major tradition in foodways, and persists outside as well (as in modern Turkey, with its rich tradition of yogurts and cheeses).

Even China has borrowed from the steppe. The horse and its trappings are obviously the main borrowing, but sheep varieties, the Bactrian camel, and no doubt other steppe innovations add to the much greater list of western Eurasian inventions channeled through the steppes and along the Silk Road. Among other things, bean curd (*doufu* 豆腐) may be a cheese imitation. China

had its own cheeses, we now know, from early times, and *doufu*—apparently invented in the Han Dynasty—may have been inspired by them, or directly by nomadic cheese making.

9 Overall View of Foods

The Eurasian heartland is unified by geography, better unified by language (mostly Iranian or Turkic),⁶³ but thoroughly unified by food. Thanks to both geography and cultural traditions, wheat dominates as staple food. Everywhere, the wheat is made into bread, noodles, and noodle skins. The area is replete with wheat-based foods. They include the local *samosa*, an Arab and Iranian tradition, and the ubiquitous *manty*. These small filled dumplings are found all over the Eurasian heartland and as far afield as Korea (*mandu*). Their origin remains obscure, but the wide use of various Turkic names for them may indicate a Central Asian origin.

Other grains, millet, barley, are of minor significance. Sheep are supplemented by goats, cattle, horses, and locally yaks and camels. Meat is important everywhere, dairy products more so, with a full range: milk, dried whey, cream, yogurt, cheese, and various other products. Notable among these is the famous *kumiz*, fermented mares' milk. It is not to everyone's taste. Ibn Battuta was offered it by the Queen of Uzbek Khan, the ruler who gave the modern Uzbeks his name: "I tasted it and [finding] it disagreeable passed it on to one of my companions."⁶⁴ He was not the first or the last to react thus. The vodka made from a distilled cow's milk is better. Kumiz tastes rather like buttermilk mixed with beer. *Shubat*, camel *kumiz*, is even richer in taste. There is also a distinct sour bite and a feeling of effervescence.

Vegetables are few, including carrots, cucumbers, spinach, and eggplants. In the last couple of centuries have come the New World suite of tomatoes, potatoes, and—locally in the south and east—red peppers. Onions and garlic are universal, perhaps the major vegetables. Cut-up cucumbers and tomatoes (sometimes with dressing, usually without) are a routine accompaniment to meals. Fruits, especially grapes, melons, apricots, and apples, are common and important. Spicing and seasoning are rather simple. In addition to salt and pepper, the favorite Near Eastern spicing of cumin and coriander (seeds and leaves) is widespread. Cinnamon, cardamom, ginger, and other exotics are concentrated around the edges of the region. China's soy sauce, ginger, and

63 On Turkic food see Perry (2006), "Nomadic and Medieval Turkic Cuisines," 116-131.

64 Ibn Battuta (1958-1971), *The Travels of Ibn Battuta*, 11, 487.



PHOTO 17 Almaty market



PHOTO 18 Almaty market



PHOTO 19 Almaty market

other signature flavors have penetrated only in the most Chinese-influenced areas. In Kazakhstan, on the other hand, kimchi, produced by long-term Korean migrants with origins going back to Czarist times, was seen to be sold in the Almaty Public Market by Buell and de Pablo. It has also been introduced to Uzbekistan, in this case by a later wave of Korean migrants transplanted under Stalin.

Although not generally realized, another food tradition coming from the heartland is distilled milk liquor, such as Mongolian milk vodka (*arkhi*). The origins of distilling remain obscure—very possibly it was independently invented in China and the Near East. The steppes made innovations in distilling technology that survive in Mongolia and elsewhere, and in Korean *soju*. The Mongol Empire, spreading light-weight, portable stills east (to Korea for example), and west, to Russia, and even—indirectly—to Iceland, helped create a nearly universal culture of *araq* or *arkhi*. This is a borrowed Arabic word that is now employed almost universally in Eurasia, including its islands, beyond the reaches of most other vocabulary from Europe and China.⁶⁵

65 Buell and de Pablo, “Distilling of the Volga Kalmucks and Mongols: Two Accounts from the 18th Century by Peter Pallas with some Modern Comparisons,” *Crossroads* 13:3 (2016), 116-123.

10 Building Foodways

The end result of these adjustments, exchanges, and migrations was an ecological system that was remarkably uniform from the Caspian Sea to Lop Nor in Xinjiang. Basic to it was the relationship between settled oasis or mountain farmers and the local, transhumant, or truly nomadic stockraisers. Full nomadism, complete with its carefully planned and managed trade with settled folk, seems to have developed in the Bronze Age, around 1000-1500 BCE. It continued to develop, climaxing in the vast empires of the medieval period, established by nomad leaders but incorporating oases and depending on them for resources and manpower.

From that time on, the foodways of the great civilizations at the ends of the Silk Road penetrated more and more into Central Asian life. Iran was the clear winner: from medieval times onward, its foodways became more and more dominant. This was partly for ecological reasons: Iran's crops and agricultural technology and traditions did well under Central Asian conditions. The other great factor was religion: Persian foodways spread with Islam, and came to dominate in all the Islamic areas. Foodways from China influenced almost exclusively the areas under Chinese control during its greatest imperial expansions. Russian, East European, and Indian foodways penetrated only the areas directly adjacent to the cultural strongholds. One evidence of Persian influence is the widespread celebration of the pre-Islamic Persian festival Nauruz, the first day of spring, regarded as the first day of the solar year, and a time for feasting and picnicking.

Prehistory and History: The Long Record of Foodways

1 Prehistory: From Hunting to Agriculture

Our earliest records of Central Asian dining are of hunting kills, including that 45,000-year-old mammoth. By that time, people had reached remote parts of Mongolia, likely the last area to be settled.¹ The “Paleolithic diet” in Central Asia was, so far as we know, meat—no doubt all parts of the animals. Like modern Siberian hunter peoples, they would have eaten everything from brains to feet, and from intestines and stomach contents to hide and tail. Scavenging predator kills, no matter how long dead, was no doubt important. Presumably, fish, fruit, seeds, and roots were devoured. Modern devotees of “paleo diets” might not have relished quite all this, but the general rule was that one had to eat everything and anything, given the chance. Hunting probably contributed to the decline of the larger, less abundant animals, such as mammoths.

After the end of the Ice Age, hunter-gatherers lived by hunting, fishing, and gathering wild plants on what became the steppes and in the valleys. A maze of poorly known and thinly populated groups defies summary here.

Agriculture advanced from the Near East and possibly India; from Eastern Europe; and from China. Near Eastern traditions related to the fast-developing ones of Mesopotamia expanded and differentiated in Iran and spread rapidly in the southwest Eurasian heartland. In Europe, early agriculture was associated with the Linearbandkeramik (LBK) cultural tradition, which spread very rapidly over an enormous area in 4500-5500 BCE. Related cultures (notably the Dniepr-Don complex) spread agriculture into the steppes. Agriculture began its explosive spread through the central and northern parts of Europe and the Eurasian heartland, with cultures of this general type.² It is quite possible that this reflects the expansion of languages—not Indo-European ones at this early date. A wonderful introduction to the botany of ancient Central Asia has recently emerged: *Fruit from the Sands* by Robert Spengler.³

1 Holder (2019), “Humans Migrated to Mongolia Much Earlier than Previously Believed,” *Phys. org*, Aug. 16.

2 Cunliffe, *By Steppe, Desert, and Ocean*.

3 Spengler (2019), *Fruit from the Sands*.

The major crops that got into the Eurasian heartland early were wheat and barley. All the common domestic animals went with them, and the area soon added the horse to the domestication list. It is also quite possible that Inner Asia had previously added the dog; the dog was domesticated 15,000, or more, years ago, somewhere in Eurasia.

Meanwhile in China (or, more accurately, what later became China) pottery was already very old; it had been invented before 16,000 BCE. Agriculture, first primarily millet, then wheat and, of course rice, developed more slowly than in the West but soon became intense and important both in the Chinese North and South. The Chinese also domesticated some water plants such as water chestnuts which assumed early importance, although they are not major foods today. Despite such achievements, a variety of Western cultural advances, from sheep and goat domestication to bronze technology, and onward to such things as war chariots, were late in arriving. Writing may represent stimulus diffusion from the West, but more likely it was an independent invention in China. Similarities with early Mesopotamian writing seem purely accidental.

2 Prehistory: Domestication

True domestication is defined as *genetic* change in plant and animal stock, such that the domesticated form is genetically different from anything in the wild. In this sense, the first such domestication took place in the Near East about 9500-10,500 years ago, when people domesticated wheat, barley, chickpeas (the Sumerian-derived word *hummus* is still used, now for the pulverized form, in many cultures), and possibly other foods. Sheep and goats followed soon after (about 9000 years ago). The first domesticated crops so far discovered were in the Syria-Turkey border country. Soon such crops extended down to Palestine and into Iraq and Iran.

It was once naturally assumed at first that people were reduced to farming by lack of other food, possibly because of the die-off or kill-off of the Pleistocene megafauna. But Carl Sauer pointed out long ago⁴ that this could not be the case. The Chinese say: “when you’re thirsty it’s too late to dig a well.” Domestication is a slow, difficult, chancy process, and if people were hungry, they would move rather than sit and wait a thousand years for domestication to succeed.

In fact, in the Near East, the end of the Ice Age did not mean the death of vast herds of megafauna. There were none there, merely a few elephants and

4 Sauer (1952), *Agricultural Origins and Dispersals*.

such. The end of the Ice Age there and in China did result in other changes, including the return of warmer, wetter conditions, and thus of lush plant life. Domestication took place during a time of *improving* conditions.

Domestication took place not in a time and place of tiny bands of starving hunters and gatherers, but in a time and place of large, well-off settlements. The black volcanic hill of Karacha Dag in south Turkey was an early site of domestication of wheat and chickpeas, and within a day's walk was the great town—almost a city—of Göbekli Tepe, with monumental architecture, large buildings, extensive streets and apparently a comfortable life, just before agriculture developed. It has evidence of feasts, but not of ordinary meals—it may have been a purely ceremonial site. Large towns also existed in Palestine and Syria.

The theories that agriculture developed due to hunger must be abandoned.⁵ Its beginnings certainly had a great deal to do with trade and exchange,⁶ probably with farmers exchanging crops with hunters for meat, and later for dairy products. Agriculture also developed at least in part to provide more convenient, close-at-hand, reliable food for large towns—a theory proposed long ago by Jane Jacobs,⁷ and treated with ridicule, but now apparently verified in the Göbekli Tepe case.

It may, also, have developed in part to provide more food and drink (wine became quickly important⁸) for feasting, as Brian Hayden thought.⁹ Feasts in early societies (as they are still today in the Middle East and in the Eurasian heartland) were part of a way of life, and were a most important political as well a social ritual; it was not simply about eating. They were the ways people cemented alliances, made, and closed deals, repaid loyalty and friendship, and, above all, attracted and kept followers. Marco Polo records the great feasts of Qubilai-qan's China involving tens of thousands. These were mirrored in other parts of the Mongol world, for example in the Ilqanate, where our pictorial sources often illustrate feasting and connected social activity.

A local leader who could not be generous was abandoned by his supporters and became easy prey for a more generous leader. Conspicuous consumption in which everyone ate and drank well was part of politics. Throughout the Eurasian heartland and recorded history, feasting and generosity have been as important to conquest as swords and arrows. A leader who cannot reward his

5 Anderson (2014), *Caring for Place*; for a review of theories see Barker (2006), *The Agricultural Revolution in Prehistory*.

6 MacNeish (1991), *The Origins of Agriculture and Settled Life*; MacNeish (1977), "The Beginnings of Agriculture in Central Peru," 753-801.

7 Jacobs (1969), *The Economy of Cities*.

8 Frazier, Kauz, and Schwarz (2014), *Wine Culture in Iran and Beyond*.

9 Hayden (2001), *Feasts: Archaeological and Ethnological Perspectives on Food, Politics and Power*.

troops, or feast his retainers, is an abandoned leader. In most of Central Asian history that meant a dead leader. Leaders had to keep winning. They had to develop the common economy, survive, and flourish. The dawn and spread of agriculture were influenced by this pattern long before there were pastoralists and Mongols. And Göbekli Tepe may show one stage in the development of this pattern.

In China, agriculture developed some 8000-9000 years ago.¹⁰ In China the Pleistocene megafauna continued to exist. China was swarming with elephants, rhinoceros, deer, buffaloes and other large animals, at the time agriculture began. Early farmers hunted them to supplement their diets.¹¹ Most species survived till long after civilization began; the real population crash of China's megafauna is quite recent, largely since the end of the Ming Dynasty.¹² As in the Near East, agriculture started during a time of warming and wetter conditions, when everything was better for plants, animals and people. And it seems to have taken place among settled people with substantial settlements, as in the Near East, although we are not yet sure.

3 Domesticated Plants

The early agriculture in western Asia was based on wheat, barley, chickpeas (garbanzos), lentils, and broad beans, all from the "Fertile Crescent" in Syria, and in neighboring countries. With genetic data, we can now pinpoint some plants to exact loci of domestication.

The most important crop in the world today is wheat, specifically bread wheat. Bread wheat is one of the more amazing inventions in history. Here we must pause for some genetics, just to impress the reader with how wonderful wheat is as a grain. The initial wheat was einkorn, a domesticated variety of *Triticum urartu*. Einkorn has the varietal name of var. *monococcum*. It is now almost extinct, though still cultivated in a very few places. Wheat taxonomy remains confusing; late research shows *urartu* as the parent. The parent was not *boeoticum* as formerly thought. Einkorn was the one domesticated at or near Karacha Dag.

¹⁰ Anderson (2014), *Food and Environment in Early and Medieval China*.

¹¹ Yunfei, Crawford, and Chen, "Archaeological Evidence for Peach Cultivation and Domestication in China," *PLoSOne* DOI:10.1371/journal.pone.0106595 (2014).

¹² Wan, et al., "Historical Records Reveal the Distinctive Associations of Human Disturbance and Extreme Climate Change with Local Extinction of Mammals," *Proceedings of the National Academy of Sciences* 116 (2019), 19001-19008.

Not too far away, emmer, a product of probably natural hybridization, was domesticated. It is a cross of *T. urartu* with *Aegilops speltoides*, a wild wheat-like grass. (Emmer has its own name: *T. turgidum* var. *dicoccum*, with a var *dicoccoides* sometimes recognized for wild emmer). Emmer is still an important crop in Italy, under the name of *farro*, and in some other areas. Its hard-grained descendant durum wheat is the source of Italian pasta.

Then, somewhere in northwest Iran or just north of it, this plant crossed with another grass, *Aegilops tauschii*. The result was a wheat with a superior gluten, one that trapped bubbles of carbon dioxide when the bread was leavened, and thus allowed the fluffy, aerated loaves the world now knows so well. We like to think that a woman noticed the superior quality of bread she was making and traced it to odd-looking wheat growing in one corner of her fields. Thus was launched bread wheat—a three-way, hexaploid hybrid—now perhaps the most widely grown grain in the world. Wheat, maize and rice all vie for prominence. They are so close, in production totals, as to be within statistical-error distance of each other, so it is hard to say which one is dominant. Wheat is the most versatile and the most widely eaten.

Barley (*Hordeum vulgare*) has a less hybridized, but no less complex, origin, involving still-unclear mixing, selecting, and propagating. At least we now know it too comes from the Fertile Crescent.¹³

The Eurasian heartland owes most of its domesticated plants to the Near East, from the staple foods, wheat and barley, and to important but lesser crops including almonds, melons, sesame, cumin, and coriander. The region itself contributed apples and possibly apricots. Spinach and alfalfa were domesticated early, somewhere in the Iranian region (spinach was introduced to China from Nepal as well as Central Asia, still known as the “Persian vegetable”). Carrots, often attributed to Afghanistan, are probably Near Eastern, but we are not certain. The all-important grape is native to the Caucasus and east Black Sea region, whence it spread by 8000 years ago. China has its own species of wild grapes, and the earliest evidence to the use of grapes in brewing, to make a kind of fruit-flavored millet ale, is from China, some 7000 years ago.¹⁴

North China contributed broomcorn millet and foxtail millet. Of these grains, only broomcorn millet was hardy enough to move rapidly into the Eurasian heartland and become widespread there; it reached Europe by somewhere between 1500 and 2000 BCE. It, barley, and wheat remained overwhelmingly dominant among Eurasian heartland grains until early historic

13 Anderson, *Food and Environment in Early and Medieval China*; Zohary, Hopf, and Weiss (2012), *Domestication of Plants in the Old World*.

14 Fragner, et al., (2014), *Wine Culture in Iran and Beyond*.

times.¹⁵ Foxtail millet, requiring more moisture and preferring more warmth, stayed in China, but spread to southeast Asia and India quite early; it appears in India by the 2nd millennium BCE. It may have spread through Central Asia, though the earliest evidence of it there is not until the late 1st millennium BCE.¹⁶ Chinese agriculture was long based on two species of millets in the north, and rice and root crops in the south. The millets came in at 7000-8000 BCE, the rice around 6000 BCE, although there are now claims of much older (but probably undomesticated) rice. Rice was earliest in the lower Yangzi region, but spread north rapidly to Shandong 山東, appearing there by 6000 BCE, though possibly in undomesticated form.¹⁷ They gradually entered a world incredibly rich in food plants—indeed, China is the most botanically rich area in the temperate zones. Thus, we find amazingly diverse food plant assemblages in the earliest sites that have millets at the time of transition between gathering and agriculture.¹⁸ Again the origin story does not concern us¹⁹ except for broomcorn millet.

Broomcorn millet (*Panicum miliaceum*) is ancient in the Eurasian heartland. More resistant to drought and dry continental climates than other grains, it became a life support, vitally important in the first millennium BCE, at which time it grew along with wheat, barley, cotton, sesame, melons, grapes and other fruit.²⁰ It continued to be important until modern times. Being neither very tasty nor very versatile (it is good for porridge but not much else), it has been low in status, and thus replaced by wheat and imported rice as economic growth made those more available. It had reached western Central Asia by 2700 BCE, when it shows up as animal forage in Kazakhstan.²¹ Presumably people were also eating it. It reached Europe soon after. It spread fairly rapidly into dry northwest China, but once in the hard desert it had to wait for

15 Mair and Hickman (2014), *Reconfiguring the Silk Road*.

16 Stevens, Murphy, Roberts, et al., "Between China and Southeast Asia: A Middle Asian Corridor of Crop Dispersal and Agricultural Innovation in the Bronze Age," *The Holocene* 26 (2016), 1541-1555.

17 Crawford, Chen, Luan, and Wang, "People and Plant Interaction at the Houli Culture Yuezhuang Site in Shandong Province, China," *The Holocene* 26 (2016), 1594-1604.

18 Li and Chen (2012), *The Archaeology of China: From the Paleolithic to the Early Bronze Age*; Wu, Wang, Wu, et al., "The Early Holocene Archaeobotanical Record from the Zhangmatun Site Situated at the Northern Edge of the Shandong Highlands, China," *Quaternary International* 348 (2014), 183-193; Hunt, Rudzinski, Jiang, et al., "Genetic Evidence for a Western Chinese Origin of Broomcorn Millet (*Panicum miliaceum*)," *The Holocene* 28 (2018), 1968-1978.

19 Anderson, *Food and Environment in Early and Medieval China*.

20 Brite, "The Archaeology of the Aral Sea Crisis," 143-144.

21 Kiel University (2019), "Earliest Spread of Millet Agriculture Outside China Linked to Herding Livestock," *PhysOrg*, Sept. 6.

intensive irrigation to make it worth growing. It is not competitive in quality with wheat or barley, and thus waited until irrigation was well developed enough to provide considerable land for growing low-value crops. Given that, and also a moister phase in western Central Asia, it crossed the Altai in the 3rd millennium BCE. It is first attested as a major food at Begram, Kazakhstan, around 2200 BCE.²² Following that date it spread widely in Central Asia, but lost ground in China, as rice became more common.

In the early Middle Ages, sorghum entered the area from Iran and India—ultimately from Africa, where it is native. Sorghum, plus improved wheat agriculture, reduced millet to minor status in some areas. Both millets and sorghum are C₄ plants. C₄ plants use a carbon metabolism pathway that makes them more resistant to heat and drought than C₃ plants such as wheat and barley. They also leave a characteristic signature in the bones of the eaters, so we can tell when millet became a staple.

Rice, another East Asian domesticate, and a C₃ plant, became important much later, especially in the river valleys of Afghanistan and in the Caspian Sea drainage; it probably came via India (where it was apparently domesticated independently of the early Chinese domestication) and Iran rather than directly from China. It probably appeared there about the same time it did in Iran: some 2000 years ago. It is now a major crop in Iran, but in dry Central Asia it is important only in the river valleys of Kazakhstan and Uzbekistan. Koreans resettled there had a good deal to do with its rise to importance in the former.²³ China also contributed several minor species, including the peach, domesticated in the lower Yangzi Valley around 5000–7000 years ago.²⁴

The major period of spread in Central Asia of the four big starch staples—wheat, barley, millet and rice—was thus around 7000 to 4000 years ago. Wheat, barley, and millet, along with peas, formed a complex that migrated northward between 2000 and 1000 BCE, moving downward into deserts and northward into Mongolian and Siberian steppes.²⁵ This means diffusion was at about the

22 Liu, Reid, Lightfoot, et al., “Radical Change and Dietary Conservatism: Mixing Model Estimates of Human Diets along the Inner Asia and China’s Mountain Corridors,” *The Holocene* 26 (2016), 1556–1565; Miller, Spengler, and Frachetti, “Millet Cultivation across Eurasia: Origins, Spread, and the Influence of Seasonal Climate,” *The Holocene* 26 (2016), 1566–1575.

23 Nesbitt, Simpson, and Svanberg (2010), “History of Rice in Western and Central Asia,” 308–340, 535–541.

24 Zheng et al. (2014), “Archaeological Evidence for Peach Cultivation and Domestication in China.”

25 Miller, Spengler and Frachetti (2016); Spencer, Ryabogina, Tarasov, and Wagner, “The Spread of Agriculture into Northern Central Asia: Timing, Pathways, and Environmental Feedbacks,” *The Holocene* 26 (2016), 1527–1540.

same rate as in Europe, where agriculture took about 4000 years to get from western Turkey to England (around 8000-9000 to 4000-5000 years ago). Based on parallels with modern diffusion of starch staple crops, the diffusers were surely ordinary people, and very possibly the poorer and more marginal ones. They were the ones under the most pressure to find a good cheap source of livelihood. Grains are easy to grow and store, unlike the meat and fresh plant foods beloved by the elites.

In later (early-Medieval) centuries, important crops have come to the region, and ultimately to East Asia from Africa: sorghum and watermelons. Both were introduced in, or shortly before Liao 遼 times. India contributed mung beans, many spices including turmeric, and cardamom, major rice varieties, and many other crops. In the last very few centuries, the New World has provided potatoes, tomatoes, squash and common beans. Sorghum has not only been important as a food plant but has long provided one of China's most important distilled liquors, *gaoliang* 高粱. (The other favorite, *maotai* 茅台, is made from millet. Distilled liquor in general is often called *sanshao* 三燒, "triple distilled," even if not actually distilled that many times.) No *gaoliang* is found in the Eurasian heartland, but other distillates certainly are. The Mongol era was a particularly important period of dissemination both for distilled liquors and for the stills used to produce them as noted above.

The Eurasian heartland itself made at least two major contributions to the world. Horses and apples (*Pyrus malus*) are the clearest cases. They have been nailed down by genetics to an origin in Kazakhstan. Horses were domesticated in the Kazakh steppes. Apples come from mountains near the city now called Almaty, "Father of Apples." Almaty, Tashkent, and Kabul markets are full of tasty, mostly dried but often fresh, fruits of every kind. This is, somewhat unexpectedly, also the case in Ulaanbaatar's public markets. Most is imported from China.

Very early and important in the region were several other fruits. Above all grapes (*Vitis vinifera*). Pistachios from Iran, almonds from what is now Turkey (with possible inputs from other areas), and melons, and pomegranates from the ancient Near East have long been important. Sesame (*Sesamum indicum*) possibly came from India originally, but arrived early. It certainly reached Central Asia via the ancient Near East.²⁶ Sesame became an important oil crop, tolerating dry conditions. It yields poorly, even with modern breeding efforts, and thus animal fats have prevailed throughout history in high Asia.

26 Bedigian (2013), "African Origins of Sesame Cultivation in the Americas," In *African Ethnobotany in the Americas*, 67-12.



PHOTO 20 The public market in Almaty



PHOTO 21 A public market in Ulaanbaatar

Finally, even in early times, cotton (*Gossypium herbaceum*) was an important fibre plant. The ancient cotton came from Arabia and India. It was short-staple and low-yielding. Early Europeans heard stories of Indian “plants that bore wool.” They concocted the story of the “vegetable lamb,” a plant with little sheep growing on it and grazing around it; this remained a staple of travelers’ tales even after cotton was well known. The superior cotton grown today in the region is a Native American development (*G. herbaceum*, *G. barbadense*), coming from the pre-Columbian Caribbean, not reaching the Eurasian heartland until the 19th century. (Cotton is only one of many plants in which different species of the same genus were independently domesticated in the Old and New Worlds.) The Civil War in the United States made it suddenly a major Old World crop, as American supplies were embargoed.²⁷

At an uncertain, still quite early time, outside spices and flavorings began to come into the Eurasian heartland. The region already had some of its own: various species of thyme, wormwood, and umbelliferous plants. Probably among the first Near Eastern spices to come were cumin (*Cuminum cyminum*) and coriander (*Coriandrum sativum*), the classic spices of the Near East, whose domestication and use go back many thousand years. Coriander is used for its leaves as well as for its dry fruits, or “seeds,” ground as spice. Thyme, black caraway (*Nigella*), marjoram, and other herbs and spices followed. Black pepper (*Piper nigrum*) has probably been in the Eurasian heartland for at least 2000 years, judging from its early use in China; cinnamon, clove and other Southeast Asian spices may also be early. The classic Near Eastern and Turkistertian spice mix today is cumin, coriander and black pepper. Other spices are added according to the background and sophistication of the dish being cooked.

Gathering of wild plants has remained important in Central Asia. Cinggis-Qan’s vicissitudes with cinquefoil roots and other gathered foods and simple game are well-known. A recent study of lily bulbs in Russian history shows that all ethnic groups have used any lilies and fritillaries that provided edible bulbs or corms.²⁸ Wild greens, fruits, berries, and roots have always been popular.

27 Rosenberg (2012), *Seeking Food Rights*, 29.

28 Ståhlberg and Svanberg (2014), “Among Fishermen and Horse Nomads: Johan Peter Falck in Russia and Siberia 1768-1774,” 73-99.

4 Domestic Animals

Domestication leads to more tranquil animals.²⁹ Over time, that may mean stupider animals.³⁰ The wolf (*Canis lupus*) averages about 100 cc of brain, while the dog (a domesticated wolf, *C. lupus* var. *familiaris*) 72 cc. Pigs (*Sus scrofa*) have lost 1/3 of their brain mass; wild pigs are notoriously savage and cunning—traits intolerable in a domesticated pig. Cattle, sheep and goats have suffered comparably. Even the mink, domesticated (on fur farms) for only a few decades, has lost 20% of brain mass.³¹

In a famous study, Dmitri Belyaev, on a fox fur farm in Russia, studied the progressive domestication of the foxes raised there. Over half a century, foxes selected for tameness became not only more docile, but also developed the short muzzle, flop ears and tendency to spotted coloration that distinguish the more “derived” breeds of dog from the wolf.³² Similar changes have shown up in sheep, rats, guinea pigs, horses and other domesticates, and are now thought to be due to the fact that docility is developmentally linked with melanin distribution, ear cartilage and so on, in the developing neural crest.³³ Early farmers took advantage of sophisticated knowledge of animal breeding to develop good animal food sources.

Animal domestication probably began in Eurasia with the dog at some debatable time in the past; the genetical and archaeological evidence is conflicting. The dog was domesticated from the wolf by 14,000-15,000 years ago,³⁴ but many think it was domesticated much earlier.³⁵ It was apparently domesticated as pet and as a helper in the hunt. Wolf packs easily learn to cooperate with ravens, to follow bears and otherwise to hunt in association with other species. Hunting with humans could have led to cooperation³⁶ and the eventual capture of pups, or making pets of orphaned ones, and breeding them for domesticity. All of this is speculative.

29 Clutton-Brock (2012), *Animals as Domesticates: A World View Through History*.

30 Marshall, Dobney, Denham, and Capriles, “Evaluating the Roles of Directed Breeding and Gene Flow in Animal Domestication,” *Proceedings of the National Academy of Sciences* 111 (2014), 6153-6158; Dugatkin and Trut (2017), *How to Tame a Fox (and Build a Dog)*.

31 Zeder, “The Domestication of Animals,” *Journal of Anthropological Research* 68 (2012), 161-190.

32 Larson, “Genetics and Domestication: Important Questions for New Answers,” *Current Anthropology* 52, Supplement 4 (2011), S485-S495.

33 Gibbons, “How We Tamed Ourselves—and Became Modern,” *Science* 346 (2014), 405-406.

34 Zeder, “The Domestication of Animals.”

35 Shipman (2015), *The Invaders*.

36 Raymond Pierotti (2011), *Indigenous Knowledge, Ecology, and Evolutionary Biology*.

The typical Central Asian dog is a mastiff-type herd dog. These dogs do not herd the animals as sheepdogs do; they guard them. They are the eastern forms of a widespread large herd dog. The Swiss and Pyrenees mountain dogs anchor the west end of this continuum. Many are notoriously fierce: the Turkish *kangal* (Armenian *gambr*), the beautiful but protective Central Asian sheepdog (the typical Georgian *dzaghli*), the Alan or “alaunt” dog (brought to Europe by the Alan nomadic tribes of Roman Empire times), and the Tibetan mastiff, being especially famous. Some of these breeds, such as the Turkish *akbash* and the more traditional type of *dzaghli*, look almost exactly like sheep, and mix with the flock, identifying with its members but suddenly emerging to attack mercilessly a wolf or human that approaches. The Mongolian *bankhar* mastiff, however, is smaller, friendlier, and susceptible of being lured from its strict guard functions by bits of bread, although *bankhar* will defend their communities if provoked. In Mongolia, the tradition has been that anyone visiting a home or camp must call out to the household to keep the dogs under control, although when we visited Mongolia the dogs needed to be talked to personally rather than controlled. They were clearly in charge and permission had to be asked to enter a yurt. Be that as it may, even Cinggis-qan was once afraid of these dogs. The *bankhar* is astonishingly similar to the Swiss mountain dog breeds, possibly indicating a survival of an ancient type at the far ends of the mastiff chain. Occasional in Inner Asia, especially to the north and east, are spitz-like dogs, with curly tails and prick ears. These are part of a more northerly chain of breeds extending from Scandinavia to Japan. They can herd animals, including reindeer. Locally, hounds occur, including the famed Afghan hound—which in its native home is an elite hunter, smarter and more independent than the sadly inbred Afghans of American dog shows.

The first animals domesticated for food were sheep (*Ovis aries*) and goats (*Capra hircus*). Both were first domesticated in the Near East. Sheep were domesticated by about 8000-9000 BCE, and goats by about 7000 BCE.³⁷ Sheep quickly became the major animal throughout dry Eurasia.

Fat-tailed sheep were bred early in the Near East. The fat-tailed sheep is important in Central Asia, where fat is otherwise hard to find. The tail and rump fat is a common cooking fat. It is also an additive to many dishes. In the modern overweight world, we often forget that fat is an essential nutrient, and that getting enough of it has been a major problem for many people throughout human evolution. The fat-tailed sheep stores it in rump and tail, where connective tissue holds it together, allowing pieces to be grilled without simply melting. Caracol (Karakul) sheep and Angora-type goats came much later;

37 Clutton-Brock, *Animals as Domesticates*; Zeder, “The Domestication of Animals.”



PHOTO 22 Mongolian fat-tailed sheep

they provided superior wool for all clothing purposes; the Caracol hat is, or was an essential part of men's wear in much of the high Eurasian heartland.

Pigs (*Sus scrofa*), and cattle (*Bos taurus* in Europe and Near East, *Bos indicus* in India) soon followed. All these species had the advantage that they were herd animals. They were not unbearably wild or fast-running. Perhaps more to the point (especially given the savagery of pigs), they were animals that were apt to tame themselves, coming around human camps for food scraps. It has now been established that pigs were independently domesticated, at about the same time (around 8000 years ago), in the Near East and in China.³⁸

Similarly, sheep, goats, and cattle came around human camps for salt in wasted food or in urine. Visitors to western North American parks may be aware of how very prevalent is self-taming among wild animals. Mountain sheep and mountain goats in search of handouts are a genuine pest. The Near Eastern species had similar habits. Most modern people do not realize how very different life was before high-powered rifles. Hunted animals have now learned to stay hundreds of yards away from humans. Experience in parks show that animals learn quickly where and when they are safe. In earlier times,

38 Bosse, Frantz, et al., "Genomic Analysis Reveals Selection for Asian Genes in European Pigs Following Human-Mediated Introgression," *Nature Communications* (2014), doi 10.1038/ncomms5392, 15 July.

even hunted animals stayed close; they knew how far a bow could shoot accurately, and knew they did not need to run farther than that.

Quite a few promising species were missed. Red deer (*Cervus spp.*), for instance, have proved excellent farmstock in New Zealand, where they live happily with sheep and cattle, being peacefully herded by border collies. American elk (a form of red deer) eagerly self-tame, and are a familiar and friendly sight in many western American communities. Asian red deer were not domesticated, but probably because other animals were domesticated first. By the time agriculturalists expanded into red deer country, they already had good domesticates, and found the red deer—with its formidable antlers—not worth further effort. Central Asia's red deer are now acutely endangered, unfortunately.

Herbivores were initially domesticated solely for meat, but a “secondary products revolution” soon took place as milking, and an associated large-scale cheese-making, arose. Dairying arose early: by 6000 BCE in Anatolia, 5000 in Eastern Europe,³⁹ 3000 in the steppes, 800-1200 in Mongolia (the Deer Stone-Khirigsuur complex). Skins and bones were also useful, and eventually people managed to develop wool—not a natural product of sheep, but one created by selective breeding, probably between about 5000-3000 BCE. Not only sheep, but also goats and other species, became woolly. Bactrian camels (*Camelus bactrianus*) and yaks (*Bos grunniens*) naturally produce wool-like coats. The wools produced are particularly important in the Eurasian heartland winters.

All this heightens the interest and importance of the Eurasian heartland's great contribution to world livestock: the horse (*Equus caballus*; the wild horse is *E. ferus*, Przewalsky's is *E. [ferus] przewalskii*). Horses were domesticated perhaps as early as 3500-3000 BCE, probably in Kazakhstan, and possibly neighboring areas of the steppes, as is now shown from archaeological and genetic research.⁴⁰ The Botai culture, at that time, initially depended on hunting wild horses for food. The Botai people apparently domesticated the horse. The process centered in the steppes of Kazakhstan. Horses were apparently domesticated for eating, and only later milked and ridden. Either way they have been critically important food producers, as well as being essential to steppe herding. Horse meat was important throughout history, and continues

39 Clutton-Brock, *Animals as Domesticates*; Jeong, Wilkin, Amgalantugs, et al., “Bronze Age Population Dynamics and the Rise of Dairy Pastoralism on the Eastern Eurasian Steppe,” *Proceedings of the National Academy of Sciences* 115 (2018), E11248-E11255.

40 Kelenka (2009), *The Horse in Human History*; Levine, Renfrew, and Boyle (2003), *Prehistoric Steppe Adaptations and the Horse*; Marshall, Dobney, Denham, and Capriles, “Evaluating the Roles of Directed Breeding and Gene Flow in Animal Domestication,” *Proceedings of the National Academy of Sciences* 111 (2014), 6153-6158; Zeder, “The Domestication of Animals.” Donkeys, native to North Africa, had long been domesticated there.

to be a major food in Kazakhstan,⁴¹ where it is served as fatty as possible. It is also of growing importance in Mongolia, where horses were once too valuable to eat.

Horses seem, however, to have drawn on a steppe-wide gene pool, from the Ukraine to the Altai. The Przewalsky Horse is a descendent of feral Botai horses, not a truly wild animal; other domestic horses have absorbed genes from many other now-vanished wild populations.⁴² They were later milked on a rapidly increasing scale. In season, horses produce a substantial supply of milk, and Mongols are awash in fermented mare's milk during the summer. Only much later were they used for draught (including pulling chariots) and for riding. The Botai culture has left pots containing residue of mare's milk. This shows domestication; milking wild horses is impossible. One could not approach them, and if one could the mare would be defensive of herself and her foal; an enraged horse can and will kill a human. One can only stand in awe of the women who first milked horses in Kazakhstan; it must have followed a considerable period of breeding for docility.⁴³

Horses were at first an unpromising animal to domesticate, because they are formidably intelligent, and before domestication they were extremely wild and independent. The other herbivorous domesticates are largely ruminant: sheep, goat, cow, and camel. A ruminant animal is basically a walking fermentation tank. It does not have to think much, and thinking interferes with digestion. Horses are different: they do not have the "four stomachs" of the cow. They do not chew the cud. Without the fermentation step to help digest food, horses have to be smart to get enough forage. Horses must be provided quality foods. These are usually leaves or grains of grasses, leaves of leguminous plants, or comparable nutritious fodder. Since horses are needed for riding and work, rather than for meat, humans could not simply breed the brainpower out of them, as they could with sheep and cows.

Wild equines do not take kindly to being managed, and they resist annoyances with a combination of intelligence and toughness. Anyone who has watched zebras deal with lions knows this. The surviving wild horses—the Przewalsky's horses of the eastern steppes—appear equally resourceful. Today, the better breeds of horse have been bred to combine high intelligence

41 Levine, "Eating Horses: the Evolutionary Significance of Hippophagy," *Antiquity* 72 (1998), 90-100.

42 Achilli, Olivieri, Soares, et al., "Mitochondrial Genomes from Modern Horses Reveal the Major Haplogroups that Underwent Domestication," *Proceedings of the National Academy of Sciences* 109 (2012), 1449-1454; Gaunitz, "Ancient Genomes Revisit the Ancestry of Domestic and Przewalski's Horses," *Science* 360 (2018), 111-114.

43 Cunliffe, *By Steppe, Desert, and Ocean*, 78-100.



PHOTO 23
Fermented mare's milk
prepared for a guest

with doglike devotion and trainability. This was a truly amazing accomplishment, and it was the move that really opened the steppes. In recognition of this, Mongolian folklore has a hierarchy of intelligence: heroes are portrayed as—to coin a phrase—kind of dumb, girlfriends are smarter, but if both get into a jam, it is the horse who bails them out. The older, “warmer” breeds in particular have a formidable intelligence and stunningly sharp senses. Many an ordinary rider in modern times has had to depend, like an epic hero, on an intelligent mount, whether the need is for sure-footedness on a mountain trail, finding the way in a blizzard, or sensing danger from human, predator, or poisonous snake.

The human-horse symbiosis is ancient and deep-rooted, and allowed the conquests by the Mongols, and the peaceful occupation of remote steppes. Horses were probably used relatively early for pulling carts, then much later for chariots, and still later as riding animals. Early finds once thought to be

evidence of riding have proven not to be,⁴⁴ leaving us in the dark about that vitally important innovation. Similarly, exorbitant claims of early Indo-Europeanists have not panned out. There were no vast mounted hordes sweeping out from the Ukraine carrying Indo-European languages with them. If the languages spread as claimed, a slower and more gradual mechanism was at work.

The other large animal domesticated in Central Asia was the Bactrian camel, native to the deserts of the eastern part of the region. A few wild ones survive in southern Mongolia. Presumably, the Arabian dromedary (*Camelus dromedarius*) was first domesticated (by 2000 BCE), and later introduced to Inner Asia, where it flourishes in the warmer southerly regions such as Afghanistan, and at one time as far north as southern Mongolia. Lacking evidence, we can surmise that northward expansion of economic activity would have naturally led people to substitute the more cold-tolerant Bactrian. Nonetheless, it seems to have been domesticated early.⁴⁵ It too provides meat and milk.

A modern nomadic herder will have largely sheep, with a few goats, and the necessary few horses—or more than a few; horses are everywhere in Mongolia and Kazakhstan. In true desert areas, there will be perhaps as many camels. Cattle are uncommon (but increasing in numbers), and donkeys are rare. Yaks are common in mountain and rocky areas only. Pigs are ruled out by Islam in most areas, and in almost all areas by climate, and by the need for mobility. Cattle and pigs abounded in neighboring Europe and China, and expanded into Central Asia, usually at the margins of the region, whenever climate permitted. Sometimes expansion was more broadly-based. In the first millennium BC and even later, they were kept in the great river valleys of the core regions.⁴⁶ Of course the coming of Islam made pig-keeping inconceivable throughout most of the region. It is perhaps for this reason that the official Mongol-era cookbook and dietary manual, the *Yinshan Zhengyao*, has few recipes for pork, which would have been offensive to Muslims at the court. Mongol tradition, in which wild pigs were simply not important, may have played a role as well.

Chickens came later from Southeast Asia and South China. One bird that may be a local domesticate is the pigeon. Pigeons descended from wild rock doves (*Columba livia*), which are still common in the area. The origin of the domesticated pigeon is obscure, but is probably Middle Eastern. In Iran and neighboring areas, including western Afghanistan,⁴⁷ tall adobe towers are

44 Kuzmina, *The Prehistory of the Silk Road*, 30-32.

45 At least so thinks Kuzmina, in the *The Prehistory of the Silk Road*. See also Baumer (2012), *The History of Central Asia, Vol. 1: The Age of the Steppe Warriors*.

46 Brite, "The Archaeology of the Aral Sea Crisis," 160.

47 Dupree, *Afghanistan*, 142; Anderson, personal observation.

made with niches every foot or two; these are for pigeons. The birds are good eating, but more important is their dung, a major local fertilizer.

5 Languages

Along with agriculture, the ancestors of modern languages spread through the Eurasian heartland. Languages are grouped into very large groupings called phyla. The Indo-European (IE) phylum is generally accepted, though it includes languages like Greek, which has a very large non-Indo-European vocabulary. IE speakers evidently mixed with many speakers of unrelated languages long ago. In the case of the “Altaic phylum,” which are theoretically the Turkic, Mongol, Tungus and Korean languages, the tendency today among linguists is to deny that such a thing ever existed.⁴⁸ Tungus and Korean are related, but otherwise the branches seem to have borrowed extensively from each other rather than sharing a common root. (Japanese, sometimes claimed to be “Altaic,” is either quite unrelated or only very distantly so.) In fact, the linguistic picture in the Eurasian heartland is more complicated than any simple spread of languages, related or unrelated, might imply. Nonetheless, as anyone can testify who has learned local languages of the Eurasian heartland such as Mongolian and Kazakh, there is a clear similarity between them in structures and vocabularies. The speakers of these languages have interacted over the long term and have acquired similar characteristics, through these interactions, leaving aside the question of actual relationship.

Early and local players included the Xiongnu language, now gone almost without trace and thus of unknown relationships. The Xianbei 鮮卑, a group that formed part of the Xiongnu empire, spoke a language distantly related to Mongolian, and closely related to the Khitan language of the Liao 遼 Dynasty (9097-1115); the Khitan were displaced and set up a later empire in eastern Central Asia, thus making their language a part of its history.

More ascertainable are the recent histories and current statuses of the principal languages in the larger region. The western Eurasian heartland is currently dominated by two language families: Turkic (Kazakh, Uzbek, Uighur, etc.) and Iranian (Persian, Tajik, and more distantly, Afghan and its relatives). In the eastern parts, the Mongolian languages and Chinese have become the

48 Alexander Vovin, “The End of the Altaic Controversy: In Memory of Gerhard Doerfer,” *Central Asiatic Journal* 49 (2005), 71-132; Cecil Brown, personal communication to ENA, emails of fall 2017; Dr. Brown has preliminary evidence that the link between Korean and Tungusic may be a genuine relationship. See also Shimunek (2017), *Languages of Ancient Southern Mongolia and North China*.

important ones, with Tibeto-Burman languages reaching as far north as Qinghai province.

Throughout the wider area are also languages not readily associatable with this pattern. One such language is Tibetan. It is related to Chinese, but it has strong Mon elements (the Mon-Khmer phylum includes Vietnamese and Cambodian; Tibetan chronicles even mention the presence of Mon languages in Tibet in very ancient times). Thus, Tibetan shows strong Southeast Asian connections that have little or nothing to do with Chinese. Tibetan is also closely related to Burmese, which has its own non-Burmese borrowings (again often Mon) contributing to the mix. In Siberia are many highly interesting groups such as Ket, which may be the last representative of an ancient, widespread phylum.⁴⁹

All these languages of the Eurasian heartland, except Iranian, have moved into the main parts of their Central Asian haunts within historic time. The Turks came down from the Siberian Altai, or that general vicinity, as part of the nomadic confederations of the period around 1700-2000 years ago. The Mongols began moving south and west from southern Siberia and northern Mongolia at about the same time. Chinese expansion into Central Asia came also at this time, but did not become a flood until the last half of the 20th century. In the case of the Turks and Mongols, change has been as much assimilation as it has been the product of migration. Noteworthy are strange languages such as Tuvian, which combines a Turkic grammar with a largely Mongolian vocabulary. Similar is Manchu (only very marginally Central Asian), which has undergone considerable Mongolization and Sinicization, mainly in vocabulary.

One other language group, once mainstream, but now defunct, was historically important: Tokharian. This was an Indo-European language family. It is not close to Iranian, being perhaps closer to Balto-Slavic. It is now completely extinct. At least three Tokharian languages were being written and presumably spoken in what is now Xinjiang in very early times. They existed there from some indeterminate, but distant, time of origin until about 1000 CE. Tokharian was likely spoken more widely in the past, before the (apparent) radiation northeastward of the Indo-Iranian languages.⁵⁰ In the early Middle Ages, the Tokharians were gradually assimilated by Turkic peoples, especially the group(s) now known as Uighurs.

Apparently, the Eurasian heartland was largely Indo-European-speaking in Bronze and Iron Age times. It is now widely thought that the Indo-European languages spread from Ukraine and nearby areas around 3500 BCE (give or

49 Vajda 2001), *Yeniseian Peoples and Languages*; Vajda (2004), *Ket*.

50 Renfrew (2014), "Foreword: The Silk Road Before Silk," xi-xiii.

take a bit), in connection with the development of horse domestication.⁵¹ This is many years too early for chariots and horse riding, though carts—probably pulled mostly by cattle—were known.⁵² Horses were meat at such a remote date. The spread to Central Asia, however, was appreciably later, with riding and carts likely involved. This spread is conjecturally dated around 2000-1500 BCE.

In recent times, Turkic has supplanted Tokharian completely, and has replaced Iranian languages over a wide area of Inner Asia. It is divided into three branches geographically: eastern, including Uighur in Xinjiang; central, including Uzbek, Kazakh and related dialects; and western, Turkish and Azeri. (Note that we use “Turkic” for the language family in general, especially its Central Asian branches, and “Turkish” for the modern language of Turkey.) The Turks conquered what is now Turkey between the 11th and 15th centuries, and have slowly achieved linguistic hegemony in an area where Greek, Armenian, and Georgian languages formerly dominated. Modern Turkish has picked up a series of loanwords reflecting its history: from Iranian languages in Central Asia, then Persian, Arabic, Greek and Armenian as it moved into Turkey. More recently have come French borrowings in the late 19th and early 20th centuries, and English in the 20th.

Meanwhile, the Chinese pressed west into Inner Mongolia and Xinjiang, where since 1960 they have become by far the dominant group numerically. The Mongols of Inner Mongolia, and the Xinjiang Turkic peoples (the Uighurs and their relatives), are now minorities in their own lands. Russian, meanwhile, once waxed strong against the Kazakh Turkic group in the northern and central parts of Kazakhstan. Since independence, the situation has reversed itself, and perhaps two-thirds of the present Kazakhstan population speak Kazakh. This is in part because many Russians went home after independence, but also because of a high Kazakh birthrate. Russian remains the major way of communicating with the outside world in urban Kazakhstan and Uzbekistan, but this is changing, as both English and the local languages become more widely used.

The principal modern form of Iranian is Farsi, the dialect of Persian native to Fars province in southwest Iran. It is characterized by a very high number of Arabic borrowings, especially for religion and elite culture. This also extends to food—everything from *sharbat* “drink” to *qaliya* “fried.”

51 Anthony (2007), *The Horse, the Wheel and Language*; Mallory (2014), “Indo-European Dispersals and the Eurasian Steppe”; Mallory (1991), *In Search of the Indo-Europeans*.

52 Drews (2004), *Early Riders, the Beginnings of Mounted Warfare in Asia and Europe*.

Widely in Inner Asia, especially Afghanistan, people speak—usually as a second language or “lingua franca”—a closely related dialect known as Dari. The word “Dari” comes from Arabic *dar* “gate,” which by extension means rulers’ court (and gallows). Dari was the language of rulers, government and administration in the old days; this persists to some extent. The fact that it was a lingua franca throughout southwestern Central Asia shows the extent and reality of Persian influence; its use coincides with the heavy Persian dominance of foodways.

A quite different branch of the Iranic family give us Pashtun/Afghan and related languages of Afghanistan and Pakistan. Yet another branch, Sogdian, was once the dominant language of the great oasis cities, but now it (or a descendant) endures only in one or two mountain villages.

Today, cities in Turkistan show a mix of languages. Particularly important to realize is the great historic depth of the mix of Turkic and Iranic that characterized, and to some extent still characterizes, the great central cities of Samarkand, Bukhara, Tashkent, and others in that general area. Most individuals were bilingual, many were mixed, and many did not know or care whether they were Tajik, Turk, or both, ancestrally.⁵³ The same situation exists today in regard to Russian; it is still the main language of international trade and commerce, and of much of governance, in the ex-USSR cities, and in parts of the countryside. Educated people are often bilingual (especially if from Turkic backgrounds) and increasingly often trilingual, with English as third language.

Under the USSR, linguistic Stalinism required standardizing languages and resettling people—basically, “ethnic cleansing”—and boundary-drawing that was, to put it mildly, creative. Boundaries today are convoluted and irregular, there are, for example, detached pieces of Tajikistan scattered in Kyrgyzstan. Peace and prosperity may be hard to achieve with such complex divisions. It was a deliberate divide-and-rule strategy in intent and effect. How much it was also a genuine belief in “nationhood” remains to be determined.

Today, nationalism is strong.⁵⁴ Afghanistan has its own powerful ethnic tensions. Language politics in Xinjiang and Inner Mongolia are part of a wider attempt by the Han majority to crush the minorities, and eliminate resistance to Han supremacy, preferably by cultural absorption or simply swamping them in ever-growing masses of Han. The same is true in Tibet.

53 Rosenberger, *Seeking Food Rights*; Rosenberger, “Patriotic Appetites and Gnawing Hungers: Food and the Paradox of Nation-Building in Uzbekistan,” *Ethnos* 72 (2007), 339-360; for memorable accounts of languages and cultures in the region, see Levin (2006), *Where Rivers and Mountains Sing*; Levin (1996), *The Hundred Thousand Fools of God*.

54 Rosenberger, *Seeking Food Rights*; Rosenberger, “Patriotic Appetites and Gnawing Hungers.”

Finally, a word about “race.” Nowhere is the concept of biological “race” more obviously silly than in Central Asia. As the meeting ground of the entire Old World, it shows a complete mixing and merging of all the physical types of Eurasia: blond, blue-eyed people (especially in the northwest) to black-haired, brown-eyed individuals with pronounced eyefolds and flat noses. There are also dark-skinned, prominent-nosed individuals who would not seem out of place in Arabia or India. There are groups that do not really look close to anyone else on earth. Genetic typing shows the mix is real; people have come from all over Eurasia, have merged, and have developed some unique local strains. The wonderful photographs by Peter Yung⁵⁵ of the bazaars in far western China show this perfectly. One sees the same variety in the markets of Afghanistan and Kazakhstan.

Archaeology shows a mixture of human types over 30,000 years ago with both modern and extinct subspecies of humans. There followed a settlement of northern Eurasia by people including ancestral Uralic and other language groups; an expansion across the steppes by people including ancestral Indo-Europeans (at some point), Turkic groups, and evidently many others; and more recent migration, largely in the last 5000 years or somewhat more, from Iran and the Indian subcontinent, creating a very loose latitudinal striation that was constantly varied by migrations.⁵⁶ and a mixture of modern types by 3,000 years ago, with the present mix of European-looking, East-Asian-looking and intermediate people already distinctly visible in eastern Central Asian archaeological finds.⁵⁷

6 The Origins of Civilization and High Culture in the Eurasian Heartland

Agriculture is thought to have spread out to the Eurasian heartland (including Iran) by 6000 BCE, but only Turkmenistan reports dates that early.⁵⁸ Wheat was in Pakistan almost as early, by 5500, and in the southern Caucasus by about 6000.⁵⁹

55 Yung (1997), *Bazaars of Chinese Turkestan: Life and Trade along the Old Silk Road*.

56 Jeong, Balanovsky, and Krause, “The Genetic History of Admixture across Inner Eurasia,” *Nature Ecology & Evolution* 3 (2019), 966-976.

57 Anderson, *Food and Environment in Early and Medieval China*.

58 Betts, Jia, and Dodson, “The Origin of Wheat in China and Possible Pathways for Its Introduction: A Review,” *Quaternary International* 348 (2014), 158-168.

59 Ventresca Miller and Makarewicz, “Intensification in Pastoralist Cereal Use Coincides with the Expansion of Trans-Regional Networks in the Eurasian Steppe,” *Nature Scientific Reports* 9 (2019), article 8363.

The Dniester River was a barrier to the spread of farming until 5200 BCE. After that time there was a rapid advance of farming. Farming reached Khvalynsk, on the mid-Volga, by 4700-3900 BCE. This is shown by a find of 158 human burials with sacrificed livestock, including many sheep.⁶⁰ Wheat, barley, sheep, and goats reached Afghanistan and the rest of the western side of the mountain core by 3000 BCE, but cereals were not important until after 2000. Wheat and barley got to eastern Kazakhstan by 2500 BCE, but did not become immediately important.⁶¹ They did not reach China till just before 2000 BCE, and then only in the west. This means their spread of farming in East Asia went on at the same rate as the spread of agriculture across Europe. There it advanced about 1 km per year, from invention around 8500-9500 BCE, later reaching the farthest points in the British Isles around 5000 BCE. The speed across Central Asia was comparable, with the Near Eastern cultigens taking 7000 years to go about 6000 km—slowed down, no doubt, by the mountains and deserts. In the meantime, broomcorn millet spread from China, not reaching central Asia until the 2nd century BCE but then spreading fast; the slow initial spread and then rapid spread after 2500 of cereals in Central Asia tracks the change from local networks to the wide-flung trade, interaction, and ceremonial and artistic sharing of the Bronze Age, with the Iron Age providing still greater pressure for agriculture.⁶²

Farming was not the only thing that spread. The first copper smelting known is from Tal-i-Iblis, southeast Iran, and dated to 5000 BCE.⁶³ Copper smelting occurs about the same time at Belovode in Serbia. The lost-wax method was discovered before 4000 BCE. By 4500 BCE, much copper and gold, as well as other fine goods, appear in tombs of chieftains.⁶⁴ In fact, according to archaeologist Barry Cunliffe⁶⁵ the Eurasian heartland was quite innovative in metallurgy. This had obvious relationships with feasting, and less direct ones with hunting; metal also made more mobile nomadizing possible.

Adult-age lactose tolerance—persistence throughout life of the enzyme that in children breaks down lactose into glucose and galactose—spread rapidly in the western steppes between 4600-2800 BCE.⁶⁶ This means fresh milk could become a major food.⁶⁷ Oddly, lactose tolerance (after about age six to

60 Barry Cunliffe, *By Steppe, Desert, and Ocean*, 60-61.

61 Ventresca Miller and Makarewicz, "Intensification in Pastoralist Cereal Use Coincides with the Expansion of Trans-Regional Networks in the Eurasian Steppe."

62 Ventresca Miller and Makarewicz, "Intensification in Pastoralist Cereal Use Coincides with the Expansion of Trans-Regional Networks in the Eurasian Steppe."

63 Cunliffe, *By Steppe, Desert, and Ocean*, 104.

64 Cunliffe, *By Steppe, Desert, and Ocean*, 106.

65 Cunliffe, *By Steppe, Desert, and Ocean*, 104-131.

66 Cunliffe, *By Steppe, Desert, and Ocean*, 73.

67 Cunliffe, *By Steppe, Desert, and Ocean*, 73.

ten) never spread east; it stops almost short in the dead center of Eurasia. Beyond there, most adults must consume most of their milk processed into kumiz, curd, cheese or some other product. Mongolia reveals a small but significant percentage of lactose-tolerant adults; China has very few. Probably, lactic-acid fermentation was so universal and so essential to steppe life by 2800 BCE that there was no selection pressure for lactose tolerance.

The earliest woolly sheep may have appeared about that time as well.⁶⁸ At Botai in Kazakhstan, 99.9% of bones were horse bones, indicating true dependence on horse meat.⁶⁹ This was at 3700-3000 BCE. Horse milk lipid residue was found in pots almost as early. Cunliffe thinks riding was established by this time,⁷⁰ but most experts think it was later.

Four-wheeled wagons appeared in the Yamnaya culture around 3500 BC. Within three hundred years, they had spread all over Eastern Europe and as far as Mesopotamia.⁷¹ There were many buried wagons by 2200 BCE.⁷² The world's first chariots, as well as early copper mining, appear in the Sintasha culture, 2100-1750 BC.⁷³ They abounded in China by 1500 BC.

By 2500 BCE there were large towns in the western Eurasian heartland.⁷⁴ Wheat, millet and livestock provided the food. A major cooling, drying trend around 2200-2000 BCE, known as the Piora Oscillation, interrupted this. The Piora Oscillation had enormous consequences all across Asia, from enhancing a turn to millet in the west, to serving as a major stimulus for political consolidation under the Xia 夏 Kingdom in central China, and, probably, for the consolidation of many other local Bronze Age polities.⁷⁵ By 1200-1500 BCE, climate change and possibly local overuse of resources led to a decline of agriculture and a regional "dark age."⁷⁶ In some areas of the West and Center, not until 500 BCE was momentum restored.

Meanwhile, the area now called Xinjiang showed a steady advance towards the formation of ever more complex and extensive societies. It seems to have

68 This is associated with advances in weaving and in a wide range of textile production. See Barber, "More light on the Xinjiang Textiles," in Mair and Hickman, *Reconfiguring the Silk Road*, 33-39.

69 Cunliffe, *By Steppe, Desert, and Ocean*, 78.

70 Cunliffe, *By Steppe, Desert, and Ocean*, 100.

71 Cunliffe, *By Steppe, Desert, and Ocean*, 98.

72 Cunliffe, *By Steppe, Desert, and Ocean*, 100.

73 Cunliffe, *By Steppe, Desert, and Ocean*, 136.

74 Baumer, *The History of Central Asia, Vol. 1*, 60-77, 104-106 gives fine illustrations; see also Andrew Lawler, "Central Asia's Lost Civilization," *Discover Magazine*, Online (2006).

75 Anderson (2019), *The East Asian World-System: Climate and Dynastic Change*.

76 Brite, "The Archaeology of the Aral Sea Crisis;" Kuzmina, *The Prehistory of the Silk Road*, 74-75, 86-87.

been unaffected by this Dark Age. By 3000 BCE China had barley, and probably the other major Near Eastern cultigens: wheat, sheep and goats. The barley appears in the Gansu corridor before 3000 BCE.⁷⁷ It also shows up in a beer made with millet, Job's tears and roots in the Yangshao 仰韶 culture of central China by 3000 BCE.⁷⁸ Rice beer was already known by then; China's brewing tradition is ancient and complex. Wheat apparently entered China through Afghanistan and Xinjiang. It probably entered via the steppes and Mongolia in the 3rd millennium BC, but the earliest known dates are still around 2500 BCE,⁷⁹ as they have been for decades now. The Qijia 齊家 culture flourished at 2200-1600 BCE, and west of it, the Siba 寺洼 in the Gansu corridor at 1900-1500 BCE.⁸⁰ These were both important cultures. Advanced for their time, they were important in establishing early links across the Eurasian heartland. Wheat and rye appear in the Gansu corridor before 2000 BCE.⁸¹ Large communities and incipient states emerged in China about the same time, possibly stimulated by the cooler and drier weather, which forced people to concentrate around water and manage it carefully.

No later than 1500 BCE, China had the horse and chariot. These allowed the Shang 商 Dynasty to rise, around that time, and control the core of China—the center, along the Yellow River. Writing developed during this period; bronze working, which arrived from the Near East around 2000 BCE, was extremely well developed. Cities had large industrial zones for making bronze vessels, pottery, woodwork, bonework and other manufacturing. The art styles and technical achievements show Central Asian influence, and presumably this extended to the food, especially since wheat and barley were becoming widespread and popular.

Shang was replaced by the Zhou 周 Dynasty around 1050 BCE. This dynasty almost collapsed after 771 BCE, and several independent states arose, eventually becoming the “Warring States” of China's ancient period. It was in these that the most familiar aspects of Chinese intellectual culture—Confucianism, Daoism, poetry and art, dress styles, cosmological and scientific theories—took shape.

In Central Asia, the distinctive pattern of extensive nomadism combined with intensive oasis farming and much less intensive upland farming was by

77 Barnes (2015), *Archaeology of East Asia*.

78 Wang, Li, Ball, et al, “Revealing a 5,000-year-old Beer Recipe in China,” *Proceedings of the National Academy of Sciences* doi 10.1073/pnas.1601465113; 113:6444-6448 (2016).

79 Betts, Jia, and Dodson, “The Origin of Wheat in China and Possible Pathways for Its Introduction: A Review,” *Quaternary International* 348 (2014), 158-168.

80 Cunliffe, *By Steppe, Desert, and Ocean*, 148.

81 Barners, *Archaeology of East Asia*, 417.

then well established. Upland cultivation waxed and waned according to local climate fluctuations.

Mummified human burials are fairly common in the Tarim Basin of Xinjiang. They date as early as 2000-1800 BCE,⁸² but most are much later, around the beginning of our era. West of Mongolia and the “eighteen provinces” of traditional China, the population was generally Caucasian in appearance, as we know from these mummies and also from skeletons.⁸³ In addition to revealing a bit about food, they reveal a great deal about culture contacts, trade and the possibility of food exchanges. The mummies not only look like Europeans but are dressed in clothing that would not be out of place in Europe at that time or later. Mummies from 1000 BCE wore wool clothes dyed with madder and indigo, notably early records for those dyes;⁸⁴ the indigo would have been traded, probably from Central China. The clothes include some quite early trousers, and the analysts support an old view that trousers were invented for riding.⁸⁵ These people were almost certainly Indo-European speakers, presumably ancestral Tokharians. The later mummies were buried with a good deal of food: wheat and millet products including dumplings and specially shaped small breads. The dumplings resemble modern Chinese *jiaozi* 餃子 almost perfectly. Although beautifully clothed, the mummies are not free from mummified lice. Agriculture associated with the mummies involved wheat and millets, goats and sheep, and cattle and camels.⁸⁶

At this point, Indo-European loanwords may have entered Chinese, although the claim is not without controversy—early Chinese is not as well-studied as it might be. Unlike the ancient Near Eastern languages, writing was not generally available in China until after 1800 BCE, and then it was only a proto-Chinese using early forms of characters that provide an imprecise indication of pronunciation. The least controversial Indo-European loan is *mi* 蜜 (variously *mie*, *mit* in Chinese languages; EMC **mjit*) for honey, from the familiar Indo-European root appearing as *miel* in Romance languages.

82 Cunliffe, *By Steppe, Desert, and Ocean*, 145.

83 Barber, “More light on the Xinjiang Textiles”; Kuzmina, *The Prehistory of the Silk Road*, 91-93; Mallory and Mair (2000), *The Tarim Mummies: Ancient China and the Mystery of the Earliest Peoples from the West*.

84 Kramell, Li, Csuk, et al., “Dyes of Late Bronze Age Clothes and Accessories from the Yanghai Archaeological Site, Turfan, China; Determination of the Fibres, Color Analysis, and Dating,” *Quaternary International* 348 (2014), 214-223.

85 Beck, Wagner, Li, et al., “The Invention of Trousers and Its Likely Association with Horseback Riding and Mobility: A Case Study of Late 2nd Millennium BC Finds from Turfan in Eastern Central Asia,” *Quaternary International* 348 (2014), 224-235.

86 Kuzmina, *The Prehistory of the Silk Road*, 93.

Another likely borrowing from an Indo-European language is the literary word for a dog, *quan* 犬 in modern Chinese (EMC *k^hwen'). This would anciently have been pronounced very much like the Indo-European root *kiwon or *kwon (source of our English *hound*).⁸⁷ Evidence for borrowing is that Chinese has its own perfectly good word for dog (*gou* 狗). Chinese apparently borrowed the word for elite dogs—noble hounds as opposed to plebeian *gou*. Loan words for “wheat, barley, horse, wheel, vehicle ...shepherd” and other words have been proposed by E. Pulleyblank,⁸⁸ but these are highly tentative (*ma* 馬, “horse” from *marko-, the IE root of English “mare,” seems likely; Mongolian *morin* probably comes from this source). There may be a problem of chance resemblances for such words.⁸⁹ *Mai*, wheat and barley, by contrast, is not similar to any Indo-European word for grain, and *is* similar in both sound and graphic form to Chinese *lai*, “come,” leading Chinese scholars to propose that these were “newly come” grains. The West did not borrow any Chinese words for millets, either. From the other direction, the Thai word for chicken, *kai*, spread along with that bird throughout much of Asia.⁹⁰

There is other evidence for outside contacts as well. Vitally important for hunting and for defending herds was the improvement of archery technology. The composite bow entered the area perhaps around 1000-2000 BCE from outside⁹¹ and revolutionized warfare. It is made from hard wood or horn, with hide or horn strips glued to the back to increase the strength. Two-hundred-pound pull bows are not uncommon. It took years of training to be able to pull one, and stringing one could involve two or three strong men.⁹² These bows were short. They could be shot from horseback and in incredibly rapid volleys. Sultan Selim in Turkey shot an arrow 973 yards (more than half a mile) with a composite bow (Philip Wilke, pers. comm.; modern bows using modern specialized materials can shoot over 1100 yards).⁹³ Later, crossbows—invented by northern Southeast Asian peoples at about the same time that composite bows reached, or were invented in, Inner Asia—spread to the steppe. Against such

87 Roots from Calvert Watkins (2000), *The American Heritage Dictionary of Indo-European Roots*.

88 Kuzmina, *The Prehistory of the Silk Road*, 96.

89 See Zhou (2002), *Correspondence of the Basic Words between Old Chinese and Proto-Indo-European*, for many very long reaches.

90 Blench, “Using Linguistics to Reconstruct African Subsistence Systems: Comparing Crop Names to Trees and Livestock,” in Denham, Iriarte, and Vrydaghs (2007), *Rethinking Agriculture: Archaeological and Ethnoarchaeological Perspectives*, 408-438.

91 Golden (2011), *Central Asia in World History*.

92 See the discussion of the Mongol compound bow in May (2007), *The Mongol Art of War*.

93 See also the information at Archery History, <<http://centenaryarchers.org.au/about-archery/the-basics/history/>>.

weapons, even early guns were hopelessly ineffective. Not until mobile cannons and rifles developed to reasonable standards did archers give way.

At this period, we begin to see spectacular tombs and grave goods. After 700 BCE, rapid rise in urbanization began again, and contacts with the settled world to the west, south and east became more intense.⁹⁴ From 900 BCE or earlier, animal-style art spread until it dominated the entire steppe region, from Europe to north China. Magnificent metalwork shows variously intertwined and distorted or mythologically portrayed animals (especially predatory felids and deer). Horse riders are often shown also.⁹⁵ Surviving feltwork and carpets, from frozen tombs in the northern steppes, shows the same motifs.⁹⁶ The Scythians (probably Iranic or at least including some Iranic groups) became famous for their magnificent goldwork, often copied from Greek or made by Greek craftsmen, although fundamentally an indigenous style. Scythian artwork remains some of the most spectacular in the world.⁹⁷ The Scythians were classic horse nomads, herding stock over vast reaches of steppe and desert. The urban centers were places for nomad leaders to meet people from other parts of the world (Greek and Persian) and including nonnomadic professionals hired to support empires and states (craftspeople, priests, merchants and learned administrators). Their Western branches are well described by Herodotus.

Spectacular tombs in the Tuva area are not matched in Mongolia, although Mongolia too saw a slow, steady rise in number and complexity of burials, and associated with this, of craft and settlement. Wheat grains are found by 200 BCE.⁹⁸ The wheat is presumably locally grown. The ironwork and pottery from the tombs and other archaeological sites are also local. It is not Chinese-made or -modeled. The Xiongnu state crystallized slowly from an increasingly dense and far-flung network.⁹⁹ It may have been founded through war, as Chinese

94 Baumer, *The History of Central Asia*; Enkhtuvshin and Sanjmyatav (2007), *Nomadic Civilization and Mongolian Bronze Age Monuments*; Harmatta, Puri, and Etemadi (1994), *History of Civilizations of Central Asia. Vol. 11: The Development of Sedentary and Nomadic Civilizations: 700 BC to AD 250*.

95 Baumer, *The History of Central Asia*; Piotrovsky (1976), *From the Lands of the Scythians*; Reeder (1999), *Scythian Gold*; Rudenko (1970), *Frozen Tombs of Siberia: The Pazyryk Burials of Iron-Age Horsemen*.

96 Rudenko, *Frozen Tombs of Siberia*.

97 And see Baumer, *The History of Central Asia*, 182-183, for the most preposterously romantic Russian painting imaginable of Scythian life.

98 Honeychurch, "The Nomad as State Builder: Historical Theory and Material Evidence from Mongolia," *Journal of World Prehistory* 26 (2013), 283-321 (308).

99 Honeychurch, "The Nomad as State Builder."

records state, but archaeology shows a gradual process of political-economic growth, not a wild and woolly battling of steppe nomads.

A Dark Age in the western and central parts of our region caused a sharp, dramatic reversal of progress into town and village life. It was probably at least in part due to worsening of climate around 2200-2000 BCE, but locally did not start till later. It ended by 500 BCE; it did not visibly affect the East.

The foods associated with these developments are what one would expect: the staples are still important in the region. A typical site of this period is Tuzusai in Kazakhstan. Around 400-100 BCE it was growing wheat, barley of various types, both millets, and grapes. It occupied a very lush environment on a fertile, well-watered alluvial fan in the Semirech'ye, 15 km east of modern Almaty. (The Semirech'ye, "Seven Rivers," is the area that drains west into Lake Balkash.) Wild plants eaten included sea buckthorn, wild plum, wild cherry, and others.¹⁰⁰

From Bronze Age and Iron Age times, or even earlier, come the many origin stories of local people. Most descend from totemic animals, usually ones that are transparently symbolic of desirable qualities: men are (or were) wolves, bears and eagles; women are deer and other beautiful, gentle beings.

Typical of such mythology are the tales of the Khitan, who ruled north China in the 11th century but whose stories are much older than that. They duly recorded their history in the sober, formal historical annals so dear to imperial China. These tell us that a man riding a white horse and a woman riding a gray cow got together at the sacred mountain where the sacred rivers join. One may speculate that the original myth had only the horse and the cow begetting the Khitan. Among the early kings of the Khitan was one who was just a skull. He took human form only for the annual sacrifice, when in proper totemic style a white horse and a gray cow were sacrificed for the ancestral ones. Another king had the head of a boar. Another always had 20 sheep; every day he ate 19 of them, the next day there were 20 again.

Abaoji 阿保機, is the first Khitan king who has some claim to have been a real person. He was born of a sunray, had the body of a 3-year-old at birth, could crawl on all fours as soon as newborn (remember these are horse nomads, and horses can run within hours of birth), and could walk after three months. At one year he could speak, and foretell the future.¹⁰¹

100 Spengler, Chang, and Tourtellotte, "Agricultural Production in the Central Asian Mountains: Tuzusai, Kazakhstan (410-150 BC)," *Journal of Field Archaeology* 38 (2013), 68-85; Spengler, Frachetti, and Fritz, "Ecotopes and Herd Foraging Practices in the Steppe/Mountain Ecotone of Central Asia during the Bronze and Iron Ages," *Journal of Ethnobiology* 33 (2013), 125-147.

101 Sinor (1998), "The Kitan and the Kara Khitay," 228.

7 Religion

Religion has greatly influenced Central Asian foodways. The most obvious way is through Muslim bans on pork, alcohol, and some other foods. Buddhism was also a major influence, by stimulating dairy production, introducing Indian foodways, and promoting abstemious living. Vegetarianism could not flourish outside of a few monasteries; there simply was not enough vegetable food available. Buddhism also led to restraint in hunting game. It was instrumental, for example, in preserving vast game herds in Tibet; the recent Chinese occupation of Tibet and repression of Buddhism has led to rapid extermination of those herds. Buddhism has had similar effects in Mongolia. Earlier religions preserved game there too. Even Manichaeism, rare and little known in most of the world, although influential in pre-Islamic Central Asia, influenced foodways. Mani (ca. 216-274), its prophet, taught that cucumbers and melons concentrated the Light—the good and holy.¹⁰² This is one source for the enormous popularity of those vegetables in the oases of the region.

In ancient times, the Eurasian heartland was a vast melting-pot of religions. The basic faith of the area was shamanic veneration of sky, mountain, weather, and nature spirits. This faith very much persists in Mongolia with its thousands of *ovoo* (or *obo*), cairns dedicated to the local spirits. This created a basically tolerant attitude. Before the triumph of Islam, beginning in the 8th century, the area was home to Christianity in several forms. Later it was home to Zoroastrianism and Judaism, then to Buddhism again in several forms. There was also Daoism, Manichaeism, and various local traditions. Richard Foltz, in *Religions of the Silk Road* (2nd edn. New York, 2010), has provided an excellent overview of this wonderful openness.

The Persians under Cyrus introduced this Inner Asian idea to the West. His “Cyrus cylinder” is the first known statement of religious tolerance by a government.

Freedom of religion was a striking characteristic of the nomadic world.¹⁰³ It was remarked on, often unfavorably, by Christians and Muslims in the Medieval period. No large-scale polities on earth, until very recent times, have been so completely free of religious bias. The Cyrus cylinder was a decree of the king of Persia around 539 BCE; the Persians had recently invaded from the steppes. The spread of Islam at first mattered relatively little, as Central Asia embraced a particularly liberal form of that faith. Over time, theological changes reduced

¹⁰² Gignoux and Litvinsky (1996), “Religions and Religious Movements – I,” 403-420 (414).

¹⁰³ Biran (2005), *The Empire of the Qara Khitai in Eurasian History: Between China and the Islamic World*.

this religious tolerance. The spirit has persisted. Religious openness in Islamic areas diminished after 1100, but Turkic rulers maintained considerable tolerance even in Europe and India. The Turkish Empire was famously a refuge for religious minorities persecuted elsewhere. Akbar revived steppe freedoms in India in the 16th century, eventually starting his own fusion religion. Only recently, as a response or reaction to Christian or Communist conquest (notably, but not only, Russian), did Central Asia begin the slide in some areas into a more extremist, repressive version of Islam.

Turkic and Mongol worship of Heaven made them broadly tolerant, interested in all religions, and willing to welcome all and listen to open debates.¹⁰⁴ Indeed, the strict Central Asian thinker al-Ghazālī (1058-1111) maintained (with some exaggeration) that the Turks would fall down before anything really beautiful and say, “It is our Lord!”¹⁰⁵ The Mongol emperors were famous too for their religious tolerance.

Mongol religion is based on worship of Heaven, *tengri*, and thus has been called “Tengrism.” It also, however, involves reverence for all nature. Mountains, trees, streams, even rocks, and herbs have powerful indwelling spiritual presences.¹⁰⁶ These must be respected. Shamans still exist who can contact these spirits, especially when in trance states. The food relevance is there: Tengrism teaches respect for all beings, including game and fish, and that means restraint in hunting—one cannot take too much. This has limited game consumption, thus saving the game and fish for the future. Domestic animals too get considerable respect, shown by relatively good treatment.

Ancient Turkic religion was similar, and derivatives of it survive in Siberia. Further consideration of religion is somewhat outside the bounds of this book. Readers should consult Caroline Humphrey’s wonderful studies of Mongolian religion.¹⁰⁷

Since the early Medieval period, religion in Central Asia outside of Mongolia means Islam. Traditional Islam in Central Asia is overwhelmingly Sunni, of the Hanafi legal tradition. Sunni Islam has four different traditions of interpreting the *Shari’a*. They have their own sub-traditions. Hanafi is one of the most liberal. The old Hanafi Islam of early Medieval central Asia was

104 See e.g. Biran *the Empire of the Qara Khitai*, 180-191.

105 Baldick (2000), *Animal and Shaman: Ancient Religions of Central Asia*, 51.

106 Roux (1984), *Religion des Turcs et des Mongoles* (Paris, 1984); Roux (1966), *Faune et flore sacrées dans les sociétés altaïques*.

107 Humphrey (1995), “Chiefly and Shamanist Landscapes in Mongolia,” 135-162; Humphrey and Onon (1996), *Shamans and Elders: Experience, Knowledge, and Power among the Daur Mongols*; Metzko, “Articulating a Baikal Environmental Ethic,” *Anthropology and Humanism* 30 (2005), 39-54.

particularly tolerant. This is related to the earlier openness of the region. The right-wing Islam increasingly dominant today began long ago, with the theologian al-Ghazālī a key figure. It grew serious only when extremist “Wahhabi” interpreters of the *Shari’a* took over Saudi Arabia, and spread their views in the Russian, and later Soviet, periods, as a form of resistance to Russian rule.¹⁰⁸ It has intensified even more since, especially in Afghanistan. In Xinjiang, the Russians were not a force. Chinese Communism has cracked down harder and harder on Islam, and the few terrorist outbursts have only caused more and wider repression.

Sunni Islam dominates in most of Central Asia. Shi’a Islam is common among several remote montane minority groups, especially in Afghanistan. It is dominant among Iranians, including those in western Afghanistan and elsewhere. Shi’a differs from Sunni largely in recognizing, in early Islam’s history, the authority of the Prophet’s family rather than his initial companions. It has its own interpretations of the religious law and its own subdivisions.

Islam has powerfully influenced Inner Asian foodways by its bans on pork and alcohol. Formerly, pigs were grown in the river valleys; wines (grape, pomegranate, and other), and beer-like grain drinks, were universal. This all disappeared with the coming of Islam in the 8th century, though wine-drinking persisted quite enthusiastically in many areas, principally those showing a great deal of Iranian influence. The liberal Hanafi tradition was not harsh in condemning it, and many lax Muslims and—in early days—covert shamanists and Zoroastrians consumed it enthusiastically. Today pork is largely raised by Russians for Russian consumption in Kazakhstan. Another influence was on water supply; Islamic law, adapted to desert environments, has a highly enlightened and sophisticated set of rules about water use, and this influenced the development of irrigation and water management. Until the USSR upended them, highly enlightened local and state rules on water use were widespread, and shortage of water was not common, despite the harsh desert environment.

A survival of ancient “pagan” Indo-European religion is found in the remote mountains of northern Pakistan among the Kalash and their neighbors. Many of the deities are identifiably cognate with ancient Greek ones. The main stronghold of this religion was in Afghanistan until the late 19th century, when the region was conquered, subdued, and Islamized. Fortunately, an exceptionally good early ethnographer, George Robertson, did a thorough local study

108 Rosenberger, *Seeking Food Rights*, 29.



PHOTO 24
A Mongolian shaman in traditional attire

before old ways were lost.¹⁰⁹ A distinctive culture still exists there, with wood-carving and wood technology conspicuous. The languages of these groups form a distinctive branch of the Indo-Iranian family (closer to Indian languages than to the other languages of Afghanistan). The people live on wheat, with some millet and maize. They also lived on livestock, dairy foods, and tree crops including lots of walnuts. They consumed a great deal of wine and had ritual feasts involving the consumption of domestic animals, especially goats and various breads. Religion structured every aspect of producing and consuming food.¹¹⁰

109 Robertson (1896), *The Kafirs of the Hindu-Kush*; see also Jones (1974), *Men of Influence in Nuristan*; Maggi (2001), *Our Women Are Free*, for later information, including food.

110 Jones, *Men of Influence in Nuristan*.

Histories

1 Ancient and Medieval History (Before the Mongols)

Historically, steppe-based regimes of the Eurasian heartland often dominated northwest China. On one occasion, under Mongol Yuan 元, they even conquered all of China (1279) and beyond, establishing contact links with Southeast Asia. From there, direct Mongol influence and interest reached as far as Burma and Bengal. Also a concern for the Mongols in China was Iran, seat of the Ilqanate, ruled by relatives of the Mongol ruling house in China, and in the 13th and early 14th century an ally of China's Mongols in the fight with other, hostile Mongol groups in Central Asia. Even Africa, the Arabian Peninsula and the Red Sea were not beyond the pale for the Mongols in China, with much of the trade and contacts based on the great port of Quanzhou 泉州 in Fujian 福建.¹

In the other direction, the Mongols made Khorasan—northeast Iran—an integral part of their world. Khorasan is important as a transition zone between Iran and the center; with distant links even to the Middle East proper, although culturally it has never been isolated from the Eurasian heartland. It produced its own steppe conquerors, including the Turks. The Turks conquered far beyond the region in their creation of Turkish empires in the Near East and Europe. Even Yemen once had its Turkic dynasty.

The western part of the Eurasian heartland was, to the Persians, Turan, a land of the barbarians (the Turanians), in contrast to the fully civilized Iran. To the Chinese, it was simply the “Western Regions” (*xīyù* 西域) with various Chinese names for the individual states and ethnic groups. Most often these Chinese names simply transliterated native names. Often, such names employed insulting characters to build up Chinese culture at the expense of outsiders, e.g., Menggu 蒙古, “Stupid and old,” for the Mongols. The groups in question often insisted in changing these when they conquered or threatened China.

Also occurring were names which rendered some key idea associated with a group, usually involved with their mythology. One famous example is Da Yuezhi 大月氏, “Great Yuezhi 月氏,” or “Great Moon Clan.” In our sources it is distinct from the Lesser Yuezhi, who stayed in China, and did not migrate west. The name is associated by scholars with the later Kushans of northern

1 See Buell and Fiaschetti (forthcoming), “Maritime Silk Route: The Mongols and the Indian Ocean.”

Afghanistan and southern Turkistan, with their own “moon” connection. Such connections by name may or may not mean anything about the people involved. People borrowed names, or a core group might migrate and assimilate new followers along its route.

At this point we introduce the concept of world-system, elaborated by the late Immanuel Wallerstein.² Historians have always known that countries influence each other. Wallerstein systematized this obvious point, elaborating spheres of influence in which one or two core polities are surrounded by semi-peripheral marcher-states and farther peripheries. He noted that the normal situation was for the cores to establish terms of trade that enriched the cores while draining the rest. This was partly old-fashioned sharp dealing, but also involved the fact that the cores usually owed their core status to rapid progress in technology, such that they controlled new and important processes and products for which they could charge high prices. The peripheries usually were reduced to supplying raw materials and uneducated—all too often enslaved—manpower. For this there was always plenty of competition, forcing prices down. Wallerstein confined his attention to the modern world-system, developing with capitalism since the Renaissance, but his students have extended the analytic technique to historic and even prehistoric societies, including old Central Asia.³ One finding that emerges from history is that semiperipheral marcher states very often conquer core states, a point already made famous by Ibn Khaldun in the 14th century.⁴ The most spectacular case of this in all history was the Mongol conquest of almost all of Eurasia in the 13th century (see below). Starting as a remote peripheral society supplying little beyond furs and horses, the Mongols rose under Cinggis-qan to semiperipheral status, conquering the other semiperipheral states northwest of China and northeast of Iran. His grandsons took the core polities of China, Iran, Anatolia, and Russia.

This was far from the first such conquest. China had been conquered before by a whole succession of semiperipheral marcher states. China's first state was Erlitou 二里頭, conquered by its semiperipheral marcher Shang 商 (a historical tale confirmed by archaeology in recent years). At this time what would be the Chinese world-system was a tiny cluster of statelets or chiefdoms on the middle Yellow River. Shang in turn fell to semiperipheral Zhou, which dissolved into the famous “Warring States”; the term “Middle Kingdom” at that time meant “central states,” the states in the Yellow and Yangzi drainage that shared Chinese culture in a broad sense. All these ultimately fell to Qin 秦 (the dynasty lasting 221 to 207 BCE)—ironically occupying Zhou's own former

2 Wallerstein (1976), *The Modern World-System*.

3 Chase-Dunn and Anderson (2005), *The Historical Evolution of World-Systems*.

4 Ibn Khaldun (1958), *The Muqaddimah*.

seimperial heartland. The Chinese world-system expanded to include most of what is now the core of China, the “Eighteen Provinces,” and Qin gave its name to the whole. Qin collapsed early and was reconstituted as Han 漢 under one of its leading generals. Under Han (206 BCE–220 CE) the Chinese world-system grew to include eastern inner Asia, as Han constantly battled the Xiongnu 匈奴, and also Korea. Han ultimately won, and the Xiongnu went west, ultimately morphing somehow into the Huns of Roman fame. (There was probably little overlap in people.)

Once the Han Dynasty had expanded into Central Asia, a new game emerged. Rome, Persia, and China were all great empires, mounting enormous trade and mercantile establishments. They were in constant touch; China rarely contacted Rome directly, but the Persians and steppe peoples were happy to be intermediates, reaping large profits. Grapes, alfalfa, and probably other crops went east. What crops went west is harder to assess. Of course, the Romans wanted silk, hence the memorable if latter-day term “Silk Road.” Silk is an animal product, produced by a domesticated insect. (The West domesticated only one insect, the honeybee; China domesticated another bee, along with the silk moth, the lac insect, and other small stock.) The Eurasian heartland had acquired cotton, a nonfood from India. It seems likely that Chinese cabbages spread early and widely. There is little (if any) evidence of this.

Similarly, in the west, the ancestral Persians conquered Persia under the Achaemenids, steppe marchlords from Central Asia. Persia remained under Persian rule until the Mongols, and restored Persian rule after them. The other dominant core polities affecting Central Asia through history were the Roman Empire and its primary successor the Byzantine Empire and then its successor the Ottoman Empire, also the various states of India. To relate their history would take us far beyond the bounds of this book; suffice it that India was constantly harassed and frequently conquered by Central Asian marcher states. Persia, the Byzantines, the Levant, Arabia, the Mediterranean shores, and East Europe were now incorporated into one giant west Eurasian world-system. It met China when Arab armies moved into Central Asia, confronting China at the critical Battle of Talas River in 751. This battle, near modern Tashkent, set the approximate boundary between the west and China; the current Chinese boundary runs close to it. The Byzantines integrated vast areas into the western world-system via the slave trade. Extremely active slavers, they drained southern east Europe and the western steppes of countless millions of people, doomed to lives of wretchedness and oppression. Central Asian polities were only too enthusiastic to supply them, or to keep enslaved persons for themselves. The slave trade became a major and integral part of Silk Road merchant activity.⁵

5 Whitfield (2018), *Silk, Slaves, and Stupas, Material Culture of the Silk Road*.

Turkic polities in particular were so addicted to slaving that—to get ahead of our story—the Mamlūk (“enslaved”) soldiers of the Turkic world took over the Middle East, founded a dynasty with that rather ironic name, and stopped the Mongols, first at the battle of ‘Ain Jalut in 1260. The effects of this continual demographic drain on the steppes for the benefit of Mediterranean Europe and the Near East have been rather little addressed. After the decline of Byzantium, the Ottoman Turks, Venetians, and Genoese continued the trade, the Ottomans into the 19th century.

When Han collapsed the semiperipheral steppe groups moved in. China revived and reconsolidated under Sui 隋 (580-620) and Tang 唐 (620-907). China fell apart after Tang, to reunite under Song 宋 (960-1279). In the 10th through 12th centuries, semiperipheral marchers, the Liao and Jin 金, successively conquered the north, opening the way for the Mongols. The Mongols conquered Jin in 1234, Song in 1279. (One of us has told elsewhere the story of East Asian world-system and its climatic vicissitudes.⁶) By this time the East Asian world-system stretched from southeast Asia to Siberia.

Through all this, deep Central Asia—the remote steppe and mountain core—was firmly peripheral to everyone. The Silk Road was held by a succession of small states semiperipheral to China and Iran. China’s influence extended roughly to its present borders when China was strong, under the Han, Tang, Yuan, and Qing 青 Dynasties. At other times, a whole succession of small states, often poorly known, occupied the land. Iran’s influence involved political power in Achaemenid times, but later the region was lost briefly to Alexander’s Greeks, and then to a succession of polities run by East Iranian and Turkic dynasties. They maintained themselves through trade, raid, and conquest.

World-system theory is largely descriptive, but allows prediction: the peripheries will be trapped as raw-materials suppliers unless they produce leaders like Cinggis-qan; semiperipheries will manage throughput trade, do light manufacturing and crafts, and transmit teachings and technologies from the cores; and the cores will get richer and richer at the expense of all. This is what happened in Central Asia over the 2500 years of imperial activities there. The other prediction most relevant here is that the cores will be overwhelming the major source of high culture: art, architecture, literature, religions, and, most important to our task, fine cuisine. They import spices, animal products, and luxury foods from the periphery, but they export new food technologies, new dishes, new fads and fashions, new cookbooks, and new ways to serve fine food. Thus it was that Iran supplied the high style to western and middle parts of the Heartland; Iran and China both supplied it to the eastern approaches.

6 Anderson (2019), *The East Asian World-system: Climate and Dynastic Change*.

Often the Iranian contributions went back to earlier Arab and Greek creativity. Central Asia itself supplied little, and that little rarely traveled far; kumiz⁴ had no takers in the core metropolises. Even the fine dining of the Yuan Mongols mostly did not long survive their fall. Ming cuisine was resurgent Song Chinese.

History depends on records, and these were primarily made by outsiders in early Central Asia. There are some indigenous records, such as the Orkhon inscriptions of the early 8th-century Turks. These are the first documents in a Turkic language found in the deep Eurasian heartland, and the first time that any Turkic people tells the world who they are and what their values are in a public way. This includes an inscription record raised by “Wise” minister Tonyukuk. His column is sited in a beautiful mountain location near the Orkhon River, thus the name of the inscriptions, and not far from the old Mongol imperial capital of Qaraqorum. He advises his *qan* not to succumb to the wiles of the Chinese, no matter how seductive they are, and attractive their gifts. This was good advice at the time.

Unfortunately, the records are sparse in regard to food, but the story is necessary to understanding foodways. So we must digress into political matters for a few pages.

In the West, two groups were particularly important. First was the old Persians of the Persian Empire after 1000 BCE. They moved into Turkistan, where they encountered the Iranian nomadic groups (Scythians and Sakas). This encounter began the age-old conflict between Iran and Turan. There was also conflict with the Greeks who reached the margins of Central Eurasia. Alexander the Great unified most of Greece and conquered the Old Persian Empire piecemeal. From there he continued into southwest Asia and adjacent areas. Between 334 and 323 BCE he not only created the largest empire ever seen, as of that date, but made today’s Afghanistan, Uzbekistan, Tajikistan, and Kyrgyzstan at least briefly and partially Greek.⁷ He founded cities as he went along, marking a new era in the urban history of the Eurasian heartland. Some of the cities still exist, such as Balkh.

Particularly important centers of early Greek settlement in the area were focused on modern Afghanistan (such as a settlement at Ai Khanum on the Oxus, a completely Greek city in the central Eurasian heartland) and the immediate adjacent areas. Afghanistan, in fact, became the center of a flourishing Bactrian kingdom, which also provided a basis for the Greeks to penetrate

⁷ Beckwith (2009), *Empires of the Silk Road*; see Bregel (2003), *An Historical Atlas of Central Asia*, for excellent maps.



PHOTO 25
The Orkhon inscriptions, Tonyukuk's grave

India.⁸ In Bactria, not only were traditional Greek temples found, but Greek plays were performed. Local people apparently produced the only Buddhist sutra in the form of a Platonic dialogue. This is the *Milindapañha*, “Dialogues of King Milinda,” named after a famous Greek king of the area, King Menander (165/155-130 BC). The Greeks in the area and their cultural world did not disappear for hundreds of years after that, by which time the Han-dynasty Chinese had gone looking for them. How much earlier and later Greek and Buddhist philosophy influenced each other is still unknown, but there is every reason to follow Christopher Beckwith in thinking it was long-lasting and substantial.⁹

8 Tarn (2010 [1938]), *The Greeks in Bactria and India*.

9 Beckwith (2013), *Warriors of the Cloisters*.



PHOTO 26
The steppe and
Tonyukuk's grave

The philosophical meetings are not reflected in food changes. The Greeks shared the general West-Asian pattern of dependence on bread, porridge, livestock, and fruit, notably including grapes for wine. Few, if any, differences show up in the archaeological record. Surviving accounts show a bread-and-wine diet that is typically Greek, although it does not reflect the gourmet delicacies of the Mediterranean.

Greek influences spread as far as China. In the Han Dynasty, Greek art influenced Chinese art, to the point that small lead disks bearing diligent but poorly-done copies of Greek letters turn up in Han sites in Gansu. They are imitations of Parthian coins that were themselves imitations of Greek ones. As Jason Sun says: “Bearing Parthian-style Greek inscriptions and Han-style dragons, they are a precious reflection of the vivid exchange between Han China,

the Hellenistic West, and Central Asia via the Silk Road.”¹⁰ The countless cross-influences in visual art and culture between east and west are well known; they continue today.

History has obviously influenced foodways in the area, most visibly by creating flows of cultural influences that brought new foods from all directions. Usually, food followed conquest. Even more it tracked the migration of peoples, the lines of trade, and the spread of missionary religions. Borrowing was the rule.

Every bordering region made its own contributions, but Iran was the biggest single donor of specific foods and foodways. Second was Europe, specifically Ukraine and neighboring areas. Through these came the first domesticates: wheat, barley, sheep, goats, cattle, probably some vegetables and herbs. We do not know the relative contributions of the two channels in early times. Later, however, Iran’s distinctive foodways colored the heartland. Iranian crops moved outward, and later specific dishes and preparations followed. *Nan* is the universal bread from Iran to the Uighurs and Kyrgyz. Words such as *ash* for stew, *samosa* for meat pies, *ab* (Farsi for “water”) to mark liquids, *kabab* (from Arabic via Persian), and many more have followed specific dishes and preparations everywhere. Cuisine in the “stans” and far west Xinjiang is basically provincial Iranian.

Influences from the north are very few. Russian fondness for vegetables such as cabbage and beets influenced western Central Asia quite early, but Central Asia was probably more often the donor, teaching the Russians the worth of foods ranging from cucumbers to manty. There are a few domestic reindeer that barely make it into northern Mongolia. Influences from China are greater, but strikingly few once one is west of the current Chinese border. Broomcorn millet and a few minor crops sum up the borrowings. Noodles may have been invented in China and spread west, but we do not know their story well. Chinese-style cakes are found mummified in northwest China in historic times.

China has always merged into Central Asia, largely through the vast open corridors of present-day Gansu and Inner Mongolia, with Dunhuang and immediately adjacent areas a focal point.¹¹ The classic distinction between non-Chinese nomads and settled, agricultural Chinese, made by the Chinese and echoed by Western scholars, is not an adequate description of the situation. Few indeed were the Chinese who became nomad stockraisers. Contrastingly, the Central Asian peoples (largely of Tibetan, Turkic or Mongol background)

¹⁰ Sun (2017), *Age of Empires: Art of the Qin and Han Dynasties*, 194.

¹¹ Hansen, *The Silk Road*.

would often settle to farm, sometimes with encouragement from Chinese governments.

A marginal grain from the Chinese world is buckwheat (*Fagopyrum esculentum*, replaced in very cold high areas by *F. tataricum*). This plant does not produce a true grain (a caryopsis—the modified seed and husk of a grass) but a regular seed. However, it is a starchy, productive seed very much like a grain, and makes excellent porridge and flour. It was probably domesticated somewhere on the China-Tibet frontier. (No one knows exactly where. Whether it was domesticated by ancestral Chinese, Tibetans, Qiang 羌, or others is completely obscure.) Also poorly known is the timing of its spread west, which was probably fairly late. It became a staple food in Russia and Eastern Europe by early modern times, and has even staked out a zone of popularity in Brittany. In the Eurasian heartland, it was often the grain of choice in mountain areas too cold and weather-afflicted for anything else to flourish, e.g., Tibet. It probably moved out into the broad Eurasian heartland thousands of years ago. In Russia it and millet are standard for *kasha*, thick flavorful porridge, often used to stuff dumplings.

Another early migrant plant pair were peaches and apricots. Again, the exact origin point and timing are unclear, but they were known in the West by ancient times. The peach was probably domesticated somewhere in the Yangzi drainage, or near it, by 7500 years ago.¹² The peach spread to the west via Persia, as its scientific name *Prunus persica* implies. It was known to the Greeks by 300 BC or earlier. The apricot is very ancient in Armenia, as the name *Prunus armeniaca* suggests; no one knows how far west it is native, still less how and when it spread. It appears native as far west as Kazakhstan. Nomads could easily carry dried peaches and apricots, complete with seeds, across the steppes, planting seeds wherever they camped.

Other very important Chinese fruit trees made surprisingly little headway. The *mei* 梅 (*Prunus mume*, often mistranslated “plum,” actually a form of apricot) could not tolerate the cold, dry conditions. The jujube (*Zizyphus sinensis*) ran into competition with similar fruits, including the Near Eastern species of the genus. Other Chinese fruits had equivalents in the West. Cherry, apple, pear, chestnut, and probably walnut and others were all independently domesticated at both ends of the Silk Road, with different species involved (except for the walnut, which is the same species but with different varieties). Archaeological

¹² Yunfei, Crawford, and Xugao, “Archaeological Evidence for Peach Cultivation and Domestication in China”; Robert Spengler, *Fruit from the Sands*.

studies show that Uzbekistan in 800-1100 CE was growing apple, peach, apricot, melons, pistachio, walnut (but no almonds), wild cherry and rose.¹³

Other than these, the flow in ancient times seems to have been almost entirely from west to east. Chinese foods that reached India early, such as Chinese cabbages (*Brassica campestris*), foxtail millet, and Chinese rice varieties, did not spread west until later. The biggest single reason was the dependence of Chinese crops on abundant summer rain. Inability to stand winter cold at Central Asian levels was also involved. The cultural importance of the west, especially after the spread of Islam, was part of the story. So was the west's lead in agriculture, developing a highly productive and easily adopted dryland agricultural system before the Chinese did so.

2 Chinese Food Meets Western Food on the Silk Road

The food of eastern Central Asia was more or less what has become the food of north China. It comprises wheat-wrapped dumplings, noodles (which are Chinese or at least early in China), and the standard grain foods from bread to millet porridge, with meat and fruit.

During the late Roman Empire, and early Middle Ages, "spices" poured into Europe. They were not always used for seasoning; most were medicinal, some strictly so. Few of them came from China. Cassia arrived from there, as a form of cinnamon. Chinese star anise goes back to Medieval times in the West. Among other Chinese foods, oranges were known. They were not grown in the West till Medieval times. At some early point, aquaculture, in the form of rearing carp in ponds, came from China via Russia, and then to Eastern Europe; as usual, we have no good evidence of how early this happened, but aquaculture was common in Roman times and during the High Middle Ages. Roman aquaculture also used different fish that were simply raised in ponds, not actually bred and farmed. The domestic duck (a descendant of the wild mallard) was common in both China and old Europe. This probably represents separate domestications, not a spread from China. Geese were clearly independent domestications; the European species (*Anser anser*) is quite different from the East Asian one (*A. cygnoides*).

Chinese chives (garlic chives) and green onions, both of which are different species from the Western ones, arrived early in both Central Asia and the West. The dating of their arrival is impossible. Chinese chives are the chives widely

¹³ Spengler, Maksudov, Bullion, et al., "Arboreal Crops on the Medieval Silk Road: Archaeobotanical Studies at Tashbulak," *PLoSOne* doi.org/10.1371/journal.pone.0201409 (2018).

used in parts of the southern and eastern Eurasian heartland, as far west as Afghanistan. Handling dryness and heat much better than European chives, they thus replaced the latter in some areas of the world surprisingly far from China (south Mexico, for instance). The Chinese large white radish also got quite far west. It is the dominant radish from Xinjiang and Mongolia eastward. It is a favorite for kimchi in Korea.

Other minor Chinese crops awaited modern commerce and transportation to spread west of China. Medieval and early-modern vegetable growing in present-day Xinjiang has somehow escaped being immortalized in song and story, or at least in Chinese. (Uighur poetry does have many references to the commoner food plants.) One can only assume that Chinese cabbages and other standbys were common quite early there. They certainly were established by early modern times in the Gansu corridor that connects the central provinces of China with Xinjiang. They were probably there in ancient times as well. Yet, a testimony to how little Chinese influence the Eurasian heartland has received is the lack of soy sauce in recipes—except for recipes from the Korean communities moved into the area by the USSR. Even traditional Xinjiang food (at least as encountered by us) largely lacks it, though cooks there use it in preparing Han Chinese recipes. Mongolian food (dominated as it is by meat, dairy, wheat flour, and wild greens), has little place for borrowings, though the Medieval Mongol court in Beijing 北京 ate a full range of Chinese and other non-Mongolian foods. Today there is surprising variety, although the nomads still eat lots of boiled mutton and drink kumiz. Inner Mongolia, with its overwhelming Han-Chinese majority, eats Chinese food, except for the few Mongols who still live a nomadic lifestyle. (“Mongolian barbecue,” with its soy sauces, sesame oil and Chinese *jiu* 酒, “liquor,” was invented by a Chinese chef from Beijing, Wu Zhaonan, in Taiwan, around 1951, under free inspiration from Mongolian urban cooking.¹⁴ It has been vastly and multiply transformed since, and some of the recent American transformations bear little resemblance to either Chinese or Mongolian food.)

Today, the overwhelmingly most important Chinese influences on Central Asian food are noodles and rice—the staples of the region, along with breads. Rice was not there in the early Medieval period. The noodles were. Many of the noodle dishes and noodle soups are unequivocally Chinese, being thoroughly Chinese in style and are very much unlike traditional Western noodle dishes such as lasagna and macaroni. Nonetheless, the various uses of noodle dough to wrap dumplings were apparently invented on site in Central Asia.

¹⁴ Wikipedia, “Mongolian barbecue,” <https://en.wikipedia.org/wiki/Mongolian_barbecue>.

Rice, coming to the the Eurasian heartland via India, and then Iran, is generally cooked in the style of those regions, except in so far as recently-arriving Koreans and Chinese in Central Asia preserve their own ancestral foodways. The usual method, from Europe to Xinjiang, is one or another form of pilaf (polo, pilau, and so on). The various dumpling dishes, as we have seen, probably originated in the Near East, if not in Central Asia itself. They came early to China, but do not seem truly ancient there. Styles of preparing meat are shared very widely through the Near East and Central Asia. Only from Xinjiang eastward do we find chopsticks and food cut small for their use. Otherwise, eating is by hand, or by knife, spoon, and more recently fork.

Not long after Alexander and his successors, the Chinese state of Qin began its gradual expansion into eastern Turkistan (although it was at first more absorbed with its conquest of its competitors, China's various Warring States). In the process it created, and named "China," as it created a truly unified China for the first time in history. Qin finally unified the empire in 221 BCE but lasted only until 207 BCE. They were said to have "burned the books and buried the scholars," and to have generally oppressed the people; the truth is more complicated, and is still under discussion.

By contrast, the succeeding Han Dynasty lasted from 206 BC to 220 AD and conquered much or most of the Central Asian lands that are now Inner Mongolia, Xinjiang and Ningxia 寧夏. Han's great foe were the Xiongnu (in Chinese "fierce slaves"; the real meaning of the name is unclear). They created a huge empire, based in Mongolia. It was about as large as Han in surface area, but had far fewer people; it had a few million to Han's 60 million (as of the census of 6 CE). Even though Han soldiers were tough, they were no match for the Xiongnu; however, Han had the money and the military manpower, and organization, so ultimately it prevailed. The Xiongnu split into competing groups and then declined slowly after the time of the Han Martial Emperor (Wu Di 武帝, r. 140-87 BCE), who earned his title by continual campaigns against them. The Xiongnu were the first empire to rule from Central Asia and to rule a large part of it. Other empires of the heartland owe much to their legacy, in integrating herding and farming as much as in administration and military strategy.

Following up on his efforts to outflank the Xiongnu and establish new contacts, Emperor Wu sent a courtier named Zhang Qian 張騫 (*circa* 200-114 BC) to go south along what soon became the main Turkistanian Silk Road to try to contact an apparently Iranian enemy of the Xiongnu, the Yuezhi ("Moon People"). By that time, they had already moved far to the west and were thus not easy to contact. After harrowing adventures, including a long sojourn in Xiongnu captivity, Zhang Qian fulfilled his mission and returned. He brought with him not just knowledge but very tangible biology, if we may believe the

traditions associated with him, including a Western plant, alfalfa. Alfalfa was a magically-nourishing food for the equally magical “blood-sweating” horses. These horses also came from the far West, Ferghana. The bloody sweating was due to skin parasites. Zhang Qian, was the first Chinese envoy to the far reaches of Inner Asia. His biographer, historian Sima Qian 司馬遷 (145 or 135 to 86 BC) records the details of his travels and describes him as one who “stabbed into emptiness.” He is glorified in Sima Qian’s history as a complete pioneer, a semi-founder of the Silk Roads. He became larger than life, a true Chinese folk hero. Legends grew around him, making him responsible not only for the introduction of alfalfa, grapes, and other things actually mentioned in his biography, but for almost the whole of the early Chinese food imports from the West.

Another legend about food concerns the Queen Mother of the West, who lived in the mountains of Central Asia and controlled the Peaches of Immortality. Zhang Hua 張華 (232-300) reports that the Queen Mother visited Han Wu Di in 110 BCE:

The Queen Mother asked her attendants for seven peaches. They were as big as crossbow pellets. Giving five to the thearch [Emperor Wu], the Mother ate two. The thearch ate the peaches, then immediately took their pits and put them in front of his knees. The Mother said, ‘Why are you taking these pits?’ The thearch replied, ‘These peaches are so sweet and lovely, I want to plant them.’ The Mother laughed and said, ‘These peaches bear fruit once in three thousand years.’ Then Dongfang Shuo 東方朔 [the court’s leading philosopher] stealthily spied on the Mother.... She said to the thearch, ‘This small boy is spying through the window lattice. Formerly he came three times to steal my peaches.’ So Dongfang was over 9000 years old—no wonder he could philosophize.¹⁵

Meanwhile, some Xiongnu moved steadily west, some eventually becoming the nominate group of the “Huns” of European fame. No doubt there was very little direct personal migration. The named group of “Hunnu” changed its makeup as it went along, sweeping up various Turkic, Iranian, and other groups. All we know is that Xiongnu and the later European Huns were both called Hun.¹⁶ By the time the Romans fought them, they were led by a man with an Ostrogothic nickname: Attila, “little father.”

Let us follow these Hun through Central Asia to Europe to see how they were received there:

15 Little (2000), *Taoism and the Arts of China*, 157-59.

16 de la Vaissière (200), *Sogdian Traders: A History*.

It is appropriate here to scotch the story of the Huns cooking their meat by warming it between their legs and the horses' backs (they did "everything on horseback"). This was a bit of war propaganda spun by the 4th century Roman historian Ammianus Marcellinus (330-395 CE). As his narrative passage cited below makes clear, he had many other stories to tell us, many of them later told about the Mongols and other groups. "Any stick will do to beat a dog," and war propaganda invented for the Huns would do perfectly well for anyone else who seemed nomadic. It must have been rare, if it happened. No fighter wants to deal with butchering horses, let alone making a bloody mess of his clothing and mount. The nomad fighters did take horses along, and butchered them for food when they had to, but they boiled them, or at least ate them without fouling their rides. Broth, and not meat cooked between saddle and horseback, was the main repast of the Mongols.

The nearest we get to an eyewitness account comes from Jean, Sire de Joinville, writing around 1300. Taken prisoner by the "Saracens" (Muslims) during the Crusades, he got to know "Tartars" (Turks and other Central Asians, usually in Mongol service).¹⁷ After noting that they live on horse meat and milk, he says:

They put raw meat between their thighs and their saddles, and when the blood is pressed out they eat it raw. What they can't eat they put in a leather sack, and when they are hungry they open the sack and eat the oldest piece first. I saw a Coremyr [Khwarazmian], among the men of the emperor of Persia, who guarded us in prison; when he opened the sack we did not know if we could stand it, because of the stench that issued from the sack.

Note that he does not actually say he saw them treat the meat by the saddle method.

Let us consider the early European accounts by Ammianus (here) and others of the Huns, as specimens of how settled Westerners saw Central Asian nomads:

The people of the Hun, little noted in ancient records, dwelling [as they did] near the ice ocean beyond the Maeotic swamps, exceed all measure of ferocity. [They do so] to the degree that among them each cheek of

¹⁷ Jean, Sire de Joinville (1928), *La Vie du Saint Roi Louis*, 138. Anderson translation, checked against the Medieval French. We are grateful to Jim Chevalier for drawing our attention to this passage.

their children is furrowed by iron from their very birth, so that when the timely vigor of hair comes forth, it should be blunted by the wrinkled scars; and so that they will grow old beardless and without any grace, just like the eunuchs; all of them having compact and powerful members and fat necks, [all of them] unnaturally deformed and bent so that we might think them bipedal beasts, or like roughly shaped posts fashioned into images to furnish bridges with railings. None the less, having the shape of human beings, however unpleasant, they are so rough in their way of living that they have no need for fire, or for savory food, but eat the roots of wild plants, and the half-raw meat of whatever the herd beast, which [meat], inserted between the upper parts of the thighs and the backs of horses, they heat with brief warming. They are never roofed in any buildings, and they avoid them just like tombs set apart from common use. Nor can there be found among them a hut roofed with straw. On the other hand, they are roamers, wandering through mountains and forests, and they become accustomed from the cradle to prefer frost, hunger and thirst. While abroad, they never enter any roof (unless forced [to] by the greatest necessity), nor do they they consider themselves safe when staying under a roof. They are covered by linen garments or [by garments] patched together from the skins of wild mammals;¹⁸ nor do they have one set of clothing for domestic use, and another for public use. Once they have inserted their necks into a tunic of ordinary color, it is not taken off or changed until, wasted by such long decay, it becomes rags. They cover their heads with crooked caps, protecting their shaggy legs with [goat] kid hides, and their shoes are not prepared with any lasts and prevent walking in free steps. For this reason, they are little adapted to battles on foot, and are very nearly joined to their horses, strong but deformed, and sometimes sitting on these horses in the fashion of women, they perform their accustomed duties. Everyone in this nation buys and sells, night and day, from these horses. [Everyone] consumes food and drink [from these horses] and inclined over the narrow necks of their beasts of burden, they give themselves up to a most heavy, deep sleep, even including a richness of dreams. And when deliberation over serious things is proposed, all take counsel in common in that way. For they are led by no royal strictness, but are content with the hasty leadership of their

¹⁸ The text has *ex pellibus silvestrium murum*, literally, “from the skins of wild mice,” a category that included larger animals such as sables, martens, and ermines; thus the translation.

pre-eminent persons, [and so led] they force their way through whatever they come upon.¹⁹

During the next five hundred years after Han, China's age of disunity, China had sporadic direct contacts with the Eurasian heartland on a political level, although the trade established during Han times continued unabated. As religion and other cultural goods moved along it, an increasing flow of food exchanges came about. After the 3rd century many groups based more in the Eurasian heartland than in China conquered the Chinese North or established closely associated states. Some of these were quite small. Others such as the Toba Wei 魏 (a Xianbei 鮮卑 group, ruling from the end of the 4th to mid-6th centuries) ruled all the North and were quite important culturally, as in the development of Buddhism and Central Asian foodways in China.

In the Central Eurasian heartland, the most important cultural and political development was the emergence of the Turks, including various successor groups such as the steppe Uighurs, as dominant and self-aware groups with literacy.²⁰ The Turks came from the general region of the Altai. According to an unproven though plausible tradition, they were expert smiths, hence their popularity with nomadic conquest empires. They had probably served as one component of the Xiongnu Empire. After it fell, they went on to serve successor steppe empires, most notably the Rouran.

The Turks then broke away and set up their own state, the Gök Türk Empire, a name associated both with Turkic and later Mongolian ideology. *Gök* means "blue," but not just any blue: it is the pure, intense blue of the cloudless high-altitude sky. Heaven, *tengri*, among the early Turks and Mongols, was worshiped as the leading divinity, or indeed, "the Divinity." (The Chinese word *tian* 天 for Heaven is almost certainly related, and possibly the old word *di* 帝 for an emperor as thearch. Both *gök* and *tengri* were borrowed into early Mongol. The Mongols were known as Köke or Blue Mongols; the word is *khökh* in modern Mongolian.) From the Gök state emerged the many Turkic groups that now are settled from West China to Eastern Europe.²¹

Due to the influence of outsiders by Turks and others, Chinese cooking was never the same. This interregnum, an age of disunity when China was carved

19 Ammianus Marcelinus, *History*, n. d., XXXI, 2, 1-7 (Loeb). Translation by Buell.

20 On the Turkic world, see Çağatay and Kuban (2006), *The Turkic Speaking Peoples*; Golden, *Central Asia in World History* and Golden, *Studies on the Peoples and Cultures of the Eurasian Steppes*.

21 On Turkic history, see Golden (2009), "Migrations, Ethnogenesis," 109-119; Golden has also collected Medieval Turkic terms for food and drink; Golden, ms, n.d., "Bir bor içsä; Some Notes on Drink among the Pre-Çinggisid Turkic Peoples."

up into several small realms, is poorly known, largely because of massive destruction of records in the constant wars of the time. The *Qimin Yaoshu* 齊民要術, “Knowledge Needed by Ordinary People,” is a great compilation of household knowledge by Jia Sixie 賈思勰 (c. 540).²² Also from the period, and providing useful information are early examples of the Chinese herbal literature, including the basic herbal *Shennong Bencao* 神農本草, “Herbal of Shennong 神農,” written by Tao Hongjing 陶弘景 (456-536). It contains indications that Galenic medicine was known in China by Tao’s time, in some very dilute and indirect form. In the early Tang Dynasty (mid-7th to mid-8th centuries), the medical works of Sun Simiao 孫思邈, and Tang tribute lists include newly-come foreign plants. A *Hu Bencao* 胡本草 (“Iranian Herbal,” now lost except for a few extracts in later sources) was compiled around 740.²³

Sun notes food codings similar enough to Galen’s 2nd-century Greek medical lore to rule out independent invention.²⁴ Such lore probably came with Buddhism.²⁵ Among other things, Sun calls for the use of some newly-come Near Eastern spices for medicinal reasons; these include coriander and fennel. So not only foods, but Western nutritional science, was crossing the Silk Road. This was to flower fully in the Yuan Dynasty. Slightly later, “The *Newly Revised Materia Medica* (*Xinxiu bencao* 新修本草) and the *Supplement to the Materia Medica* (*Bencao shiyi* 本草衍義) written in 739...both included large numbers of new foreign drugs.”²⁶

At this time, a long and rather extreme cold period hit Eurasia due to volcanic eruptions in various parts of the world. The dust and gas darkened the sun for decades creating the longest cold period in millennia from 536 to 660. This period includes 13 of the 20 coldest decades documented in our (admittedly thin) records of the region in early times.²⁷ It was also intensely dry in North China and neighboring areas.²⁸ It did not really alleviate until the 800s when

22 See Bray (1984), *Science and Civilisation in China. Vol. 6: Biology and Biological Technology. Part II: Agriculture*; Harper (2002), “The Cookbook in Ancient and Medieval China,” paper, conference on Discourses and Practices of Everyday Life in Imperial China, New York.

23 See the discussion of the Chinese herbal literature in Buell and Anderson (forthcoming), *Arabic Medicine in China: Tradition, Innovation and Change*.

24 Anderson, *Food and Environment in Early and Medieval China*; On Sun Simiao, his work and its context see Unschuld (1986), *Medicine in China, A History of Pharmaceutics*.

25 Salguero (2014), *Translating Buddhist Medicine in Medieval China*.

26 Salguero, *Translating Buddhist Medicine in Medieval China*, 40.

27 Büntgen, Mygland, Ljungqvist, et al., “Cooling and societal change during the Late Antique Little Ice Age from 536 to around 660 AD,” *Nature Geoscience* 9, 231–236 (2016), doi:10.1038/ngeo2652.

28 Chen 陳明, “The Transmission of Foreign Medicine via the Silk Roads in Medieval China: A Case Study of the *Haiyao Bencao* 海藥本草,” *Asian Medicine, Tradition and Modernity*, 3 (2007), 241-264.

temperatures climbed toward the very warm weather of the Medieval Warm Period (roughly 900-1300).

The effect on Central Asia was apparently to send the Turkic groups south. There they attacked or settled among Iranic peoples in the West, and Chinese in the East. It might have allowed China to strengthen its hand, since cold, dry weather weakens the power of the nomads through stressing pastures. Cold dry weather, according to a recent study by Qiang Chen,²⁹ sent Turkic and Turkicized Chinese elites riding down on more favored lands that were weakened by the drought. This, thinks Chen, led to the greatest event in Chinese history during this time and the next couple of centuries: the reunification of China under Sui. That was followed by re-reunification (after a brief collapse) under Tang (618-907) and the assertion of Chinese political influence as far west as Afghanistan. Although Tang suffered a collapse in the 8th century due to the An Lushan 安祿山 rebellion, it still managed to revive and to hold much of the Inner Asian Heartland. The cold, dry period would have hit Central Asia very hard, and indeed we have evidence of a dark age in the core of the region. The great oasis cities fell on hard times.

All this influenced Chinese foodways profoundly. More and more Western and Central Asian foods appeared in China as Sogdians and others flooded Tang Chang'an in particular.

The Tang Dynasty was famously Central-Asia-oriented. Like its brief predecessor Sui (580-618), it was founded by a general from the northwest frontier who is widely believed to be partly Turkic in his ancestry. Due to this connection, and major Central Asian influence in North China, and a continuing military pressure from the frontier, Tang looked westward. China, then as throughout all its history until the 19th century, was primarily menaced from Central Asia and not from the South, or from the sea. The Sui and Tang Dynasties had to deal with the rapid rise of powerful Turkic states. To counter them, Tang extended garrisons and urbanized posts far out into Central Asia. Trade flourished, with Sogdians mediating and becoming the stereotypic traders along the caravan routes;³⁰ they are the large-nosed, capped individuals so commonly represented in thousands of Tang pottery figures. They traded "gold, silver, perfume, saffron, brass, medicinal plants, ammonia, stone honey (cane sugar)"³¹ as major products in the early 600s, also people, "horses, dogs, lions, leopards,...the golden peaches of Samarkand, ...carpets, silk fabrics, indigo,

29 Qiang, "Climate Shocks, Dynastic Cycles and Nomadic Conquests: Evidence from Historical China," *Oxford Economic Papers* 67 (2015), 185-224.

30 de la Vaissière, *Sogdian Traders*.

31 de la Vaissière, *Sogdian Traders*, 134.

black salt, jewels, quartz, carnelian, [and] ...ostrich-egg cups..."³² But many Chinese travelers also took to the Silk Road, most famously the monk Xuanzang 玄奘, who went to India to obtain Buddhist scriptures and came back with a vast hoard not previously seen in China,³³ as well as a better knowledge of how to translate them. He noted many details about food along the way, showing that Central Asian oases depended on wheat and fruit, as now. Particularly precise is his note on Bamiyan, famous already in his time for its enormous rock-cut Buddhist statues (now being reconstructed after destruction by the Taliban). He said of the valley: "It produces winter wheat, but few flowers and fruits. It is fit for cattle breeding, and there are many sheep and horses."³⁴ Anderson's visit to Bamiyan in 1974 showed one major change: potatoes had taken over the most fertile and well-watered parts of the landscape. The wheat was still being grown, and produced some of the best bread in Anderson's experience. Forage clover (*Trifolium resupinatum*) was extensively grown for the animals. Xuanzang would have found it familiar.

The Tang state finally came up against the equally expansive Arab world at the Battle of Talas River, fought in the dead center of Asia in 751. This was one of the decisive battles of history; the Arabs won, and thereafter consolidated Muslim control of Central Asia west of the Pamirs. Tang receded but retained control of most of what is now Xinjiang.

The Sui and Tang Dynasties brought in Central Asian ideas, ranging from chairs to political theories, but above all the West Asian foods. It was apparently at this time, for instance, that the favorite Near Eastern spices—cumin, fenugreek, coriander, anise and the like—came to China. Central Asian feudalism may have inspired the idealistic revival of the well-field system involving land redistribution and, in theory, set limits on taxation. Sui and Tang attempted to use this plan,³⁵ in which land was held in common (in reality, by the state) and leased according to a tic-tac-toe-court plan, with the middle square producing revenue for the state. This system was called "well-field," since the Chinese character for well, *jing* 井, was used to depict it.

Meanwhile, Islamic power rose in the West. The Arabs dispersed, settled, and merged with the local population, while Islamicized Iranians spread into the South and West. Turkic peoples poured in from the North. At first, they kept their traditional religion, worshiping Blue Heaven and local spirits, gradually becoming Islamized over many centuries. Only the very remote Chuvash

32 de la Vaissière, *Sogdian Traders*, 138; see also Schafer (1963), *the Golden Peaches of Samarkand*.

33 Wiggins (2004), *The Silk Road Journey with Xuanzang*.

34 Xuanzang (1996), *the Great Tang Dynasty Record of the Western Regions*, 37.

35 Wright (1978), *The Sui Dynasty*.

and Yakut kept traditional religions into modern times. Gone, then, were wine and other alcoholic drinks. Also gone were blood, many game animals and other foods unclean in Islam. This was a major change for the nomadic groups. Resisting, they only very slowly cut blood and non-halal game from their menus.

After its Talas defeat and retreat in the West, the Tang dynasty was so weakened that a Central Asian (Sogdian) rebel, An Lushan, launched a rebellion that sacked the capital city of Chang'an, drove out the emperor, and almost brought down the dynasty, in 755-56. Tang control of Central Asia was never firm or thorough after that, and the dynasty slowly declined.

The Tang rulers, after the An Lushan Rebellion, even had to enlist the Uighurs to help the dynasty survive. Legend even has it that the powerful steppe lords forced their Tang masters to change the characters used to write "Uighur" to "Huigu'erh 回鶻兒," "returning falcons," instead of an older name that was less flattering (worms wiggling in fresh excrement). As Tang declined, steppe elements such as the Uighur prospered. Some quite small groups, largely Turkic, established states, and dynasties.

As Tang lost control, China turned inward. Tang fell in 907, resulting in a disunited and chaotic China for over 50 years. The Song Dynasty, was consolidated in 960. The dynasty never controlled Central Asia or even what is now the far-northern or western parts of "China proper." In addition, by the early 11th century, northern peoples were occupying much of the country. Their ties with the Eurasian heartland were close; they are referred to as "Altaic peoples," though that is now known to be less than a true linguistic community. Whatever "Altaic" means, the Liao Khitan and Jin Tungus did feel a sense of kinship with the Central Asian regimes.

As part of the exchanges between China and points west during the Tang, many new plants appeared in China. Coriander and cucumber, very important plants in Near Eastern cooking, first makes their Chinese appearance in the *Qimin yaoshu*, that vast sixth-century encyclopedia of daily-life activities.³⁶ They evidently came to China through Central Asia, where they are common today; they are still abundant in northwest Chinese cuisine. They were familiar enough to be noted without special mention in Tang herbals, where they have medicinal values assigned to them. The common pea may have been introduced about the same time, or may have been introduced much earlier.³⁷ The broad bean, also now very common in western China, did not appear until the

36 Laufer (1919), *Sino-Iranica*, 297, 300.

37 Spengler, "Agriculture in the Central Asian Bronze Age," *Journal of World Prehistory* 28 (2015), 215-253.

Yuan dynasty.³⁸ The lima bean, introduced very recently from the Americas, has also become common in West China. It is sometimes confused with the broad bean in modern speech and writings.

Spinach appeared a bit later, in early Tang, probably from the Iranian world and/or Nepal.³⁹ Its foreign origin is recognized in its Chinese name “Persian vegetable.” It remains one of the commonest vegetables in China. Sugar beets and similar roots seem to have come to China at the same time.⁴⁰

The Tang Dynasty saw the introduction of date palms to China, where they were called “Persian jujubes,”⁴¹ just as jujubes are called “Chinese dates” in the modern West. The fruits are similar in appearance and taste, though the trees could not be more different. The famous “golden peaches of Samarkand” of Edward Schafer’s book title also appeared in early Tang. This is an odd case of a special variety of a *Chinese* plant, developed in an environment considerably to the west of its homeland, imported to China. Almonds, by contrast, are strictly Western, and probably came rather late. Almonds acquired the name *badan xing* 八擅杏, “*badan* apricot-kernels,” from *badam*, the Persian word for “almond”; apricot kernels were and are used in China for many almond-like purposes too. They are somewhat poisonous if uncooked, but so were many of the almonds of the time. Meanwhile, figs and true olives seem to have been new in Tang. They remained rare in China.⁴²

Saffron also reached China, both as a spice and as whole plants, and is mentioned in Tang poetry.⁴³ Other introductions included kohlrabi, the pistachio,⁴⁴ and even western mustard.⁴⁵ Flax and sesame, confused under the same name (“Iranian hemp,” *huma* 胡麻) in Chinese, were introduced at some point, but the name confusion prevents firming the time range.⁴⁶ Cumin reached China also at a somewhat obscure time, again from Iran via Central Asia, where it is exceedingly popular as a spice. It has the advantage of making beans more digestible, relieving the flatulence caused by the longer-chain sugars (stachyose, raffinose, etc.) in the beans. The same is true of fennel, another plant introduced about that time to China; it seems less integrated into the cuisine.

38 Laufer, *Sino-Iranica*, 305-308.

39 Laufer, *Sino-Iranica*, 392-398.

40 Laufer, *Sino-Iranica*, 399.

41 Schafer, *Golden Peaches of Samarkand*, 121-122.

42 Laufer, *Sino-Iranica*, 405-415.

43 Schafer, *Golden Peaches of Samarkand*, 124-126.

44 Schafer, *Golden Peaches of Samarkand*, 148-149.

45 Schafer, *Golden Peaches of Samarkand*, 151, “white mustard,” presumably *Sinapis alba*, the common western mustard; Chinese mustard is made from seeds of *Brassica juncea*.

46 Laufer, *Sino-Iranica*, 288-296.

Most other Western foods now familiar in China came later. Asparagus, for instance, seems to be a recent introduction (19th or even 20th century). One dark mystery is the cowpea, known in China in the form of the yard-long bean and eaten fresh. It was apparently independently domesticated in India and in Africa. Cowpeas are probably native widely over the Old World. Their travels are mysterious. Those travels were apparently not over the Silk Road.

Most of China's distinctive and characteristic foods are warm-weather items that cannot easily endure the climates of the Eurasian heartland. Most of those that reached the West, like rice, foxtail millet, citrus, tea, and various eggplants, spread largely through India. (Tea is actually native to the India-Burma-China border country and was not known to the ancient Chinese; it appeared around Han times.) Other very important Chinese plants, such as the *mei* (*meihuashu* 梅花樹, flowering apricot, mistranslated "plum" in literary Western sources), Chinese cabbages and soybeans never reached the West at all until modern shipping allowed fast transport of plants by sea.

In the Medieval period, an explosion of foods came from China, because the southern route had truly opened. Foods came from China via India and the Arabs.⁴⁷ By far the most important was rice, which quickly spread not only to the West, but also into the Eurasian heartland, where it is still grown in a very limited way. It spread there from India via Iran, though, since the eastern Silk Road of Xinjiang is hardly rice country.

Citrus fruits were another important arrival to points west from China. Essentially all Western citrus has come from China, except for the lime (which is probably Indian) and the lemon. The only actual citrus species are the kumquat, citron, pomelo, and tangerine; the other citrus, such as bitter orange, sweet orange, grapefruit, and lime, are complex hybrids. Most remained in China till medieval times, but the citron had reached the Near East early enough to be mentioned in the Hebrew Bible. The lime found a home in the amazing Salalah oasis in Oman, a lush wadi-mouth in the midst of vast, lifeless deserts, where a distinctive variety is raised. These Omani limes have a unique flavor, and are exported widely into Central Asia and the West. The lemon is a true mystery; it suddenly appears in the Medieval Near East. Our word is from Arabic. It is a hybrid of tangerine, pomelo, and lime.⁴⁸ Like so many other minor fruits and vegetables, it leaves little record for archaeologists and was rarely noted by writers. In addition, it is routinely confused with lime in early sources—the words "lime" and "lemon" both come from Arabic *laymun* via

47 Watson (2008), *Agriculture Innovation in the Early Islamic World*.

48 Wu, Terol, Ibanez, et al., "Genomics of the Origin and Evolution of *Citrus*," *Nature* 554 (2018), 311-316.

Spanish *limón*. In the Eurasian heartland, citrus must have remained rare imported luxuries, for they cannot tolerate cold dry conditions. A few can survive in the warmest areas and in hot-houses, but the effort is hardly worthwhile. The bitter orange (*Citrus x aurantium*) arrived early in the Near East, but the sweet orange (*C. x sinensis*) is a more modern arrival, apparently unknown in the West in the Medieval period. Confusion of the two makes dating the arrival of the sweet orange difficult.

3 China after Tang

The period following Tang was a standoff between various local interests, including Chinese and non-Chinese, with a new element, the steppe Khitan, dominating much of the North. The Khitan conquered what is now northeast China, and then all North China in the 11th century. They used a still largely undeciphered script, and spoke a Mongol-related language. Their name for China, Khitai, “land of the Khitan,” still survives today in our “Cathay,” Russian Kitai, and cognate terms.

During this period, thanks to the Khitan, China not only got this widespread name, but watermelon (“western melon” in Chinese), originally from Africa, more directly from the sedentary Uighurs of Turkistan. It was apparently not known in China until the 10th century.⁴⁹ It became wildly popular in China and Central Asia. Likewise, as noted, sorghum, similarly an African crop, is not fully attested until Song or Yuan, despite persistent myths of its being prehistoric in China.⁵⁰ It almost certainly came over the Silk Roads, becoming a common crop in much of Central Asia; it had long flourished in India and probably came to West China from there too. No less an authority than Rashīd al-Dīn—the Persian polymath who chronicled Cinggis-qan—associates its spread and popularization with the Mongols, with Qubilai-qan in particular.⁵¹

Later the Khitan people who founded the Liao Dynasty were replaced by the Tungus-speaking Jürchen, who widened the zone of alien control in the North. They became a serious competitor for Southern Song. The latter—the surviving part of the Song Dynasty—was well-established in the South. Nationalism and loss of the North led to a marked “southernization” of foodways in Southern Song. It became a country of rice, seafood, and green vegetables;

49 Laufer, *Sino-Iranica*, 438.

50 Anderson (1988), *The Food of China*.

51 See Lambton (1999), “The *Āthār wa ahyā’* of Rashīd al-Dīn Fadl Allāh Hamadānī and His Contribution as an Agronomist, Arboriculturist and Horticulturalist,” 126-154.

dairy products and northern grains were sharply reduced. The cookbook of the artist Ni Zan 倪瓚, the *Yunlin tang yinshi zhidu ji* 雲林堂飲食制度集, “Cloud Forest Hall Collection [of rules] for Drinking and Eating,” is a Yuan work reflecting Song tastes, is a typical example; its foods are southern, with dairy getting a bare mention.⁵²

After the Khitan were displaced from North China, the Jürchen founded the Jin (“Gold,” actually named after a river) Dynasty. A group of Khitan moved to Central Asia and built a new empire there, characterized by total religious freedom,⁵³ like the other regimes of the eastern steppes.

The Jin held North China for a century. Among other things, they introduced the Tungus word *shaman* to the world; court records speak of the emperor and his priests and shamans.⁵⁴

Thus, although Song reunified most of China after 960, it lost the North definitively after 1125 in the face of the rise and expansion of the powerful Jin. This dynasty nearly destroyed the Song entirely. The Song had to be entirely rebuilt after moving much of its focus to the South and abandoning its old capital. It forced Song to move its capital far south to what is now Hangzhou 杭州, away from the Central Plain of China and its traditions as the true heartland of China. Hangzhou is Marco Polo’s Quinsay, from a Chinese term for temporary capital, *xing suozai* 行所在. Thanks to him, it is one of the best documented early modern Chinese cities. The account of Hangzhou alone should settle any question as to Marco Polo’s visiting China; it is abundantly confirmed by Chinese sources (from giant pears to the varieties of restaurants and tea shops).

Not only did Song step back from being a strictly land empire, but its maritime contacts were developed to an unparalleled degree. This was in part thanks to ongoing technological breakthroughs such as water-tight compartments within ships, general introduction of the stern-post rudder (long known in south China), and the compass. These breakthroughs made possible not only easier maritime contacts in the immediate vicinity of China, with larger and more secure ships, but allowed true long-distance trade with much direct sailing rather than staged sailings, from port to port. They were also crucial to the enormous fishing industry of the time, and a resulting shift toward more and more sea food in the diet.

52 Wang and Anderson, trans. and ed., “Cloud Forest Hall Collection of Rules for Drinking and Eating,” *Petits Propos Culinaires*, Volume 60 (1988), 24-41.

53 Biran (2005), *The Empire of the Qara Khitai in Eurasian History*.

54 Tao (1976), *The Jurchen in Twelfth-Century China*.

Song was largely cut off from direct contacts with the Eurasian heartland and did not even share a land frontier with Turkistan. Even Jin had its direct access to the Eurasian heartland blocked (except through Mongolia) by another regime, the Tangut state of Xixia 西夏. This is one of the reasons that Jin meddled in the deep steppe, where the young man who became Cinggis-qan was among those in its employ. For Song, the Silk Road was mostly maritime, although the land trade continued and there were important contacts with Tibet as a source of vital imported horses. Thus, this was a period when Chinese food was minimally influenced by the West, and maximally influenced by internal developments, especially in the lower Yangzi Valley. This is the time when China became a land of rice, tea, beans, fish, and irrigated vegetables, and when its famous cuisine really developed. Records show Tang food was rather simple. The great Tang poets, for instance, speak of thin-sliced raw fish, lots of meat, dumplings, and the grain staples; Song writers refer to a more refined variety. However, the influence of Song high cuisine on Central Asia was inevitably limited. Song did not have power, or even influence there, nor could, in any case, Song gourmets make their beloved fresh fish and vegetables available in steppe, desert and oasis, in an age before refrigeration allowing long-range movement of such perishables as fish and many other food products best served completely fresh.

4 **Witnesses: Travel Accounts from Late Antiquity and Early Medieval Times**

In early times, judging by information collected by the Greek geographers and Latin encyclopedists such as the elder Pliny the Elder (23-79), Greeks and Latins, and others under Roman control, made their way into the Eurasian heartland and adjacent areas, often in pursuit of trade. Pliny, however, accepted the most amazingly absurd travelers' tales, showing he lacked reliable sources for the more remote areas. From better sources came much of the rich information found in the general histories. In one case, the *Histories* of Herodotus (484-425 BC), we possess substantial eyewitness testimony, including his account of the Scythians and Sakas. More typical is the unique but unassigned information in historians such as Theophylactos Simocatta, who wrote in the early 7th century. Theophylactos knows an amazing amount about places as far afield as China, not to mention the Eurasian heartland, but the sources of his information are uncertain. Still more typical is legendary history, the confused tales of the peoples of Gog and Magog. These are mentioned in the Bible;

legend eventually held them to be peoples walled up by Alexander to keep civilization from suffering constant invasion.

During the Hellenistic period and Roman times, we have detailed information about voyages into the Indian Ocean. One source is a book by one Cosmas Indicopleustes, “Cosmas the India Sailor.” Sailing the Indian Ocean, even in stages from point to point, was much easier than the land travel of the period, though many did travel into the Eurasian interior.⁵⁵

From the Chinese side, travelers regularly went west; one at least getting as far as Syria. For East Asia there was a religious motivation. Many Westerners came to China to preach the *dharma*—the Buddhist law. Many Chinese went to India to study Buddhism, visit the holy sites, and bring back texts. Faxian 法顯 in the 4th century went by sea. The Tang monk Xuanzang, the Tripitaka of the novel *Journey to the West*, went by land. By Tang times, the Chinese were very well informed not only about the Silk Roads, including its South Asian and maritime variants, but even about the distant West.

The coming of Islam and the uniting of much of the Middle East and Iran, and even parts of Turkistan, under Islamic government, unleashed a flood of travel. A few staunch Arab travelers even managed to survive the deep Eurasian heartland and write up their experiences.

Of the early Arabic travelers, the most famous was Ibn Faḍlān, who journeyed from Baghdad to the Bulghār court near the Volga junction with the Kama River in 921-922. He is said to have brought 4,000 dinars for the king to construct a mosque, and in the meanwhile propagate Islam. However, the money got misappropriated, and Ibn Faḍlān’s mission was a failure. Despite this, he left a dramatic account, complete with tales of rhinoceri and giant snakes. Much of it was obviously gained from locals anxious to tell a story. Ibn Faḍlān was working with multiple interpreters, some of whom were apparently having some fun at his expense. One local who was *surely* doing so showed him a bear skeleton and said it was a giant from the lands of Gog and Magog.⁵⁶

Outside of these meanderings, Ibn Faḍlān’s general account is straightforward, clear, and believable. One of the most interesting notes is that he brought along large quantities of raisins, walnuts, pepper, and millet, to give out as gifts, and even kings accepted these as extremely special. It seems strange that such a lowly and common thing as millet could be a gift, since he (and others) make

55 Buell, “Early Mongolian Geographical Conceptions,” *Journal of Asian History*, 49, 1/2 (2015), 19-29.

56 Ibn Faḍlān, *Ibn Faḍlān and the Land of Darkness*, 40; the editors point out the obvious bear identity.

it clear that millet was the staple food in most of this area. Perhaps a special kind is meant. Even flat bread was exotic enough for these poor Northerners to be a special gift.⁵⁷ Trade in such commodities was already established, but was rare.

In Ibn Faḍlān's descriptions people and horses were routinely sacrificed at funerals; sometimes the horses were eaten.⁵⁸ Meat—of horse, sheep, or cattle—was left at sacrificial sites, he continues: “When night falls, the dogs come and eat all this, and the man who has made the offering says: ‘My Lord [the deity] is pleased with me and has eaten the gift that I brought him.’”⁵⁹ This same story has been told in similar words by countless later travelers, all over the world.

Feasts and even ordinary upper-class dinners seemed to consist mostly of sheep. Ibn Faḍlān learned to love strawberries (so do the modern Kazakhs, their *bülbergen*, and the Uzbeks), common in Bulghār land.⁶⁰ Apples, hazelnuts, honey, millet, wheat, and barley were commonly available. Mead, known as *sujū*⁶¹, was common and popular. The people used fish oil for cooking, which Ibn Faḍlān did not relish.⁶² This and other accounts in the book note “millet” as the major, even the only, grain crop in northern East Europe. This seems strange now, since rye has occupied that role throughout better-recorded later history. In fact, all early sources agree that millet was the staple in northwest Central Asia and eastern Europe, with rye appearing only later; its spread is not well dated. A reference to wine made from tapping the sap of a tree and letting it ferment is ascribed by the editors of the 2012 translation to a misguided or interpolated reference to palm toddy, but a later translation of a more original manuscript makes it clear that birch trees and birch beer are intended.⁶³

The religion he found among far northern Turks set Heaven as the highest, with nature spirits below; there was a phallic cult, “because I came from something like it and I acknowledge no other creator,” as one person told him.⁶⁴ Ibn Faḍlān was astonished by the uncleanliness of the Turks and by far worse

57 Ibn Faḍlān (2014), “Mission to the Volga,” 165-309 (213).

58 Ibn Faḍlān, *Ibn Faḍlān and the Land of Darkness*, 18.

59 Ibn Faḍlān, *Ibn Faḍlān and the Land of Darkness*, 48.

60 Ibn Faḍlān, *Ibn Faḍlān and the Land of Darkness*, 34; misidentified by the editors in a footnote, but the description is clear and unmistakable.

61 Ibn Faḍlān, “Mission to the Volga,” 219.

62 Ibn Faḍlān, *Ibn Faḍlān and the Land of Darkness*, 35.

63 Ibn Faḍlān, “Mission to the Volga,” 229; he compares it to a palm, but only in that it grows tall with branches bunched at the top—as birches do when crowded in a mixed forest.

64 Ibn Faḍlān, “Mission to the Volga,” 215.

conditions among the Rus, the Vikings of today's Russia and nearby areas (they raided even on the Caspian).⁶⁵

In addition to the direct descriptions of writers like Ibn Faḍlān, by his time Turkic foods also begin to find reflection in the Arab recipe books of the time, although how authentic the material is remains to be seen. This includes two supposedly Khazar recipes. The Khazars were a Turkic group that took up residence along the Volga in what is now Southern Russia. Squeezed between Christian and Muslim powers, they converted to Judaism to be acceptable to both, and maintained a Jewish empire for centuries. Some actual recipes survive from the Khazar Empire, or so it is claimed.

The 10th-century Baghdad cookbook *Kitāb al-Ṭabīkh*,⁶⁶ for example, includes a couple of recipes named for Ītākh, a Khazar who served Khalif al-Wāthiq as a general. They are not wildly different in character from other recipes in the book, so the question is whether these were dishes created for him in Baghdad (or Samarra) or whether they actually show some trace of Khazar heritage. The Khazar trading cities would have felt the same influence of Persian court cuisine that Baghdad did, which may explain a lot in the supposed Khazar recipes, and shows that assimilation of the Turks to the food cultures of the Middle East was nothing new. Other Turkic Recipes (not Khazar), also survive.

And from the 14th-century Syrian book *Kitāb al-Ṭibākha*:

Tutmāj

Dough is rolled out and cut [into squares] and cooked in water until done. Yogurt, mint, garlic, clarified butter, and fried meat are put with it.

Salmā

Dough is taken and twisted and cut in small pieces, and struck like a coin with the finger, and it is cooked in water until done. Then yogurt is put with it, and meat is fried with onion for it, and mint and garlic are put with it.

(“Struck like a coin” refers to the traditional coins that were stamped by hand before modern machinery made it possible to produce flat, uniform coins. These “coins” are inevitably thinner in the middle with an irregular higher edge, like tiny pizzas.)

65 Ibn Faḍlān, “Mission to the Volga,” 243.

66 See Charles Perry, “Three Medieval Arabic, Cookbooks,” and “Postscript to Three Medieval Arabic Cookbooks.”

A variant of the second:

Salma

1 ½ cups flour

Salt

Water

1 pound minced lamb

1 onion, minced

3 tablespoons oil

Cinnamon, coriander

1 cup unflavored yogurt

2 cloves garlic

Fresh mint

Mix flour with 1 teaspoon salt and enough water to make a stiff but smooth dough. Knead hard 10 minutes, cover and let rest ½ hour.

Pinch off pieces the size of a chickpea and roll into balls. Roll the balls in flour, one at a time, and pinch between thumb and forefinger or flatten on a floured work surface with your thumb.

Put the oil in a pan, add the onions and fry until softened. Add the meat and fry, stirring and mashing to break it up as much as possible, until done and quite brown. Fry about 10 minutes. Drain fat and season meat to taste with salt, cinnamon, and coriander.

Bring about 4 quarts of water to a boil, add a teaspoon or two of salt, and throw in the *salma*. Boil, stirring often in the beginning to keep them from sticking together, until done, about 8 minutes. If the water threatens to bubble over, skim. Drain the *salma*.

Mix the yogurt with the garlic and 2 teaspoons minced mint, and toss with the hot pasta. The meat may be mixed in or served on top of it. Warm up in a pan or microwave if needed. Garnish with whole mint leaves if wished.⁶⁷

[Note another recipe for *Salma* below, somewhat more assimilated. The *YSZY* has its *Tutmāj* or *Tutmach* too.]

In 1131, an Andalusian Arab named Abū Hāmid made trip similar to that of Ibn Faḍlān. Near the mouth of the Volga he met with sturgeons as large “as a large camel,”⁶⁸ and of heavenly taste. Sturgeon was grilled and eaten with rice, showing rice was common there by that time. Their roe was already worthy of note, though true caviar had apparently not yet been invented.

⁶⁷ Charles Perry, *ibid.*

⁶⁸ Ibn Faḍlān, *Ibn Faḍlān and the Land of Darkness*, 64.

Others followed, some penetrating more deeply into the Eurasian heartland, although we do not always have direct evidence of this. Their information in any case considerably enriched local facts found in general histories and geographies of which a great many were being written in the Arabic world during the later Middle Ages. On occasion there is even information on food in them. The Arabs also continued to produce cookbooks, many with clear information about foods that have travelled. Chinese cookbooks, which become more and more numerous as time passes, also contain relevant recipes and individual discussions of the foods, often exotic, in them some recipes and foods under their Turkic names.

In the farther West, various states such as the Samanids (819-999) and its successor the Qaraqanids (999-1211), ruled most or large parts of Turkistan. Later a major Turkic Empire in the area was that of Khwarazm (1097-1231), destroyed by the armies of Cinggis-qan in the early 13th century. Simultaneously East Asian influence moved west in the form of the Khitan successor state of Western Liao, formed by refugees from Khitan China. It dominated Eastern Turkistan and large parts of Western until it destroyed by the Mongols before their assault on Khwarazm.⁶⁹

During this period, eastern Turkistan and some immediately surrounding areas were the focus of many small city states. Located at major oases and permanent rivers, they served not only as concentrated locations of agricultural production of every sort (particularly wine, figs, dates, other fruits, and nuts), and as way-stations for trade. There were large caravansaries and similar facilities for camels, horses, and other pack animals. Here bread and a few other travelers' foods were readily available. At first, nearly all these states were culturally quite divergent. This included in religion. By the time of the Mongols the area was increasingly Turkic, although non-Turkic influences remained important. Even if Turkic linguistically, the dominant cultures were strongly Iranicized, in food at least as much as in other ways. Many of the groups becoming Turkic had Sogdian ancestors.

Between roughly 700 to 1100 or 1200, Western Turkistan, and Khorasan, closely connected with the Eurasian heartland, led the world in science and technology. They were advanced in many of other areas as well.⁷⁰ The time is generally considered the golden age of early Islam. It is easy to fall into thinking that the real focus of this must have been in Syria, Mesopotamia, and Iran,

69 See Biran, *The Empire of the Qara Khitai in Eurasian History*.

70 Beckwith (2013), *Warriors of the Cloisters*; Bosworth, and Asimov (2000), *History of Civilizations of Central Asia. Vol IV: The Age of Achievement: AD 750 to the End of the Fifteenth Century. Part Two: The Achievements*; Starr (2013), *Lost Enlightenment: Central Asia's Golden Age from the Arab Conquest to Tamerlane*.

but many of the major figures came from Central Asia. One was the mathematician al-Khwārizmī whose name immortalizes his native area, Khwarizm (or Khwarazm); his rules for calculation took his name and gave us the word “algorithm.” Western Turkistan and Khorasan developed not only mathematics, but also their own advanced astronomy, and other scientific areas, beyond anything seen before. Poetry, architecture, and fine arts also flourished. The great philosophers and medical writers Al-Bīrūnī (973-1048) and Ibn Sīnā (Avicenna, 980-1037) not only revolutionized medicine and Aristotelian thought, but also chronicled all the foods of their world, with associated medical values and indications; they were far ahead of their time, and many of their observations on food anticipate modern nutritional science. They were only the greatest of many Central Asian medical and nutritional scholars.

These glory days were a time of agricultural progress, not the least in irrigation. An incredibly advanced dam from the Mongol period (ca. 1300) survives. It is probably the earliest known dam in the world to make use of the idea that a dam curved upriver can withstand the force of the water, the way an arch bears the weight of masonry above it.⁷¹ It certainly had earlier antecedents; it is too well designed to have been a total innovation.

5 Medicine and Food in Medieval Central Asia

The major contributions of this period were in medicine. By this time, Hippocratic-Galenic medicine had triumphed throughout most of the Western world, reducing its rivals—or former rivals—to marginal notes in the books. This led to the loss of most other Greek medical books not written by the semi-mythical Hippocrates (5th century BC), or by Roman physician and medical theorist Galen (129-ca 213). The books included are among the first scientific treatises in any language.

Hippocratic-Galenic medicine was so important to Central Asia and its foodways that it requires explanation here. Beginning with Alexander’s legions, it entered the region broadly. It subsequently grew steadily in importance, becoming overwhelmingly dominant by the 10th century. From then until the present, every urban Central Asian’s foodways, and the foodways of many rural and nomadic people as well, were influenced at least somewhat by Galen’s teachings and those of his school. Educated people read the texts, widely translated into Arabic, and followed them; ordinary people knew at least the basics humoral categories (“hot, cold, wet, dry”), a few basic herbs,

71 Mukhamedjanov (1994), “Economy and Social System in Central Asia,” 265-290.

and such principles as avoiding the combination of fish and dairy foods at the same meal.

Other areas of Greek medicine spread with Alexander the Great's conquests as well and thereafter and were firmly established in western Central Asia by 300 BCE. The glory days of Greek medicine were still to come. A first triumph was the herbal of Pedanios Dioscorides (c. 40-90 CE). A Roman army doctor, Dioscorides traveled all over the Greek world, recording remedies everywhere. His herbal is one of the more amazing achievements of human history: a brilliant, thorough, rigorous, fully scientific medical work centuries before any "scientific revolution." Dioscorides recorded a certain amount of nonsense, often with wry and skeptical comments, as well a great deal of perfectly accurate knowledge, much of it still in use. Some of it is in standard pharmacological practice today. His work, being roughly contemporary with the first versions of China's *Shen Nong Bencao jing* 神農本草經, "the Shen Nong Canon of *Materia Medica*," was more comprehensive and more carefully tested. In Central Asia Dioscorides became available almost universally thanks to Arabic translation, the second language for Greek medicine.

Galen of Pergamon put the field of medicine on a scientific footing through extensive research and clinical experience. His works were first translated, into Syriac, and then into Arabic, in standard editions; indeed, the majority of Galen's works have survived to modern times only in Arabic and Syriac versions. Later there was a huge Galenic literature in Latin, some of the texts quite old, and some lost in Greek or Arabic. Most of the texts involved were translations from the Arabic. Only a few came directly from Greek.

Like Dioscorides, Galen was a highly rational, hard-headed scientist in an age more usually given over to faith-healing and astrology. Admittedly, he was very often wrong. So are most pioneers in science. (Sometimes his wrongness is amusing to modern readers; he alleged a structure in the heads of humans that is actually found only in pigs—thus showing some overgeneralization from his actual dissected models!) A simplified form of his basic view became widespread by the time Islam arose. In this view, heat, cold, wetness, and dryness combined to produce the body's humors. Health could be maintained and restored by manipulating heating, cooling, wetting, and drying influences—especially heating and cooling

Characteristic of the tradition was careful classification of medicinals. The sheer amount of information provided in the herbal medicine texts is amazing. This is the tradition in which Al-Bīrunī and Ibn Sīnā worked. Both compiled enormous encyclopedias of herbal and dietary medicine.

Now that the humoral Galenic tradition has been largely superseded by modern biomedicine, it is hard to remember that it dominated medical

science in the West for 1600 years, and remained important well into the 20th century. It is still the folk medicine of much of the Middle East and Latin America. It, or fragments of it, spread with Islam into Southeast Asia. Some of its knowledge was distantly absorbed into Chinese traditional medicine. By 1800 the Galenic tradition was the most widely believed system of thought in the world, having far outrun any religion or philosophy.

The major reason for its success was that it worked. It taught moderation and common sense in diet (“*der Mensch ist was er isst*,” “the human being is what he eats,” was an old idea from Galen long before it got taken up by and spread by the 19th century German writer Ludwig Feuerbach), exercise, sex, sleep, and other aspects of “regimen” (a technical term within the tradition). It went with an herbal tradition that involved many effective drugs, most of them still in use.

It taught balance in diet, using the codings “heating, cooling, wetting, and drying” as mnemonics for teaching a rough-and-ready, and surprisingly effective and successful, nutritional medicine. It taught reasonable standards for washing, wound treatment, care of pregnancy and birth, and other everyday emergencies. It has been nowhere close to modern biomedicine in success rates, but it was generally better than doing nothing. At its worst, in Europe, it led to too much bleeding of the patient, and the use of sometimes toxic drugs, leading medieval religious writers to observe that prayer was more effective than medicine; the prayer at least did not actively kill. In Asia, Galenic medicine was gentler, and such murder-by-treatment was evidently rare among well-trained physicians.

This was not its only secret of success. Much was due to the secular, pragmatic, hard-headed, and methodical approach of humoral medicine. (Muslim patients were often cheered to learn that it counseled drinking wine—in moderate amounts and for reasons now verified by biomedicine.) Much was due to the focus on health maintenance rather than mere sickness treatment. Much was due to its empowerment of the patient: a person was responsible for watching his or her regimen, maintaining health, and self-treating illness. It also counseled interaction with the doctor; the doctor was not supposed to be the white-coated god, never to be questioned, of too many modern clinics. This “MDeity syndrome” did inevitably exist, but interactive consultation was at least supposed to happen. The usual alternative, faith-healing by prayers and charms to invoke God and drive away demons, was widely seen to be weak competition, and in any case humoral medicine did not exclude it. One could take herbal pills and pray too, and many—perhaps most—took both options.

Diet therapy was targeted to restore the balance of hot, cold, wet and dry. Galenic theory postulated four humors: blood (hot and wet), bile (hot and

dry), phlegm (cold and wet), and black bile (cold and dry). Black bile is the dismal mass of dead red blood cells and other infection products that clog the bile duct in cases of liver disease or malaria. Imbalance in the four basic qualities, and in the four basic humors is the cause of diseases. One can have too much or too little of any of these. The humors can, in addition, be corrupted. The humors became even more important over time, especially in Europe as in Islamic medicine. They remain with us as personality descriptors, using the Greco-Latin names of the humors. Some oversupply of blood made one sanguine; of bile, choleric; of phlegm, phlegmatic; of black bile, melancholy. Liver disease would make anyone melancholy, but the term was used more widely to cover many other psychological problems.

Food was a standard corrector of the imbalances. Foods that increased body heat were not necessarily heating in temperature; they were high in calories (i.e., they produced lots of body heat—a fact very well known to the Greeks). This also included bitter, piquant or otherwise “hot”-tasting foods, or, if other cues failed, hot-colored (red, orange). Cooling foods were usually low-calorie; almost everyone knew the problems with maintaining body heat after a starvation diet of weeds and vegetables. Cold-looking foods (icy white, pale green), sour foods, and foods apt to be actually cool to the touch (like melons in summer) were cooling. Water was known to chill anyone who fell into it, so water and wet foods were cooling. Cooling, that is, not wetting; water cools the body. Wetting foods were those that made the body retain water, swell, or otherwise become damp or wet internally. The *effects* of the food, not its *qualia*, are what matter. Dry items tend to feel dry and raspy in the throat, also irritating to throat or mouth.

The starch staple of any given area was considered locally to be the perfectly balanced food: bread in the West, boiled rice in the East. The four basic qualities were classified in degrees: first degree, very mild; second, strong; third, strong enough to be dangerous, at least to the frail. For instance, something hot in the third degree would be deadly to someone with a hot condition.

Similarly, blood, and easily digested foods, make more blood. Somewhat hot and sweet, or fatty foods make yellow bile; heavy, moist, sticky foods make phlegm; heavy, dry, heating foods make black bile.⁷²

All this served to make it easy to remember types of foods and individual foods, and to balance diet in a rough way. High-calorie, overheating foods like fats and alcohol were balanced with cooling, soothing ones like vegetables. At best, actual vitamin deficiencies were treated: heating foods tended to have

72 Abu-Asab and Micozzi (2013), *Avicenna's Medicine: A New translation of the 11th-Century Canon with Practical Applications for Integrative Health Care*, 13.

iron, and anemia looks cold (pallor, low body temperature); cooling foods usually have vitamin C, and scurvy was considered a “hot” condition.

Digestibility of food was also a major consideration. Galen himself made more of the food’s digestibility and nutrition than of its humoral qualities.⁷³ For him, as for the Hippocrates’ circle, barley broth—water with pearl barley boiled in it for a long time—was the greatest of treatments, indicated for almost all medical conditions. This remained true in the Near East and Europe, even after modern biomedicine came along. Many Americans as well as Asians still swear by it. In East Asia, pearl barley remains a major cooling and soothing “nutraceutical” food.

Being more than a little snobbish, Galen saw the foods of the elite, such as white bread and the meat of young animals, as more digestible than the food of the peasants. This was not entirely untrue. To Galen the worst of all was coarse whole-grain bread, which only a peasant or slave—with their coarse bodies—could digest, despite the nutritional benefits. Galen tended to see spices as matters of concern; later writers, finding them both medicinal and upper-class, recommended them as cure-alls. Dioscorides records many medical virtues for them; many of these are supported by modern biomedicine. The Islamic writers used them copiously in medications. This was one of the reasons for the “spice” trade across the Eurasian heartland and over the seas. Spices, including purely medicinal items, were traded at least as much for medicine as for flavoring. Indeed, the flavoring was often seen as one sign of the medicinal use.⁷⁴

Quite apart from these grand theories were the pragmatic values of herbs. Dioscorides was a practical man with little interest in high theory, which did not keep others for classifying his herbs into many categories later. He knew the actual medicinal values (often confirmed by modern biomedicine) of his herbs. He knew when they aided digestion, procured abortion, stopped sore throat, remedied headaches, or killed worms. He was little concerned did if they were heating or cooling. Dioscorides’ basically pragmatic herbal tradition combined with Galen’s highly systematized, theorized one, cooperated in producing Islamic medicine. A large percentage of Dioscorides’ herbs are foodstuffs, and the influence of his herbal on eating has been incalculable.

As mentioned, both Galen and Dioscorides were extensively translated into Arabic. M. M. Sadek⁷⁵ has carefully compared a standard Arabic Dioscorides with what we have of the Greek original, and found the Arabic version close.

73 Galen (2003), *Galen on the Properties of Foodstuffs*.

74 See also Freedman (2008), *Out of the East, Spices and the Medieval Imagination*.

75 Sadek (1983), *The Arabic Materia Medica of Dioscorides*.

Sadek also catalogues the herbs called for in these editions. The usual progression was for the Byzantine Empire to maintain and recopy the classic Greek texts; then these were translated into Syriac, either in the Empire or under the new Islamic regime; then the translation went from Syriac to Arabic (the languages are closely related). This was especially true in early centuries. Later, texts were translated directly into Arabic, sometimes almost on a factory basis.

The result was a society that was knowledgeable in and valued moderation, cared about diet and health, and had a robustly secular and sensible medical tradition. They could say that “a table without vegetables is like an old man devoid of wisdom.”⁷⁶ Islamic rules were bent for health reasons, especially in the case of wine. They even found ways to drink distilled beverages. According to the manuals, the distillation process boiled the devil out of the original ferments, as it were.⁷⁷

Foods throughout Asia were soon being evaluated for their heating and drying qualities; in China this fused with the yang-yin theory. Galen’s work remained incredibly influential. As of the 19th century, one or another form of Galenic medicine was dominant in folk and traditional cultures throughout the Western world, from Chile to Russia, and influential throughout all Asia as well. It satisfied a need for a rational, systematized medicine that would at least occasionally work. Only the superior effectiveness of asepsis, chemical drugs, and eventually antibiotics has partially displaced it. It is not dead yet; Galen’s counsels of moderation in diet, exercise and lifestyle are directly ancestral to those that doctors tell patients today, whether in America, China, or Uzbekistan.

Nowhere was the adoption more enthusiastic than in Central Asia, which became the world center of Galenic medical writing and research in the early Middle Ages, and thus the leading medical center of the world.

Galenic medicine and the accompanying herbal lore enormously influenced foodways throughout Asia, because Galen—like early Chinese doctors—emphasized food and diet as all-important in maintaining health. Every educated Central Asian would have been influenced—if not directly, by reading or hearing about Galenic principles, at least indirectly by their influence on what foods were available and how they were cooked.

Like so much else of the Medieval Islamic golden age, medicine had a major center in the cities of the Eurasian heartland. (Another was in Moorish Spain.) A warm period, moist in at least the eastern parts of Central Asia, had made

⁷⁶ Ahsan (1979), *Social Life under the Abbasids*, 13, quoted by Ahsan from an Abbasid source.

⁷⁷ Heine (1982), *Weinstudien, Untersuchungen zu Anbau, Produktion und Konsum des Weins im arabisch-islamischen Mittelalter*.

the region more prosperous and productive. Doctors were travelers, and many Central Asians went to Baghdad and elsewhere to seek their fortune. Still much of the research and training remained in Turkistan centers, especially Samarkand, Bukhara, and their immediate hinterlands. On the other hand, they wrote in Arabic, the language of Islam, and of learning at the time. This has led to those living in the cities and oases of the Eurasian heartland being grouped, not unreasonably, with Arabic or Islamic doctors in general, and indeed there was no separate tradition of a local medicine in the area; what was found there was part of the mainstream of Near Eastern thought. Still, Arabic medicine in its broadest sense forms part of our story because of its special influence on the foodways of the Eurasian heartland.

The giants of the glory days were al-Bīrūnī (973-1048) from Khwarazm, and Avicenna (Ibn Sīnā, 980-1037), from Afshana near Bukhara. They were roughly contemporary, and were rivals.⁷⁸ Al-Bīrūnī was the older; Avicenna, evidently a rather driven and difficult man, was the challenger. Both were complete polymaths, making contributions to history, philosophy, and other sciences as well as medicine. Both were solidly in the Hippocratic-Galenic tradition, but by their time it had been greatly enriched with new knowledge, and they added considerably more with their own work. Al-Bīrūnī's expertise on India is clear in his knowledge of Indian drugs and medicine.

Although Al-Bīrūnī's works remain largely untranslated, we fortunately have a good translation of his work on medicines and foods: *Al-Bīrūnī's Book on Pharmacy and Materia Medica*.⁷⁹ A Medieval copyist's preface describes Al-Bīrūnī as "a great philosopher, a scholar of immense magnitude, a master of erudition, a master of wisdom, an example for his followers..., an axis round which profound axioms and observations revolve, the circumscriber of the apparent and the hidden, a past master...besides whose work that of his predecessors...pales into insignificance,...worthy of reverence and exaltation."⁸⁰

The book is arranged alphabetically (not very consistently) in Arabic. Entries range from brief notes to long texts that quote leading authors in both the medical and literary literature of the time. Not many foods make it into this book; one is tea, about which Al-Bīrūnī knew a good deal; he even knew a familiar Chinese folktale about the plant. Like most writers of extensive medicinal works at the time, he gives plant names in many languages.

Avicenna has done better in translation, with two summaries of his definitive *Canon* to choose from. The major work is Laleh Bakhtiar's editing and

78 Starr, *Lost Enlightenment*.

79 Al-Bīrūnī (1973), *Al-Bīrūnī's Book on Pharmacy and Materia Medica*.

80 Al-Bīrūnī, *Al-Bīrūnī's Book on Pharmacy and Materia Medica*, 1.

complete translation of the *Canon* in five volumes.⁸¹ The full work is now available from Hamdard Publications.⁸² A more challenging summary translation of Vol. I by Mones Abu-Asab and allies⁸³ attempts to interpret Avicenna in modern medical terms, producing much that is delightful and thought-provoking, even if very hard to accept on faith.

Avicenna followed Aristotle in writing that “food and drink...change from their own nature so as to receive the ‘form’ of one of other of the human members...and the matter of which the food is composed receives the ‘form’ of the member without losing its own dominant primary quality.... Thus, the temperament of lettuce is colder than that of the human body, and yet lettuce becomes blood and is thus capable of being converted into tissue. The temperament of garlic is hotter than that of the human body and it also becomes blood”⁸⁴ Moreover: “Some nutrient medicines are medicinal in quality rather than nutrient and others are nutrient rather than medicinal. Some of the latter are more like the ‘substance’ of blood in nature (such as wine, egg-yolk, and meat-juice), and others are less so (such as bread, and meat) and others are entirely different.”⁸⁵ In other words, some foods have to change much more than others to be digested and become human tissue. Yet their qualities survive, influencing the human body. Lettuce that has become blood and flesh is still cooling.

Volume II of Avicenna’s *Canon* is particularly interesting for present purposes, since it details the medical values of 749 foods, herbs, and medicinally active minerals. This may be compared with the 381 categories of medicine in just the surviving fragments of the *Huihui Yaofang* 回回藥方—see below—and approximately 1800 in the comprehensive Chinese herbal of Li Shizhen 李時珍, the *Bencao Gangmu* of 1593. All the *Bencao Gangmu* recipes were intended to be taken by mouth, and most were actual foods (not the case with *Huihui Yaofang* recipes and simples, many of which were for external application). For all these substances, Avicenna provides humoral categorizations and pragmatic uses, often with separate accounts for local varieties—many of these have slightly different humoral values than the standard. Where the uses he mentions are not too forced by humoral theory, they are often quite accurate by modern biomedical standards.

81 Avicenna (1999-2013, *The Canon of Medicine (al-Qānūn fi’l-tibb)*, ed. Bakhtiar, 5 vols. Bakhtiar edited and republished Gruner’s classic translation of Vol I, and went on to translate the rest of the *canon*.

82 Avicenna, *The Canon of Medicine*.

83 Abu-Asab, et al., *Avicenna’s Medicine*.

84 Avicenna, *The Canon of Medicine*, I, 221.

85 Avicenna, *The Canon of Medicine*, I, 223.

Avicenna's work remains widely used by Islamic-world doctors even today, for instance in the Yunani (Ionian, i.e., Greek) medicine of India and Pakistan. His medical theory was Galenic; his herbal lore was based on a much expanded Dioscorides.⁸⁶

The first food thoroughly treated therein is almond, and that may stand as an example. Sweet and bitter almonds are both described. "Sweet almond is moderately moist. The bitter type is hot and dry in the second degree.... Bitter almond oil is hot and moist in the first degree.... The gum of bitter almond causes constipation and gives warmth to the body. All types of almonds have cleansing, purifying, and purgative qualities."⁸⁷ "Degree" refers to strength, from first (mild) to third (serious). There follow two more pages of specific indications, including for cosmetics, swellings, wounds, joints, head and eyes, respiratory organs, digestive system, and excretory system.⁸⁸ Most of the recommendations are for bitter almond, especially the oil, which is high in cyanogenic glycosides and other active chemicals. Sweet almonds were known to be fattening. Almond oil is still used in the 21st century for its extremely effective soothing, skin-softening, and abrasion-healing effects.

Avicenna followed Dioscorides in ascribing all sorts of values, reported or confirmed, to all items, while also trying to maintain some quality control by making skeptical notes about the most extreme claims. In general, he was aware of actual values: coriander is digestive, cumin is warming (stimulant and rubefacient), and southernwood is abortifacient. He was credulous—or perhaps merely inclusive—about cure-all claims for a wide range of medicinals, so most of his recommendations are uncertain at best, even by the standards of his time. By contrast, his first-listed uses are very often correct in biomedical terms.

Almost all the drugs are Near Eastern, or are universally found (like salt and hares) but are assigned traditional Near Eastern uses. The few Chinese entries are items already widespread and long-established in Central Asia by Avicenna's time: apricot, bamboo, millet, orange (it would have been the bitter orange) and peach. Many more Indian and Southeast Asian items also occur: black gram, cardamom, cinnamon, clove, coconut, cotton, deodar, embelia, long pepper, three kinds of myrobalans, nutmeg, pepper, sugarcane, tamarind and turmeric. Buddhism and Silk Road spice trade had made these items familiar. By this point, the concept of the "medical missionary" was well known;

86 For a full account of the history of medicine in the Mongol world see Buell and Anderson (forthcoming), *Arabic Medicine in China: Tradition, Innovation and Change*.

87 Avicenna, *The Canon of Medicine*, II, 23-24.

88 Avicenna, *The Canon of Medicine*, II, 24-26.

Buddhists, Christians, and others often spread their doctrines with the aid of medically trained monks and teachers.⁸⁹

Subsequent works in the tradition followed the Canon, with revisions and up-datings. Shams al-Din al-Samarqandī (d. 1222), from Samarqand as his name implies, produced a brief *aqrābādhīn*—formulary or concise drug guide—which has been translated.⁹⁰ Medical encyclopedias from later years are also known. Most are lost or survive only in unedited and unstudied manuscripts. Even the major contributors are not as well-known and studied as they should be. We have essentially no knowledge of the non-Galenic medicine traditions of Medieval Central Asia. Careful study would reveal some refutations of popular magic and curealls, and there are accounts of shamanic and quasi-shamanic healing rituals of a sort much better documented from later centuries.

In the meantime, Galen and Avicenna influenced Europe, and the influence goes on today. The most durable example of this has been the *Taqwin*, an Arab health manual written by the Christian physician ibn Butlān (d. 1066, just as the Normans were conquering England). It was translated, as the *Tacuinum Sanitatis*, at the court of King Manfred of Sicily (r. 1257-1266). A summary in Latin was translated into English by Sir John Harington in the days of Queen Elizabeth I, including the verse: “Use three Physicians still; first Doctor *Quiet*. Next Doctor *Merryman*, and Doctor *Dyet*.”⁹¹ Versions of this bit of doggerel were still being widely quoted as current advice when author Anderson was a child in the midwestern United States. And, indeed, it is still the best medical advice. When your doctor tells you to rest, eat moderately, get some exercise, and enjoy more, remember (and maybe even tell him) that he is echoing the advice of medieval Central Asians and Arabs channeling an ancient Greek.

6 History during the Mongol Empire

The rise of the Mongols in the early 13th century was in every way a watershed for the history of the Eurasian heartland and for most of the Old World. The Mongol era was the pinnacle of the Medieval glory days of Central Asia.

Not only did the forces that fueled this rise result in the greatest land empire in history, but the Mongol age became an era of unprecedented cultural exchange and economic contact, including a revived land trade along several

89 Cf. Foltz (2010), *Religions of the Silk Road*.

90 Levey and al-Khaledy (1967), *The Medical Formulary of Al-Samarqandī*.

91 Harington (1966), *The School of Salernum*, 22.

routes. Within this context, food transfers accelerated and broadened. The upswing also included, briefly, in the late 13th and early 14th century, a first maritime age (1290-1340).⁹² It centered on the trade routes of the Indian Ocean with links stretching far beyond. Later this was briefly restored during the time of the Zhenghe 鄭和 voyages in the early 15th century, and definitively under the Portuguese after 1498, but neither of these accomplishments detract from the maritime age of Mongol times.

At this point it will be useful to characterize briefly the structures of governance in Central Asia from medieval to early modern times. The world was organized into segmentary lineages—a descent form famously called by Marshall Sahlins “an organization of predatory expansion.”⁹³ It was easy to grow fighting forces by linking more and more widely along descent lines, often fictive ones, but equally possible for a lineage to break down along sub-lineage lines. As the widespread proverb said: “I against my brother, my brother and I against our cousin, our cousin, brother and I against our lineage, and our lineage against the world!” For “lineage” one could substitute “village” or “tribe” or any other unit of polity. Cinggis-qan proved to be the ultimate master at this game, putting all the Mongols and ultimately many nomad groups into one vast force unified by real or imagined kin.

The leader of such a lineage—or of a tribe or settlement—was called in Turkic languages a *qan* (pl. *qanlar*, but we will use “*qans*” for simplicity). He was usually male, though queens and powerful women often held full power. He ruled through a council of elders, the *aqsakal*, “white-bearded ones,” in Turkic. There were also tribal councils to answer to. *Qans* were leaders of branches of the lineage, and often holy men. The *qan* did not have full power; his family and the *aqsakal* and tribal councils restrained him, and the ordinary people of the tribe could always vote with their feet, deserting a poor master for a better one. The surrounding settled civilizations had regular kings, with full authority and the bureaucratic trappings of a court, and steppe leaders that conquered cities often tried to emulate them. However, even when Turkic or Mongol rulers took over an oasis city, they were constrained by their followers to maintain *qan* governance. Of course, once the nomads took over great civilization—especially in the Mongol conquests of the Near East and China—they quickly learned imperial forms and worked with bureaucrats, but such systems rarely got far into Central Asia itself.

92 See Buell and Fiaschetti, “Maritime Silk Route: The Mongols and the Indian Ocean”; Prazniak (2019), *Sudden Appearances, the Mongol Turn in Commerce, Belief, and Art*; Ciociltan (2012), *The Mongols and the Black Sea Trade in the Thirteenth and Fourteenth Centuries*.

93 Sahlins, “The Segmentary Lineage: An Organization of Predatory Expansion,” *American Anthropologist* 63 (1961), 322-345.

Ownership and management of resources was by the descent group, or, in settled mountain regions, by the village (also unified by descent). Depending on how limited the resource was, how easily it could be controlled, and how lavishly it was supplied, the resource could be utterly unlimited and open to all, or open to various levels of the lineage from local branch to whole tribe, or to a family.

Succession in the qanates, that is, in the successor state to the Mongol empire, after its unity broke down after 1260, was theoretically determined by the will of the people, as expressed through popular councils, *khuriltay*. In fact, that usually meant that brothers and sons of the deceased *qan* fought it out, recruiting to their side various factions of the councils. This was so routine that the great Central Asianist Joseph Fletcher borrowed from Macbeth the term “bloody tanistry” for it—“tanistry” being the Celtic term Macbeth would have used for this method of succeeding to power.⁹⁴

Temüjin, the later Cinggis-qan (r. 1206-1227), the man who set it all in motion, arose out of a steppe disturbed by Jin Dynasty (1125-1234) manipulations. As the old Chinese phrase had it, “using barbarians to regulate barbarians.” “Genghis Khan” is a European transcription of a Persian form; the original Mongol was pronounced Chinggis Qan, with the Turkic back *k*; the modern Mongolian is Chinggis Khan (pronounced as spelled, *kh* representing the German *ch*). He united his Mongol horde and directed its energies outward, first into what is now Inner Mongolia,⁹⁵ and later into the entire Eurasian heartland.

After the death of his father, Yesügei (poisoned by enemy Tatars), Cinggis-qan, his brother, and his mother, Hö’elün-eke, along with a few retainers, were abandoned on the pastures by Yesügei’s former people. Forced to eat what they could find to survive, the family lived on wild apples, bird cherries, and various roots. The roots included garden burnet root and cinquefoil root, scarlet lily bulbs, wild garlic, wild onions, and garlic chives. They as well caught some small, “misshapen” *jebüge* fish and *qadara* (*Salmo thymallus*) fish. The *Secret History of the Mongols*, our principal native source, stresses their hardship:

The Tayyici’ut elder and young brothers, set out on trek, leaving behind on the pasture grounds Hö’elün-üjin [Lady Hö’elün], the widow, and the little children, the mother and the children:

94 Fletcher (1995), *Studies on Chinese and Islamic Inner Asia*. See also Jackson (2017), *The Mongols and the Islamic World from Conquest to Conversion*; di Cosmo, Frank, and Golden, *The Cambridge History of Inner Asia: The Chinggisid Age*.

95 Buell (1979), “The Role of the Sino-Mongolian Frontier Zone in the Rise of Cinggis-qan,” in Schwarz, ed, *Studies on Mongolia, Proceedings of the First North American Conference on Mongolian Studies*.

Hö'elün-üjin, being born a wise woman,
 when she nourished her little children,
 attaching firmly her *boqta* [high Mongolian hat],
 tying up her robe tightly,
 she went running upstream and downstream the Onon,
 she went collecting the wild apples and the bird cherries,
 day and night she nourished their throats.
 Mother Üjin, born with courage,
 when she nourished her children favored by ancestral power [*sutan*],
 taking cypress sticks,
 she nourished them digging up garden burnet and cinquefoil roots.

Mother Üjin's

children, nourished with wild garlic and wild onions,
 managed to grow up to become *qans*.
 The children of the proper Üjin-mother,
 nourished with scarlet lily [bulbs],
 became wise, well-behaved children.

The beautiful Üjin's
 proper children,
 nourished with garlic chives and wild onions,
 became ancestral figures with posterities [*qoyira'ut sayit*].
 Ending their lives by becoming hero-ancestral figures [*eres sayit*].
 Bold and brave ones they would seem to have been made.
 Agreeing with one another to nourish their mother,
 stationing their mother on the banks of the Onon,
 making bent fish hooks together,
 they went fishing with hooks for miserable fish.
 Bending a fish hook from a needle,
 they were fishing with hooks for *jebüge* and *qadara*.
 Weaving together nets and weirs,
 they were fishing out little fry.

But they nourished to satisfaction their mother.⁹⁶

96 Ligeti (1972), *Histoire Secrète des Mongol*, para. 74-75; Buell, Anderson, and Perry (2010), *A Soup for the Qan: Chinese Dietary Medicine of the Mongol Era as Seen in Hu Sihui's Yinshan Zhengyao*, 37-8. Translation by author Buell.

The era was favorable to pastoralism. Both human and livestock numbers expanded in Mongolia. The Mongols were fortunate to ride out during the Medieval Warm Period, which made Mongolia warmer and moister, and thus much more habitable.⁹⁷ Temperatures soared, reaching the highest levels seen until recent years, by around 1000 and again in the 13th century. Higher average temperatures would have reduced, most notably, the incidence of *dzud* (see above, p. 21). There were still short periods of cooler and drier weather, which Qiang Chen⁹⁸ associates with the invasions of northern China by seminomadic eastern-steppe groups. The very warm 1200s were followed by sharp decline in the 1300s into the Little Ice Age of the 14th-19th centuries, which proved devastating to the Mongols and others in Central Asia. (There has been a recovery since the early 1800s, with climate growing steadily warmer.)

The good weather of the 1200s, especially increased rainfall resulting in better pastures, led to population increases in Mongolia. More people and more animals gave Cinggis-qan more real power than at any time in the history of Mongolia. By Mongolian standards, there was population and livestock to spare. People and animals could profitably be moved outside of Mongolia, to expand the geographical range of Mongolia and its cultural reach.

The Mongol world conquest remains one of the great episodes of history.⁹⁹ The Mongols themselves appeared strange to outsiders; the most over-the-top description was by the Armenian writer Grigor of Akanc, who may never have seen them. He described them thus: "They were terrible to look at and indescribable, with large heads like a buffalo's, narrow eyes like a fledgling's, a snub nose like a cat's, projecting snouts like a dog's, narrow loins like an ant's, short legs like a hog's....Their women wear beautiful hats covered at the top with a head shawl of brocade....They...eat like wolves."¹⁰⁰ Of course Ammianus Marcellinus' old propaganda about the Huns in the 5th century were all recycled too, including his claim that they "cooked" their meat between their thighs and the horses' backs.

For the areas bordering on Mongolia, but located outside the steppe, the first manifestations of new Mongol power were raids, some quite small. By 1211

97 Marcarelli, "Genghis Khan Rose to Power during Drought, Expanded Empire during Rainy Season," HNCN news online, March 11, 2014; Pederson, Hessel, Baatarbileg, et al., "Pluvials, Droughts, the Mongol Empire, and Modern Mongolia," *Proceedings of the National Academy of Sciences* 111 (2014), 4375-4379.

98 Qiang, "Climate Shocks, Dynastic Cycles and Nomadic Conquests."

99 Di Cosmo, Frank, and Golden (2012), *The Cambridge History of Inner Asia: The Chinggisid Age*; May (2012), *The Mongol Conquests in World History*; May, *the Mongol Art of War*; Buell and Fiaschetti, *Historical Dictionary of the Mongolian World Empire*.

100 Blake and Frye, "History of the Nation of the Archers (the Mongols) by Grigor of Akanc," *Harvard Journal of Asiatic Studies* 12 (1949), 269-399.

the Mongols, who had by then made many local allies, most of them Chinese, could begin a general offensive. This offensive was carried out on several fronts simultaneously, resulted in advances into various points in Manchuria and points south. This included an advance in 1214 to the Jin Middle Capital (Zhongdu 中都), near where Beijing (北京, “Northern Capital), a city founded by the Mongols, is today. Due to an epizootic among their animals, the Mongols had to retreat without taking the city, at least for the moment. Their Chinese and other allies, particularly Khitan allies, went on advancing even as the Mongols themselves returned to a cooler steppe, a place healthier for themselves and their animals.¹⁰¹

The Jin court itself then moved to its Nanjing 南京, “Southern Capital.” This was not the modern Nanjing, but the Chinese city of Kaifeng 開封, located south of the Yellow River, in a well-populated and economically well-endowed area, and thus a better base for the survival of the Jin regime. Jin now became more Chinese. The Jin held out there until 1234. After conquest, a large nomadic garrison, a *tanma*, was left behind to control the newly conquered areas. It was based in the mixed areas of what is now Inner Mongolia.¹⁰²

The Mongols settled into controlling and exploiting their conquered areas (with more than a little help from their now many local allies), increasingly asserted on terms of their own interests. Fortunately for the Jin, the main Mongol armies had to be dispatched west. At the time, the dominant power in the West was the Khwarazmian Empire, a large but thinly-based structure of rather recent emergence. In 1218 the local Khwarazmian governor in Otrar suddenly massacred a caravan of 450 merchants and Mongol ambassadors under the protection of Cinggis-qan himself. Although this was almost certainly without the knowledge of the ruler of the Khwarazmian Empire, the Khwarazmshāh, Cinggis-qan still held him responsible.

Suddenly the Mongols were master of a large area with many cities, and, of course, encountered sophisticated foods quite new to them. Some cities were damaged, perhaps even largely destroyed, by Mongol conquest, if we believe the second-hand account of the Persian historian Juvaynī (1226-83). One wonders what the Mongols thought of the refined urban cuisine. One suspects they first viewed it as soft and unworthy of them, then tried it in gingerly fashion and slowly came to love it. Such was, at least, the pattern later observed among Turkic conquerors.

101 Buell and Fischetti, *Historical Dictionary*; Buell (1977), “Tribe, Qan and Ulus in Early Mongol China: Some Prolegomena to Yüan History.”

102 Buell, “Kalmyk Tanggaci People: Thoughts on the Mechanics and Impact of Mongol Expansion,” *Mongolian Studies*, VI (1980), 41-59.

The advance in the West continued with generals Jebe and Sübe'etei sent in pursuit of the fleeing Khwarazm-*shāh* and riding around the Caspian to find Russians waiting for them (1223). After they rode back (Jebe died on the way) the advance continued, but with local forces primarily as part of a continued war against Jalāl al-Din, son and successor of the Khwarazm-*shāh*. Soon a new Mongol thrust developed in China against the rump Jin regime. It had taken advantage of Mongol preoccupations with the West to expand its territory and attack reduced Mongol armies. In yet another break for Jin, Cinggis-qan attacked the North China state of Xixia, which had refused to send troops to support the Mongol advance, thus betraying its tribute-payment relationship with the Mongols. Cinggis died there, perhaps from falling off a horse.

Since a new *qan* had now to be elected in the traditional Mongol style, and this took time, an interregnum resulted. Between 1227 and 1229, Tolui-noyon, the youngest son of Cinggis-qan, ruled as regent. Finally, in 1229, Ögödei (r. 1229-1241) the second son of the founder was elected. He had been the choice of his father during his father's lifetime and enjoyed substantial support. For all practical purposes, Ögödei became the real founder of the Mongolian Empire. He systematized administration, regularizing the coinage, and created a new capital at Qaraqorum in the deep steppe. He also organized conquest on a new basis by utilizing local resources more effectively.

As part of a continued advance west, Mongol armies poured into what is now southern Russia, taking key points one by one. The Mongols then moved on into Europe and Hungary.

Although this advance did considerable damage and alarmed the Europeans, Europe was fortunately spared by the death of *Qan* Ögödei in 1241. The news reached the far Mongol West in record time, showing the efficiency of the Mongol *jam*, their pony express. Once again, the Mongol world had to prepare to elect a new *qan*, and once again there was interregnum. A woman ruled: she was Töregene-qatun, wife of *Qan* Ögödei.

The interregnum was protracted. Only in 1246 was a new *qan* elected: Güyük (r. 1246-48), son of Ögödei. He did not live long, perhaps dying of poisoning.

A new interregnum resulted, with still another woman regent, Oqol-qaimish, wife of Güyük, ruling. In 1251 did the Mongol world assemble once again to elect a new ruler. This time it was Möngke (r. 1251-1259), from a new imperial line. It was descended from Tolui-noyan, eldest son of Cinggis-qan. Möngke election was tantamount to a revolution. When he came to power he unleashed a frightful purge of his enemies, supposedly for plotting revolution. By this time Batu, the son of Cinggis-qan's youngest and perhaps illegitimate son Jochi, had emerged as the most powerful single individual in the Mongolian



PHOTO 27
Mongol inscription from Qaraqorum

Empire and king-maker. He supported Möngke and was hostile to the house of Ögödei. When *Qan* Güyük died he was actively preparing for war against Batu.¹⁰³

Nonetheless, the Mongols continued to act with reasonable unanimity during the reign of Möngke. The main lines of advance decreed by the *khuriltay* that elected Möngke led in two directions. In the West, imperial younger brother Hüle'ü (died 1265) was sent to secure Mongol control in Iran and associated areas. This he did, capping off his advance with a conquest of Baghdad. This conquest ended more than 500 years of 'Abbāsīd history (750-1258). Hüle'ü's advance for the first time put Mongol rule in Iran on a firm basis. It was probably at this point that the Mongols took seriously to the delights of Near Eastern food. Certainly, illustrations soon begin to show them doing just that.

In the East, *Qan* Möngke himself led a renewed advance on China, in this case against Song China since the Mongols already controlled the North, former Jin. The most enduring outcome of this campaign, which ended with *Qan* Möngke's death in 1259 (he was still in the saddle), was the Mongol invasion and conquest of the Dali 大理 Kingdom occupying present-day Yunnan 雲南.

103 Buell and Fiaschetti, *Historical Dictionary*.

The process whereby this outlying area became definitively a part of China was begun by this conquest. Their new conquest served, as most Mongol conquests had done in the past, as a jumping off point for further advance; in this case, this meant penetration of Burma and even northern India. An attempt on Vietnam proved abortive.¹⁰⁴ The Mongols attacked Vietnam and Champa, a kingdom centered in the Hue area of modern Vietnam, in 1281, and were defeated. They planned to attack again, but Qubilai, by then the Mongol ruler in China, died before they could in 1294. By land they also invaded Burma, and in 1292 Java. Defeated again, they still achieved maritime dominance in the Indian Ocean,¹⁰⁵ which proved enormously important for marine trade—the “maritime Silk Road,” with unprecedented movement of goods and people.¹⁰⁶

Thanks to inclusion in the Mongol Empire, China was once again closely connected with Central Asia, this time—the first and last time—in an empire that united the whole vast area into one realm. Peaking at *thirty-three million* square kilometers, the unified Mongol Empire was the biggest contiguous empire the world has ever known.

With the death of Möngke, the forces now tearing the Mongol Empire apart proved irresistible. Those ruling had no longer grown up together, and the forces tying them to local interest had become stronger than those holding the ruling elite together at an imperial level. The Golden Horde of Russia and adjacent areas had already become independent even before the death of Batu in 1255.

Hüle'ü now stood fast in Iran. His planned further advance into Mamluk Egypt had been stopped by a defeat. Mongol troops were wiped out by Mamluk horsemen at 'Ayn Jalut in modern Israel.¹⁰⁷ The Mongol advance was permanently broken, making this one of the key battles in world history.

In Mongol China, Qubilai, the middle brother of Möngke, was in charge. China was the richest area economically, and had the greatest military resources of all the areas under Mongol control. Qubilai quickly asserted himself as the next *qan*. To this end he held a *khuriltay*, assembly, of his supporters. Unfortunately for him, it was one not attended by representatives from most of the rest of the Mongolian world. Qubilai in China oversaw a fusion of foodways (and culture), as will appear below.

104 Buell and Fiaschetti, *Historical Dictionary*; Buell (2009), “Indochina, Vietnamese Nationalism, and the Mongols,” 21-29.

105 Buell, “Indochina”; Delgado (2010), *Kamikaze, History's Greatest Naval Disaster*; Delgado (2010), *Khubilai Khan's Lost Fleet, in Search of a Legendary Armada*; Bade (2013), *Of Palm Wine, Women and War, the Mongolian Naval Expedition to Java in the 13th Century*.

106 Ciociltan, *The Mongols and the Black Sea Trade*.

107 Buell and Fiaschetti, *Historical Dictionary*.

By the mid-1260s, the Mongol world was divided between five independent qanates, small empires of their own. Most significant was qanate China ruled by Qubilai (r. 1260-1294), who also asserted his influence over Mongolia, although his capital was shifted first to his princely residence in what is now Inner Mongolia (Shangdu) and then to an entirely new city, Daidu 大都, now Beijing 北京 (called Qanbaliq, “Qan City,” in Turkic).

In the Eurasian heartland was the Qanate of Qaidu. It preyed upon the Ca’adai Qanate, as did the Golden Horde, with occasional attacks also from Qubilai’s domains and the Ilqanate. Largest and most remote of the Qanates remained the Golden Horde, controlling Russia, adjacent areas and much of Siberia. It was too far away to attack or be attacked by Qubilai. Thanks to a revived Silk Road trade, it did make its economic influence felt.

In spite of the divisions in the Mongolian world, trade continued and even grew. Cultural exchanges taking place with trade were important. For the Silk Road, a particularly important aspect of land trade were new cities built near the Volga by the Golden Horde.¹⁰⁸ They were used by the Mongols of the horde to try and outflank trade coming from other areas, including China, which relied increasingly on maritime contacts and a revolution in maritime technology. They became key to the spread of foodways between West and East.

China was in those days the economic center of the world, as the account of Marco Polo makes clear.¹⁰⁹ Qubilai, already controlling the North, began a campaign that was to reunite China under a single ruling house for the first time since the Tang Dynasty (1276). Although the far south responded with a protracted resistance movement (1279), ultimately it failed. The last Song fleet was defeated in a naval battle. The type of battle itself marked a change in the thrust of Mongol China. On the ocean or not, it was not just Mongol allies who were engaged in the battle, but the Mongols themselves.¹¹⁰

Even before the final campaigns against Song, the Mongols began a two-stage campaign against Japan (1274 and 1281) which at first was based in Korea and later in the Chinese maritime ports as well. The attempt to conquer Japan failed.

The Ilqanate, the Mongol qanate in Iran, the ally of Qubilai, could not expand, due to the Mamluks and the Golden Horde blocking them. It still traded actively with Qanate China and other points. A route led from the southeast

108 Federov-Davydov, *The Silk Road and the Cities of the Golden Horde*.

109 Vogel (2012), *Marco Polo Was in China: New Evidence from Currencies, Salts and Revenues*.

110 Buell, “The Sung Resistance Movement, 1276-1279: The End of an Era,” *Annals of the Chinese Historical Society of the Pacific Northwest*, 111 (1985-6), 138-186.

coast of China to Iran, and then north via the Empire of Trebizond to Genoa and beyond.

The 14th century was an era of decline for the Mongols. By 1350 only two of the Qanates survived in more than name: that in China, which fell in 1368 to the Chinese Ming 明 Dynasty (1368-1644), and the Golden Horde in the far West. The Medieval Warm Period had given way to the Little Ice Age; temperatures by 1400 were back to the horrific levels of the 6th century, and the Mongol world could no longer mount a major military effort. The Silk Road was seriously impacted. Snow and cold closed the mountain passes. Also, colder weather meant less evaporation from seas, and less storm energy on land, so many of the deserts grew drier. The Little Ice Age fluctuated greatly in actual temperatures (the 16th century was warmer than the 18th). The Silk Road temperature kept declining until warming finally began again in the 19th century and continued through the 20th.

The past always looms large. Present realities, even the realities of regional nationalisms, tell us not only about the present but also about the past. The present has thus become a component of history, as seen from a long view, Braudel's *Longue durée*.

7 The Eurasian Heartland and Its Silk Roads in Mongol Times

Some background on the Silk Roads is necessary here for any general discussion of foodways in the Eurasian heartland as they existed during Mongol times and thereafter. The Silk Roads were so vital in moving people and goods, including food and foodstuffs before there were railways and paved highways.

The main land route across Central Asia has been known as the Silk Road since the German explorer F. von Richtofen gave it that name in 1877.¹¹¹ As Valerie Hansen points out,¹¹² the Silk Road neither started out to carry silk, nor was even a road. It was a network of caravan tracks, going through deserts, over mountain passes, around salt flats, and up and down dunes, and through the steppe. It changed with the weather and wind, and with threats from bandits and war conditions. It probably began as a network of trails taken by long-range nomads crossing back and forth looking for pasture or loot; some of the areas though through which the land Silk Road passed are too remote or too dry for effective use by nomads. Its glory days came when great empires held

111 Hansen, *The Silk Road*; Wood (2002), *The Silk Road, Two Thousand Years in the Heart of Asia*; Tucker (2003), *The Silk Road: Art and History*.

112 Hansen, *The Silk Road*.

its end points and when sea travel had not yet fully come to dominance. These were the centuries from the rise of the Roman Empire in the West to the days of Mongol conquests in the 1200s, and sea trade expansion in the 1300s (the routes appropriately called “maritime Silk Roads”).

Richtofen’s naming still was appropriate. Silk was indeed a major commodity, even by sea, and was often the standard of value. Bolts of silk typically served as currency, just as they were standard units of taxation in China for much of this time. Silk-making skills traveled over it from China to the West. According to a legend first noted by the Byzantine historian Procopius of Caesarea in the late 6th century, silkworm cocoons were hidden in the tops of monks’ staffs and smuggled across. This is fiction (for one thing, the larvae would not have withstood the journey), but clearly the skill involved in making silk did travel at some early point, along with the silkworm. The West, like India, had its own local wild silks, as we know from early tomb finds in Gaul and elsewhere. Such silk was hard to produce. Chinese silk was far superior in quality, and its worms were more productive.

Other products moving along the Silk Road were generally light-weight commodities of high resale value. These included products easy to preserve on the long road of ship on the seas, such as dried plant materials. These products were mostly “spices,” a term that encompassed a broader cross-section of commodities than it does now. Those herbal drugs immortalized by Dioscorides and Avicenna figured prominently. Involved in the Roman spice trade were many products; not all these moved by land or by the maritime Silk Road.

Among the most important¹¹³ known to have come generally via the Eurasian Heartland or at least overland included:

aloeswood
 large cardamoms (*Amomum* spp.)
 asafetida
 astragalus
 bdellium
 benzoin
 camphor
 white cardamom (*Ellettaria*)
 cassia and cinnamon
 cloves
 cyperus (*Cyperus rotundus*)
 fennel

113 Miller (1969), *The Spice Trade of the Roman Empire, 29 BC to AD 641* (Oxford, 1969).

fenugreek
 galangal
 galbanum (*Ferula galbaniflua*)
 ginger
 iris (cultivated and wild rhizomes for medicine)
 juniper
 lakawood
 lavender
 fragrant lichen
 meum (*Meum athamanticum*)
 mints
 narcaphthon (an unidentified aromatic)
 nutmeg and mace
 pennyroyal
 pepper
 putchuk
 sagopenum
 sage
 salvia
 samphire (rock fennel, *Crithmum maritimum*)
 sandalwood
 sarcocolla
 sesame
 southernwood
 spikenard
 sweet flag or calamus
 sweet rush or ginger grass
 turmeric¹¹⁴

Arabian spices such as frankincense and myrrh were important in the trade going the other way although the West got them more immediately and not via the distant silk road.¹¹⁵ Most of these “spices” had some culinary connection. Nonetheless many were purely aromatics or medicinals. Almost all are in Dioscorides.

Hansen¹¹⁶ would appear to be wrong in her assessment of the Silk Road as a thinly traveled route: “...the quantity of cargo transported along these treach-

¹¹⁴ This list is compiled for various sources. For an introduction see Laufer, *Sino-Iranica*.

¹¹⁵ Schafer, *Golden Peaches of Samarkand*; Laufer, *Sino-Iranica*.

¹¹⁶ Hansen, *the Silk Road*.



PHOTO 28 The Egyptian or Spice Market in Istanbul



PHOTO 29 The Egyptian or Spice Market in Istanbul



PHOTO 30 Spices and dried foods for sale in Ulaanbaatar, Mongolia

erous routes was small...the land Silk Road was shown as relatively...well-traveled, but it never was.”¹¹⁷ Her image of it reminds one of John Wesley’s cynical description of the path of wisdom: “A narrow path with here and there a traveler” (from the Wesleyan hymn “Broad is the Road,” referring to Jesus’ comments in Matt. 7:13-14). However true this is of the path of wisdom, it certainly does not describe the Silk Road in its glory days. Of course, “small” and “not well-traveled” are relative terms. We are not to expect Wesley’s path of error either: “thousands throng together there.” Nonetheless, the Silk Road had heavy and frequent traffic compared to Dark Age and Medieval Europe. For its time, it was a heavily used route. It was the most important long-distance land route in the world for those few centuries. Huge caravans traveled it, carrying everything from Buddhist scriptures bound for China to Chinese ceramics, including among the first blue and white ware traded, bound for Turkey. One source of the silk involved was Tang dynasty efforts to sustain its garrisons during the high-water mark of Tang power. Tang Dynasty garrisons in the Tarim Basin in the 730s and 740s “cost 900,000 bolts of silk each year to maintain.”¹¹⁸

¹¹⁷ Hansen, *Silk Road*, 5, 7.

¹¹⁸ Cunliffe, *By Steppe, Desert, and Ocean*, 351.

After the fall of the Tang Dynasty in 907, the Silk Road declined, but not immediately. Decline was partly due to troubles in one anchor of the route: Tang and post-Tang China, with its rebellions and disunity.¹¹⁹

It rose again, to greater heights than ever, during the Mongol period; the “*pax Mongolica*,” the Mongol peace, allowed it to get as crowded as it would ever be. At that time, with some hyperbole, “indeed, it was said a virgin carrying a gold urn filled with jewels could walk from one end of the empire to another without being molested.”¹²⁰

Chinese Turkic Christians traveled to Rome and Marseille.¹²¹ Almost at the same time Marco Polo traveled to China. And Marco Polo *did* get to China.¹²² The doubters point to Marco’s failure to mention the Great Wall—not surprising since it was built over a century after his death. He also failed to mention tea and footbinding, which merely proved that—as a foreigner—he was not allowed into the inner chambers of the elite; Mongols and ordinary Chinese then did not drink much tea (the Mongols had only begun to drink it) or bind women’s feet.

At this time, the Golden Horde cities of the Volga and nearby areas reached peak importance. Thanks to the investigations of German Federov-Davydov¹²³ and his teams, the archaeology of these cities is reasonably well known. They were large and well-provided, with some buildings enjoying such amenities as indoor plumbing and heat conduits in the floors. The extent of these cities and the evidence for the magnitude of their trade contradicts the claims of Frederick Starr¹²⁴ for a post-Mongol decline in the area, although the trade was necessarily directed north.

Related to the Silk Road, from earliest times, was a land route from Sichuan 四川 south into the mountains of what are now Yunnan and the outlying areas of Tibet, leading into India. This was already noted by Zhang Qian. The Mongols considerably expanded this contact and held advanced posts in Burma, Laos, and even as far south as Bengal, where land and maritime routes came

119 For a closely Tang-connected discussion of the Silk Road and Silk Road exchanges see Rong Xinjiang 榮新江 (2014), 中古中國與外來文明 *Zhonggu zhongguo yu wailai wenming*; Rong Xinjiang 榮新江 (2011), 絲綢之路與東西文化交流 *Sichou zhi lu yu dong xi wenhua jiaoliu*.

120 May, *The Mongol Conquests*, 109; a stock exaggeration, but indicating some real confidence.

121 Rossabi, *Voyager from Xanadu: Rabban Sauma and the First Journey from China to the West* (Tokyo, 1992).

122 See Haw’s meticulous dissection of his travels, Haw (2006), *Marco Polo’s China*; Vogel, *Marco Polo Was in China*.

123 Federov-Davydov, *The Silk Road and the Cities of the Golden Horde*.

124 Starr, *Lost Enlightenment*.

together.¹²⁵ The Ming, who lost interest in the maritime routes after the Zhenghe voyages, expanded these land connections still again. Very little research has been done about the trade moving along these internal Southeast and South Asian routes. A recent book that is both very scholarly and stunningly beautiful, *Tea Horse Road* by Michael Freeman and Selena Ahmed,¹²⁶ has finally provided a thorough and accessible look at a key part of this route. Freeman and Ahmed witnessed scenes that are probably much like those of Yuan times.

The land connections persisted. As late as the early 1400s, Ruy Gonzalez de Clavijo, ambassador to the court of Timur in 1403-6, wrote that the Chinese “say that they have two eyes, the Franks one, and that the Moors are blind, so that they have the advantage of every other nation in the world,” and that “From India come spices, such as nutmegs, cloves, mace, cinnamon, ginger, and many others which do not reach Alexandria.”¹²⁷ But the wars of Tamerlane—Muhammad Shuja Ud-Din Timur, called Timur Lenk, “Timur the Lame” (1336-1405) and his successors were horrifically bloody even by Central Asian standards. His tribal followers were in particular engaging in endless war and looting. The Mongols in their time had been able to protect the sedentary domains from tribal rapine. They did so by administering the main sedentary areas separately and sharing the revenues generated, so most of the princes saw little advantage in free looting. Tamerlane did this to only a limited extent. He chose instead to go out of his way to harm his enemies economically. Thus, the Golden Horde cities declined sharply after Tamerlane’s late 14th century invasion and soon disappeared, perhaps with help from bubonic plague (though this is controversial).

When Anthony Jenkinson, of whom more below, explored the route for England in the 16th century, he found it had become impractical as a trade route. “The ancient route through Khurasan [northeast Iran], extending from Persia to Europe, was...in a ruinous state, due partly to competition from the cheaper sea traffic and partly to animosity between the Safavids and their neighbours.”¹²⁸ The land Silk Road nonetheless continued to carry the old trade goods for local uses,¹²⁹ even though maritime trade took over the major

125 Vogel, *Marco Polo Was in China*.

126 Freeman and Ahmed (2015), *Tea Horse Road: China’s Ancient Trade Road to Tibet*.

127 Yule, *Cathay and the Way Thither*, 1, 264.

128 Eshraghi (2003), “Persia during the Period of the Safavids, the Afshars and the Early Qajars, 252.

129 Adle and Habib (2003), *History of Civilizations of Central Asia*, Vol. v: *Development in Contrast: From the Sixteenth to the Mid-nineteenth Century*.

share of trade between East Asia and the Western world. Indeed, highways and railroads still follow old Silk Route corridors.

Pegolotti, a bit earlier, noticing the trade, recorded masses of caviar in the Caspian Sea area. The caviar was often conveyed in the hide of the back half of a sturgeon. Pegolotti listed in all 288 commodities traded around that sea, including saffron, clove, cubebs, signaloes, rhubarb, mace, long pepper, galangal, camphor, nutmegs, cardamoms, and scammony.¹³⁰ After Tamerlane this was mostly gone. The land trade routes of the Eurasian heartland were less and less significant as time passed, although local trade persisted.

8 Food and Medicine in Mongol Times

Apparently, in Medieval times, Central Asians, at least the sedentary ones, had a bit of a reputation for eating. One early Arab writer asked, in his imagination, what is true satiety in eating. The Sufi answers that one cannot know. A man from Medina says he has never experienced it. And so it goes, through various stereotypic characters. The man from Samarkand forthrightly says: "When your eyes bulge, your tongue is numb, your movements are heavy, your body teeters, your reason has left you, this is the beginning of satiety." He is then asked: "If this is the beginning, then what is the end?" He answered: "That you are split into two halves."¹³¹ One is reminded of the Mexican saying: "Eat till you burst, drink till you pass out, anything more is excess!"

Cooking was of high import and prestige. The necessary lavish feasts were the great driver of this, but another was medicine. Most of the modern strictures about overeating, overdrinking, sweets, fats, and so forth were already well-known, and nutritional and diet therapy were highly developed. This was especially true of the Hippocratic-Galenic medical tradition in the West and the mainstream Chinese medical tradition in the East. Both had alternatives: shamanism, spirit curing, alternative medical schools, alchemy (which had a medical side), and others. It is no accident that the most rational, logical and food-conscious traditions won out in both areas. Starvation was common and so was overeating. No one in Central Asia was a stranger to hunger: princes and *qan* had to learn to temper their appetites; commoners had to learn to survive on wild plants and tree bark; and nomads also had to practice moderation

¹³⁰ A medicine; Yule, *Cathay and the Way Thither*, IV, 169.

¹³¹ Van Gelder (2000), *God's Banquet: Food in Classical Arabic Literature*, 35-36; evidently both food and alcohol were involved.



PHOTO 31
Milking mares

except for the fermented mare's milk, when it was in season. And everyone had to know what was healthy, and what was not.

Thomas Allsen picks up this thread. A Mongol Bolad was what is usually translated as “cook,” *ba'urchi*. “Provider of delicacies” would be a better translation; it stems from the word for liver, *ba'ur* in Middle Mongolian (*chi* is Mongolian for “one who works with [something]”). Like most elite Mongols associated with the court (in China) Bolad had multiple offices. One was in the imperial bodyguard, where he was a hereditary *ba'urchi*. His post and responsibilities were most important ones. The threat of poisoning or of assassination by a suborned cook was a very real one. Also, the *ba'urchi*, as we know from the *Secret History of the Mongols*, in most cases sat quite close to the *qan*, within striking distance as it were, in a place of high honor. The Bolad's power did not stop with his bodyguard office. He also functioned in the late 13th century as a major courtier and diplomat,¹³² as well as Director of Imperial Household Provisions. This was not unusual, and most members of the Mongolian bodyguard in China had interior bodyguard and exterior offices at the same time. The former could be quite minor and the latter quite exalted as in the case of Bolad. He is

132 Allsen (2001), *Culture and Conquest in Mongol Eurasia*, 59-80, 134.

most noted, by the way for his journey to Mongol Iran as Qubilai's official ambassador.

Bolad probably followed Chinese practice in being both cook and medical nutritionist, and while in Iran probably provided substantial input to the polymath Rashīd al-Dīn (ca. 1250-1318), a Persian convert to Islam from a Jewish background, and a *tabīb*, a medical doctor.¹³³ Rashīd was a compulsive writer and knowledge gatherer. He did not neglect food. Attributed to him is a major work on Chinese and Central Asian agriculture, the *Āthār va Ahyā'*, "Traditions and Tribes" which draws on Chinese agricultural manuals.¹³⁴ This book introduced a great deal of knowledge of rice, silkworm, and other cultivation to the Muslim West. It also deals with jujubes, lychees, and other items not known to most of the Muslim or Western world, and with tea, which was then *cha*—it had not yet become Persianized as *chai*, apparently.¹³⁵ Rashīd also described, very accurately, the Chinese lotus and its uses as food, the use of bean starch for noodles, and other items.¹³⁶ Chopsticks were known in the West by this time,¹³⁷ as were many forms of rice, pasta (but mostly from the Muslim World and not China), and other common commodities.

Rashīd al-Dīn founded a hospital in Tabriz; his letters call for yearly supplies of 15,000 pounds of oils and 5000 pounds each of "aniseed, agaric, mastic, lavender, dodder, and wormwood."¹³⁸ Even if these are exaggerated, they give some idea of the extent of medicines used in Iran in those days. By this time, many Indian and Buddhist influences had reached the West, often through the Silk Road communities.¹³⁹ One hugely important medieval introduction was rice, still valued in bland, digestible diets. It spread from India to Iran, Mesopotamia and Egypt in the early middle ages, and thence to Europe. Rashīd brought up-to-date information about its cultivation and possibly new varieties, from China to Iran.

One example of Central Asian medicine, from a slightly later time, is the Chinese hospital manual of Arabic Medicine surviving from the Mongol Period, *Huihui yaofang*, "Muslim [or West Asian] Medicinal Recipes (HHYF)." The

133 Kamola (2019), *Making Mongol History: Rashid al-Din and the Jami' al-Tawarikh*.

134 Very likely the *Nongsang Zhiyao* 農桑輯要, "Important Things for Farming and Sericulture," of 1273; See Allsen, *Culture and Conquest*, p. 117-119; Lambton, "The *Āthār wa Ahyā'* of Rashīd al-Dīn Fadl Allāh Hamadānī."

135 Allsen, *Culture and Conquest*, 120, 121-126.

136 Allsen, *Culture and Conquest*, 135.

137 Cf. also Golden, "Chopsticks and Pasta in Medieval Turkic Cuisine," *Rocznik Orientalistyczny* 44 (1994), 73-82.

138 Elgood (1951), *A Medical History of Persia and the Eastern Caliphate from the Earliest Times until the Year AD 1932*, 312.

139 Beckwith, *Warriors of the Cloisters*.

text is very much part of the mainstream Greek and Arabic traditions (Galen is even named using the Arabic form of his name, Jālīnūs). This is probably not its original name, but one assigned by Ming 明 Dynasty editors. Internal evidence suggests that the present *HHYF*, some 500 pages of manuscript, was once part of a vast encyclopedia of Arabic medicine. This encyclopedia was around 3200-3500 pages when intact, and was possibly used as a general hospital manual of the type well known from the Muslim West.¹⁴⁰ The Ming version exists in two manuscripts: one in Beijing containing 4 *juan* 卷 out of what once were 36, and another even more fragmentary, in a regional library. There are two published editions of the Beijing 北京 manuscript, by Y.C. Kong (江潤祥,) (1996)¹⁴¹ and Song Xian 宋峴 (2000) reselectively.¹⁴²

One or several of the major works from the oasis cities were probably the sources for the material. There was also, probably, material directly from Ilqanate Iran. Some sources may be surmised. Indirect influence came from Al-Bīrūnī and Avicenna. Shams al-Din of Samarqand's 13th-century medical work¹⁴³ seems surprisingly unrelated. One possible source appears to have been Sayyid Isma'il Jurjānī's *Zakhīra-i-Khwārazmshāhī*, "Thesaurus of the *Khwārazmshāhs*," a monumental 12th century Persian work very important in Central Asia at the time, but lost today.¹⁴⁴ If the *HHYF* did not rely on the *Zakhīra-i-Khwārazmshāhī* directly, then it likely did on one or more of that work's own largely-lost sources.

In terms of human agency, since books usually do not travel by themselves, one or more transmitters must have been particularly significant. In the case of the *Huihui Yaofang*, the likely person most involved was the Syrian 'Isā (Aixie 愛薛), probably speaking a variant of Syriac. 'Isā was an important figure in Qubilai's China. He held high ministerial posts in Mongol Iran, where he went as an ambassador.¹⁴⁵ 'Isā is not only known to have been directly associated with the Arabic medicine institutions of Mongol China, but to have been a doctor himself, and to have founded these very institutions. They belonged to

140 See as an introduction Lev and Amar (2008), *Practical Materia Medica of the Medieval Eastern Mediterranean According to the Cairo Genizah*.

141 Jiang Runxiang(Y.C. Kong) (1996), *Huihui yaofang ji youguan lunwen shuying* 回回藥方及有關論文書影., *Huihui yaofang*.

142 Song (2000), 宋峴, *Huihui yaofang kaoshi* 回回藥方考釋, two vols. This edition includes an extensive Chinese-Arabic glossary and textual explanations in some depth.

143 Levey and al-Khaledy, *The Medical Formulary of Al-Samarqandī*.

144 Elgood, *A Medical History of Persia*.

145 And returned, see Allsen, *Culture and Conquest*; Buell, "How did Persian and Other Western Medical Knowledge Move East, and Chinese West? A Look at the Role of Rashīd al-Dīn and Others," *Asian Medicine, Tradition and Modernity*, 3 (2007), 278-94; Weng (1938), "Ai-hsieh: A Study of His Life."

Isā's family before they became national. As much as anyone, 'Isā introduced Arabic medicine to the Mongols, and was a go-between between Mongol China and Mongol Iran. Is it so farfetched to assume that he came back to China with a satchel full of medical books?

Noteworthy are the *HHYF*'s direct connections to Central Asian sources, including most of its descriptions of drugs. In fact, the book is probably a translation of now-lost Central Asian sources. The following discussion of castoreum is but one example. In typically Arabic Medicine style, the text not only tells the value and details the classification of the medicinal, but even tells how to tell the real product from the fake, and how to counter potential poisoning, frequent concerns in other Arabic medicine texts. The product itself is called for repeatedly in the recipes of the manual found in other sections of the book. (Castoreum actually came from a gland near the genitals, not from the testes.):

For an ingredient take *gundbidastar* [castoreum], another name is *mīyān-e khizā* ["middle of (beaver's) testicle."]. This is castoreum. Rub this material on the body. It can cause body heat to dissipate, and disperse its wind. All castoreum has a pair of attached skins. This is the real thing. Castoreum with only a single attached skin is mostly fake. The fake uses *Jāwashūr* [resin of *Opopanax chironium*] ([Subtext] *Jāwashūr*) and *ṣamgh 'arabī* [gum arabic, including from *Acacia sperocarpa*] ([Subtext] This is a resin found in a plum tree in the Arabī land). Take a little castoreum and grind up completely. Combine with blood, and store inside of a bladder. When sun dried then it holds the false castoreum. Also, castoreum, in terms of its original nature, is third to fourth rank in being heating, is class two in producing drying. Also, when castoreum has a dark color approaching black, it is then a poisonous substance. If people take it, they must have damage from this. However, although it does not do damage, it will produce *sarsān* [brain membrane fever] head swelling symptoms ([Subtext] Also symptoms of mental confusion). One needs to counteract the poison. Take juice squeezed from an orange, or vinegar made from grapes, or donkey milk and consume it. All can counteract [the poison]. If one uses other medicinals, do so along with these substances. If one lacks these substances it is also possible to use sweetflag rhizome or black pepper, [143] half the quantity, as replacements (12, 142-3).¹⁴⁶

Most of the 121 food and animal items and almost 300 herbal categories in the *HHYF* are discussed in Avicenna. Quite a few are also Chinese. Most of these appear to be local substitutes for unavailable West Asian drugs. Some are used in Chinese ways, showing that the doctors who compiled the *HHYF* were quite willing to fuse traditions. The following is a typical recipe from the text (complete with subtexts often including Arabic-script entries):

A Jālīnūs [Galen] ([Subtext] This is an ancient Muslim medical man) proven recipe. It can treat tendon artery swelling epidemics such as [Ar.] *faliqamūniyā* [phlegmonia] swelling ([Subtext] *faliqamūniyā*). If used the swelling will be aided.

Qalqadīs [red oxide of iron, iron pill] ([Subtext] This is dried yellow potash alum. One *qian* 錢, one and a half *fen* 分.)¹⁴⁷

“Golden thread soda” ([Subtext] Nine *qian*, four and a half *fen*)

Copper powder ([Subtext] Two *liang* 兩, two and a half *qian*)

Frankincense skin ([Subtext] One and a half *liang*)

Bārzad [galbanum, resin of *Ferula galbaniflua*] ([Subtext] *bārzad*. One *liang*)

Yellow wax ([Subtext] Seven *liang*)

Za’it [olive] oil ([subtext] This is oil produced from the *za’itun* tree [olive tree] tree of the Shāmi [Syria] land. Nine *liang*)

Grape liquor vinegar ([Subtext] 45 *liang*)

[436] First take the dry medicines and grind for ten days. Afterwards take the powdering medicines and after powdering, combine. Propagate to the entire system where there is a wound. Do it twice a day or three times. When using the medicine also add warm or hot *za’it* [olive] oil on top. After that take a fur cloth and dip the vinegar with the *za’it* [olive]. Warm-hot apply to around the place that is wounded. Moreover, one must tabu [exposure to] cold and chill. The reason is that which the tendon arteries fear is only chill together with stiff things (34: 435-36)¹⁴⁸

While Western medicine was flowing to China, Chinese medicine was flowing west. The *Tanksūq-nāma-yi Ilqānī dar funūn-i ‘ulūm-i Khitāy*, “Treasure book of the Ilqans on the Sciences and Learning of China,” probably slightly earlier

147 A *qian* is today about 3.12 g and a *fen* maybe one-tenth of that. A *liang* is 10 *qian*.

148 Translation by author Buell, from Buell and Anderson, *Arabic Medicine in China: Tradition, Innovation and Change*.

than the *Huihui Yaofang*, contains a translation of a Chinese book on pulse diagnosis¹⁴⁹ as well as much about Chinese foods and medicinals. Rhubarb, white pepper, cassia (Chinese cinnamon), and other Chinese nutraceuticals were introduced to the West.¹⁵⁰ East Asian rice and rice-growing technology also spread west, presumably with nutritional beliefs associated. Europe and Africa had their own native rices; these continued to be cultivated even if the East Asian (and Indian) variants were better.

Iranian medicine, which continued to influence that of the Eurasian heartland, has been chronicled by Cyrus Elgood, who supplies a great deal of information on medicinal eating and drinking.¹⁵¹ Iran is still firmly committed to heating and cooling—*garmi* and *sardi*—as basic medical realities, as described in detail by Jill Benham.¹⁵² Humoral medicine is alive and well in much of the world.

By the time of the Mongol conquests, what with all the travelling and cultural exchanges of the period, our witnesses proliferate. Books, including recipe books and home encyclopedias, become important too.

A rare Chinese record of Mongol food was provided by the Daoist monk Changchun 長春, who was summoned to the court of Genghis Khan to inform him about Daoism. He found himself fed on barley and millet, melted butter, and clotted milk; wheat flour was brought from afar, and was expensive¹⁵³ Later, the Uighurs regaled him with melons and watermelons, as well as vegetables similar to China's; they called one fruit *a-li-ma*, *alma*, Turkic for "apple"¹⁵⁴. Farther on, the Daoist's party reached Samarkand, where he had rice, flour, salt, oil, and oasis foods, as well as wine.¹⁵⁵ On the steppes there were no such fruits and vegetables. Changchun made the acquaintance of almond trees: "They are like small peach-trees. In the autumn the fruit is picked and eaten. It tastes like walnuts."¹⁵⁶ He also met with impressively large purple eggplants¹⁵⁷ And, of course, kumiz was served.¹⁵⁸

At this point we must turn to European observers. There is a lack of more detailed accounts by Central Asians of the time.

149 Allsen, *Culture and Conquest*, 145.

150 Allsen, *Culture and Conquest*, 153.

151 Elgood, *A Medical History of Persia*; Elgood (1970), *Safavid Medical Practice*.

152 See Benham, "Is That Hippocrates in the Kitchen?," *Oxford Symposium on Food and Cookery 1984-85, Proceedings* (1986), 102-114. We have heard the same from Iranian students.

153 Waley, *the Travels of an Alchemist* (London, 1931), pp. 66-71.

154 Waley, *the Travels of an Alchemist*, 83-85.

155 Waley, *the Travels of an Alchemist*, 94.

156 Waley, *the Travels of an Alchemist*, 96.

157 Waley, *the Travels of an Alchemist*, 106.

158 Waley, *the Travels of an Alchemist*, 111.

William of Rubruck, who went all the way to Qaraqorum, has left one of the finest ethnographies ever written on the Eurasian heartland and the Mongols. He has a great deal to say about liquor use among them. Rubruck, for example, notes that the “Tartars”—a term he uses for Turks and Mongols indiscriminately—had effigies in the *ger*, and:

When they gathered for drinking, they first sprinkled some of the drink on the effigy above the master’s head, and then on the other effigies in succession. Following this the steward leaves the dwelling with a goblet and some drink, and sprinkles it three times towards the south, genuflecting each time, in honour of fire; next towards the east, in honour of the air; next towards the west, in honour of water; and some is thrown towards the north for the sake of the dead.¹⁵⁹

Daily sprinkling milk or liquor to the four directions—the *tsatsal* ritual—is still done in every traditional home in Mongolia (see below).

Rubruck reported “*comos*” (kumiz) as the usual drink. More specifically, “In the winter they make, using rice, millet, wheat and honey, an excellent drink, clear like wine, and wine [itself] is brought to them from distant parts. In summer *comos* is all they care about.”¹⁶⁰ Paul Pelliot thought the grain drink was just the cooking water from the grains, but it is evidently beer or ale, made with the grains themselves. They lived on *comos* as much as possible. It was made by milking the mares with their foals beside them, as is still done in many areas. They then put it in a bag and churn it to get the butter before fermenting it. “While one is drinking it, it stings the tongue like *râpé* [low-grade] wine, but after one has finished drinking, it leaves on the tongue a taste of milk of almonds.”¹⁶¹ *Caracomos*—black kumiz (*kara kumys* in Turkic)—is kumiz allowed to stand till the solids precipitate out (this probably took some procedure Rubruck does not record). The slaves eat the solids; the clear remaining liquid is the black kumiz. They also use cow’s milk, churning out the butter and souring the rest. Today it is often distilled, the cow’s milk more than mare’s milk. They also boil kumiz down for the curds Rubruck calls “*grut*,” the Turkic *grut*.

In his account, Rubruck continues to give a most unflattering picture of “Tartar” drinking and drunkenness. His images of their food are not much

159 Jackson and Morgan (1990), *The Mission of Friar William of Rubruck, Journey to the Court of the Great Khan Möngke* (London, 1990), 76.

160 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 76.

161 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 81; that is Author Anderson’s impression of it too.

better: “They eat all their dead animals indiscriminately.”¹⁶² “With the meat of a single sheep they feed fifty or a hundred men: they cut it up into tiny pieces on a dish along with salt and water (since they make no other sauce)...,”¹⁶³ and eat it with small forks.

He does admit some good: “With the horses’ intestines they make sausages that are superior to pork ones, and eat them when fresh.”¹⁶⁴ People eat what is assigned, taking some home if necessary:

The great lords own villages to the south, from which millet and flour are brought to them for the winter.... The slaves fill their bellies with dirty water, and with that rest content. They [all the Tartars, not just the slaves] also catch mice, of which there are a great diversity and a plentiful supply. They do not eat mice with long tails, which they give to their birds [falcons] instead; dormice they consume, and every kind of mice with short tails. In addition there are plenty of marmots there...twenty or thirty at a time collect in one hole and sleep for six months; of these they catch a great number. Also to be found there are conies [*cuniculi*] with long tails like a cat, which have black and white fur at the end of the tail.¹⁶⁵

The long-tailed mice would be regular rats and mice; the short-tailed ones would be hamsters (*Cricetidae*), pikas (*Ochotona*, which are short-eared rabbits), probably voles (*Microtus*, many species), and possibly other genera. The dormice would be any of several genera in the family *Gliridae*. The “conies” are identified by their two-tone tailtips as jerboas (*Dipodidae*); they are not related to rabbits (*cuniculi*), even though, like them, they have long ears and hop. The Mongols had plenty of choice; Central Asia is an enormous center of rodent diversity. One assumes that ground squirrels (*suslik* in Russian; *Sciuridae*) were also eaten, since they abound in the area. Giovanni di Plano Carpini and many readers have expressed a low opinion of Mongol mouse-eating, forgetting dormice were delicacies in old Europe. Marmots (*Marmota*) still are eaten in much of their range, which includes parts of United States and Canada. In Central Asia today, this can be dangerous, since marmots are important vectors of bubonic plague, although apparently not in Mongol times since our sources say nothing about this.

¹⁶² Jackson and Morgan, *The Mission of Friar William of Rubruck*, 79.

¹⁶³ Jackson and Morgan, *The Mission of Friar William of Rubruck*, 79.

¹⁶⁴ Jackson and Morgan, *The Mission of Friar William of Rubruck*, 79.

¹⁶⁵ Jackson and Morgan, *The Mission of Friar William of Rubruck*, 84.

Rubruck saw no deer. Instead he saw a few hares and many gazelles,¹⁶⁶ as well as wild asses (kulan, *Equus hemionus*) and “arcali” (argali) sheep.¹⁶⁷

On the Don he saw rye (he calls it *siligo*) bread. This account of rye and millet growing is possibly the first reference to rye in Central Asia.¹⁶⁸ Wheat did not flourish under the cold, dry conditions.

Rubruck heard that “towards the Northern Ocean dogs are used, on account of their great size and strength, to draw wagons, like oxen;”¹⁶⁹ this is an early reference to sled dogs, distorted by indirect transmission. The annotators of the modern edition of Rubruck dismiss as “legend” a perfectly reasonable statement about the huge dogs of the Alans, and their ability to attack even bulls and lions. The Alan or “Alaunt” dogs were famous in Medieval Europe for those characteristics. Their modern relatives, such as the Turkish kangal, are truly daunting animals.

Rubruck himself was continually short of food when traveling. He and his companions had brought a great deal of “biscuit,” which were largely for gifts and used to subsist on. They got millet, millet soup, meat with broth, and rarely other things; the meat was often nearly raw from lack of fuel to cook it. There was no way to avoid meat on Catholic fast days. At the great Khan’s court, they got, for one week, “one small, scrawny ram...and each day a bowl full of millet and a quart of ale made from millet;” all of which they had to share with destitute local people.¹⁷⁰ They also got fried millet,¹⁷¹ unleavened bread, and “*pasta*,” dough cooked in water with butter or milk.¹⁷² Interestingly, Rubruck’s observations confirm those of Chang Chun.

They did better occasionally, being at one point regaled with “wine, *terraccina* (rice wine), or *caracomos* (“black kumys,” distilled kumys) ... or *bal* (honey mead).”¹⁷³ Rubruck noted especially the fondness for drink of the Nestorian Christian clergy. When Rubruck and his group were given wine, everyone, including the Nestorian clergy, “who spent the entire day drunk at court,” crowded around for a share, “with the utmost effrontery, like dogs.”¹⁷⁴ He disliked the Nestorians not only as heretics but also as people. (Franciscan though he was, Rubruck was very often pushed beyond Francis-like tolerance.) They claimed,

166 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 84.

167 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 85.

168 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 109–110.

169 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 130.

170 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 188.

171 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 191.

172 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 204.

173 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 178; see also 191.

174 Jackson and Morgan, *The Mission of Friar William of Rubruck*, 197–198.

among other things, to have some of the flour used by Jesus himself. They made their Communion host from it, “and they always replace the same quantity as they remove.”¹⁷⁵ Rubruck saw the irony.

The most famous passage in Rubruck is his description of a vast booze dispenser made by his friend William Buchier of Paris, a goldsmith who had somehow gotten to the Mongol court. It shows that the Mongol already liked their liquors and had a variety of them available:

William of Rubruck on Mōngke-qan's Tree of Life

Mangu himself has a great court at Caracarum near the walls of the town. It is closed off by a brick wall, just as the priories of monks [are closed off] among us. There is a large palace there in which Mangu holds his drinking parties twice a year, once around Easter when he passes by there, and once in the summer when he returns. And the second drinking party is the greater since on that occasion there convene at his court all the nobles from anywhere as far away as two months' journey. And on that occasion he bestows attire, and favors, and shows his great glory. There are there many other houses, long as barns, in which are stored his food provisions and treasures.

At the entrance of this great palace, because it would be unseemly to introduce skins with milk and other drinks, master William of Paris made for him a great silver tree, at the roots of which are four silver lions each having a channel spurting out white mare's milk. And pour pipes are led into the tree leading to the summit of the tree, and the tops of the pipes are bent back downwards and over each of them is a gilded serpent, the tails of which envelop the trunk of the tree. And from one of these pipes pours forth wine, from another *caracosmos*, that is, clarified mare's milk, from another *boal*, that is, a honey drink, and from another rice beer, called *terracina*. And for each drink there has been prepared at the foot of the tree its own silver vessel for receiving the drink, between the four pipes. At the very top master William has made an angel holding a trumpet, and below in the tree he made a crypt in which a person can hide. And a channel ascends through the middle of the heart of that tree as far as the angel. At first master William made a bellows, but it did not provide enough wind. Outside the palace there is a room in which the drinks are stored, and there stand there officers ready to pour them whenever they hear the angel trumpeting. And the tree has silver branches and leaves and fruits.

¹⁷⁵ Jackson and Morgan, *The Mission of Friar William of Rubruck*, 214.

Therefore, whenever there is need of drink, the master of the waiters calls to the angel to sound the trumpet. Whereupon, the one who is hidden in the crypt, hearing this, blows strongly into the channel leading to the angel, and the angel puts the trumpet to its mouth, and the trumpet sounds extremely loudly. Whereupon, the officers in the room, hearing this, each of them pours out his drink in the appropriate channel, and the pipes pour them from above and below into the vessels prepared for that purpose, and thereupon the waiters draw them and bear them through the palace to the men and women.¹⁷⁶

He also has left us a description of Mongol “grut” (*grut*), using the Turkic and not the Mongol word *aruul* for the product.¹⁷⁷ This is also translated below:

William on Rubruck on Cheese and Cheese-making among the Mongols

The left-over milk which remains from the butter they permit to sour as sharp as it can, and then they boil it so that it coagulates from the boil and what coagulates they dry in the sun. Thereby they make it become as hard as iron slag and this they store in bags for use in the winter. During the winter when they are short of milk, they put this sour coagulant which they call *grut* into a skin bag and pour hot water on top...and this liquid they drink in place of milk.¹⁷⁸

Writing half a century after William of Rubruck, Marco Polo (1254-1324) has less to say about individual foods. Instead he makes up for it in detailed discussions of such things as drinking and eating ritual. From his account, it is extremely clear that such social ritual and eating were of great importance in and of themselves, and for the exchanges of clothing and goods that took place during them, resulting in veritable potlatches.¹⁷⁹

Among things consumed at court were the new distilled liquors almost universally known in the Mongol world as *arkhi*, still a widespread word today, from Indonesia to Turkey. The drinks were in use earlier, but the earliest occurrence of the word *arkhi* is in the liquor section of the imperial Mongol dietary *Yinshan Zhengyao* 飲膳正要 of 1330, thus dating the word (but used is a palatalized Turkic form, *araji*). It is derived, ultimately, from the Arabic word *araq*,

176 Buell, et al., *a Soup for the Qan*, p. 33-34; from William of Rubruck edition, van den Wynngaert, *Sinica Franciscana, I, Itinera et Relationes Fratrum Minorum, saec. XIII et XIV* (1929), 276-7. Translation by author Buell.

177 See Oskanbay (2016), pp. 205-07

178 Edition *Sinica Franciscana*, IV, 6.

179 See, as an introduction, Allsen (2019), *the Steppe and the Sea, Pearls in the Mongol Empire*.



PHOTO 32
Grut

“to sweat,” referring to distillation. Besides *arkhi* itself, the *rszy* also lists other distilled liquors. Stills used to make *arkhi* appeared even earlier, and there are actual archaeological examples surviving.¹⁸⁰

Marco Polo on Feasting at Qubilai-qan’s Court in the late 13th Century:
And when the Great Kaan has his table for any formal court occasion, he sits thus; for his table is considerably higher than the others. He sits positioned to the north so that his face is directed south, and his primary wife sits next to him on his left side. And on his right side, a little lower, his sons sit; and his nephews, his relations, those who are of the imperial line. And they are so low that their heads are at the level of the feet of the grand lord. And after that the other barons sit at tables still lower. And the same thing is true for the women; for all the wives of the sons of the overlord and of his nephews and of his other relations sit on his left side, but lower. And next sit all the other women of the barons and of the knights, still lower; for each sits in his place as ordained by the overlord. And the tables are [arranged] in such a manner that the grand lord can see them all, from one head to the other, such as there are in such very great numbers. And outside of this hall there are more than 40,000 persons; for many people come bearing many presents for the overlord. And these are people from foreign countries who bear foreign things.

180 Feng (2012), “Liquor Still and Milk-Wine Distilling Technology in the Mongol-Yuan period,” 487-518; Valenzuela-Zapata, Buell, de la Paz Solano-Pérez, and Park Hyunhee, “Huichol Stills: A Century of Anthropology—Technology Transfer and Innovation,” in *Crossroads* 8 (2013), 157-191.

And in a certain place in this hall, where the Great Kaan has his table, there is a pot of fine gold which contains easily as much wine as a large cask. And at each corner of this great pot there is a similar smaller one, so that the wine from the great pot goes into the smaller ones which surround it, likewise full of good beverages [made from] very fine spices of great quality. And the wine is drawn from there with handleless bowls of fine gold, which are easily so large that there would be enough for ten persons to drink. And one of these bowls is set between every two persons, as well as two other small drinking goblets with handles, so that each gets wine from the bowl placed between the two. And the same arrangement holds for the women. You should know that these bowls and goblets are worth a great treasure; for the Kaan has such a great quantity of such dishes and other things of gold and silver such as no one would dare claim; and no one would believe unless they have seen.

And know that those who serve the Great Kaan with food and beverages are various great barons. And their mouths are covered, likewise their nostrils, with beautiful napkins of gold and silk in order that their breath, nor their odor, enters neither into the food, nor into the beverages of the great lord. And when the grand lord would drink all the instruments, of which there are a great quantity there of every manner, begin to sound. And when he takes his cup in hand, all the barons, and all of those who are present, kneel down and give indication of great humility. And then the great lord drinks and each time that he drinks it is done just as you have heard.

Concerning the foods I will say nothing since each of you must believe that there is an abundance of every manner.¹⁸¹

By Marco Polo's time, or shortly there after, among the major written sources available to us is the 14th century household manual *Jujiabiyongshilei* 居家必用事類. Translated as "Things that One Must Use when Living at Home," it is multi-volume, and appeared in a number of editions. It provides substantial confirmation of what the travel accounts tell us: not only information on the culturally-mixed foods of the time as consumed by Chinese, but also purely Mongolia and Turkic foods. Many of these also appear in the *Yinshan Zhengyao*. Among the samples given below (and there are many other examples of such foreign recipes from the *Jujiabiyongshilei*), we find the following recipes: sweets, one a *börek*, one a honey paste, a classic *halwa* (as that is still eaten today), and a *güllach*, "flower food" (a proto-baklava). There is also a recipe for

181 Pauthier (1978), *Le Livre de Marco Polo*, 279-82. Translation by author Buell.

fritters. Also described is a stuffed noodle, *tutum-ash*; this version of the recipe does not make it clear that this is usually a large, stuffed noodle flavored with yogurt. (We have already encountered *Tutmāj*, a variant, above. It can also be noodles in a yogurt soup.) There are several classic Iranian stews, and the unique “West of the River Lungs.” There is a sour soup made with *mei* 梅, Chinese sour apricots.

Like most classic recipes, a great deal is left up to the cook. Spices are, in fact, barely mentioned. Fortunately, we know some standard combinations from elsewhere in the *Jujiabiyongshilei*. One such combination calls for processed stinking elm (*Ulmus macrocarpa*; the seeds were used, probably fermented), lesser galangal (*Alpinia officinarum*), long pepper (*Piper longum*), greater galangal (*Alpinia galanga*), small and large cardamoms, Sichuan peppercorns (*Zanthoxylum* sp.), dried ginger, roasted cinnamon, dill (under an Arabic name, *zhira*), fennel, Mandarin orange peel, and apricot kernel. All are typical Chinese spicing, but many are also exotic South Seas spices. A more Chinese spice combination calls for parsley (under an Arabic name), black pepper, fennel, dried ginger, cinnamon, and Sichuan pepper (see the *Jujiabiyongshilei*, *juan* 卷 14).

“Muslim” Foods in the Household Encyclopedia *Jujiabiyongshilei* (*quan ji geng ji*) 居家必用事類 (全集庚集), ch. 13, 17A-19B¹⁸²

1. [Turkic] *Chäkärli Piräk* [“Sweet *Börek*”]

Recipe: Walnuts, 32 Chinese ounces (remove walnut skins using warm water). After cleaning and drying pulverize in a mortar, add 16 Chinese ounces of cooked honey and 16 Chinese ounces of roasted *kürshäk* {millet} cakes crushed in the hand. Combine ingredients evenly and work into small patties. Use roasted *kürshäk* cakes to adjust consistencies of the patties. Use dough skins to cover the patties. Knead into [Persian] *sanbusak* [*samosa*] shapes. Put into the oven and cook stuck on the walls of the oven until done.

2. Rolled Thin Pancakes

Recipe: Spread out thin [dough] wafers. Prepare for use walnuts, pine-nuts, peach kernels, hazel nuts, tender lotus seeds, dried persimmons, lotus rhizome, ginkgo fruits, prepared chestnuts, and *badam* [Persian for almonds]. Excluding the yellow of the chestnuts, later to be cut into strips. Chop ingredients finely. Combine with crystallized honey. Add the following: minced lamb, ground ginger, salt, and onion. Combine. Make a filling. Put into the thin wafers and fry in oil.

¹⁸² Translation by author Buell.



PHOTO 33
Sweet Börek

3. *Kogurma*
First cook a sheep's head. When it has been cooked to pieces, bone. Add chick peas to the juice. When they are cooked and soft, add powder of glutinous rice to form the *kogurma* paste. Add butter, honey, pine-nuts, and walnuts. Mix evenly and serve.
4. "Sour Soup"
Take *wumei* 烏梅 (black—i.e. pickled—*mei* 梅), as many as you want, sugar, and vinegar, and boil together until well done. Remove dregs and *wumei* kernels, and put into a sand pot. Add honey. Taste to test the balance of sourness and sweetness. Add pulverized pine-nuts, walnuts, and cream. Bring to a boil. The walnuts will turn black from exposure to the *wumei*. Use a meat broth for the broth. Adjust flavors again. Served with cooked mutton ribs and knuckles, meat kebabs, and chick peas.
5. *Tutum-ash*
These are similar to *salma* ["water polished noodles"]. Combine ingredients to make small balls. Trim and allow to soak up water. Work with the hand into small thin cakes. Put into the pot and cook until done. Remove from the pot. When the cakes have absorbed the juice, fry "sour meat" [meat basted and cooked with yogurt, a standard Central Asian delicacy]. Eat as desired.



PHOTO 34
Sour soup

6. *Baldy* ["Honeyed"]
Take one large cup of water and bring to a boil. Add 8 Chinese ounces of honey. Remove the froth. Take 6 Chinese ounces of bean power and mix into a paste. Put into a pot. Watch the consistency of the paste adding water where necessary. Cook using a dish and sesame oil. Oil the pan. Baste with butter when ready. Slice with a knife and eat.
7. *Halwa*
Roast dried flour. Spread out and roast again. Add honey and a little water. Stir to form the halwa and cut into slices. (See the parallel recipe by Gao Lian 高濂, below.)
8. *Güllach*
Evenly mix egg white, bean paste, and cream to make a dough. Spread dough out and fry into thin pancakes. Use one layer of white powdered sugar, ground pine-nuts, and ground walnuts for each layer of pancake. Make three to four layers like this. Over the top pour honey dissolved in ghee ["Muslim oil"]. Eat.
9. *Qoresh-e*
Use 20 chicken eggs. Break and combine evenly. Cut up finely 32 Chinese ounces of mutton, and add 8 Chinese ounces of fine spices and 10 bulbs of crushed onions. Roast in sesame oil. Cook until dry and stir in egg white. Mix evenly. Use a cup of vinegar and half a cup of liquor, and 2 Chinese ounces of bean powder. Make a paste. Combine together again with dried meat using egg white. Pour into a liquor pot. Fasten the mouth with a bamboo cuticle. Put into boiling water and cook until done. When the jar is cold, break it. Cut into slices and, after basting with butter and honey, eat.

10. *Julapia* [Fritters]

Combine bean paste with flour. Make a thick paste and fry in boiling oil. Eat when soft. As a variant leave out the bean paste. Use only flour and sweet meats and form into a paste in cold water. Fry.

11. *Qarisa* (Arabic *harisa*, still the name of this dish)

Take a bowl of wheat and pound. Remove skins. Cut 64 to 80 Chinese ounces of mutton into slices. Cook into a fine meat paste. Put into a bowl and spread out. Baste with the rendered fat of a sheep's tail or sheep's head oil. Serve with yellow roasted buns. [Textual note] add pine-nuts.

12. "West of the River Lungs"

Connect together a sheep's heart and a set of sheep's lungs. Clean in water. Use 4 Chinese ounces of bean paste and broth, and work into meat. Use 4 ounces of flour and juice of scallion and work into the meat. Use 3 Chinese ounces of honey, 8 Chinese ounces of butter, pine-nuts, and walnuts. Remove the skins of the nuts and pound with a 10 Chinese ounce mortar. Finely filter and remove dregs. Combine, stirring together. Pour ingredients onto the lungs. When the lungs are completely covered, put into a cooking pot. Cook until done. Serve in a Tatar plate. First baste and marinate lung. Put excess broth into sesame paste. Cook until done. Make into treats.¹⁸³

A man of the time, powerful through food, was Hu Sihui 忽思慧, court nutritionist of the Mongol Yuan Dynasty in Beijing (Qanbaliq) in the early 14th century. He was probably a Sinicized Turk, making him more acceptable to the Mongols. Nutrition was important for the Mongols themselves, and they may not always have been as hard-drinking as John Smith has claimed—following Chinese traditions that attribute dynastic decline partly to besottedness.¹⁸⁴ At the same time, nutrition and dietetics was properly regarded by the Chinese as the most important branch of medicine. Hu was probably the leading medical officer in qanate China during his lifetime.

He, most notably, served as editor of the *Yinshan Zhengyao*, a monumental food and nutrition work. Officially presented to the throne in 1330, it covers all aspects of nutritional medicine as found in China, or for that matter a larger Mongolian world at the time and beyond. More important for our purposes here, it includes hundreds of recipes, most of them Central and West Asian. They range from purely Arab and Persian, to Mongol, to Indian, and Tibetan.

183 Buell (1999), "Mongolian Empire and Turkicization: the Evidence of Food and Foodways" 200-223 (219-222).

184 Smith (2000), "Dietary Decadence and Dynastic Decline in the Mongol Empire," *Journal of Asian History*, 34 (2000), 35-52.



PHOTO 35
Tutumash



PHOTO 36
Güllach

There are even European recipes, including a recipe for poppy-seed rolls that, on testing, proved indistinguishable from those in Los Angeles delicatessens:

Buns with “little black seeds”

White flour (five *jin* 斤), cow’s milk two *sheng*, liquid butter (one *jin*), poppy seeds (one *liang*) slightly roasted.

For ingredients use salt and a little soda. Combine with the four. Make into buns (1, 49b).¹⁸⁵

¹⁸⁵ A *jin* is about 500 g.

There are many similar Chinese recipes. Most interesting are a small group of recipes that combine Central Asian and Chinese foodways in strange and unique, and creative ways, to produce a true Mongol imperial cuisine. We have studied this cuisine in detail in our *A Soup for the Qan*, and thus can be brief here. Suffice it to say, Anderson kitchen-tested almost all the recipes, including pit-roasting a whole goat (but not making those lung recipes, or trying a recipe for sheepskin noodles), and found them uniformly good. These strange fusion-cuisine recipes turned out to be the best of all. Examples are given below.

9 History after the Mongols

The following Ming 明 Dynasty (1368-1644) continued a forward policy, but had already lost Central Asia to resurgent Mongols and the Turkic dynasties. The Mongols (largely the Oyrats, a mobile and warlike subgroup) continually harrassed Ming, even taking the emperor hostage at one point. At this point, food and medicine introductions from the West dried up; we are not aware of significant exchanges. Instead, the spread of Persian culture was overwhelmingly strong, especially in the south and west, and Indian culture (including foodways) moved north into Afghanistan.

In Turkistan, small Mongol successor groups existed before the Turk Tamerlane (1336-1405) instituted a new era of the history of the area with the large Timurid Empire. It dominated or at least assaulted all surrounding areas. A campaign was even being planned against Ming China at the time of Tamerlane's death. An attack on Mongol Russia was highly destructive, but ultimately abortive. It hastened the decline of the Golden Horde as a unified empire.¹⁸⁶

Tamerlane built up his capital at Samarkand into a world city. The city is still full of his monuments. The Timurid Empire was the last great empire of the Eurasian heartland, although various Timurid and Oyrat groups were very powerful in their days and even threatened China. Trade by land continued, particularly under the Timurids. But when Babur, descendent of Timur and Cinggis, got serious about empire-building, he had to go to India; Central Asia was so violent and its rulers so unstable that he could not get a foothold. The Mughal Empire that he built lasted until the English brought down its last leaders.

By the 15th century a new maritime age dawned, culminating in Vasco da Gama's voyage around the southern horn of Africa to India in 1498. Even before this, Ming China had attempted to reassert China's influence in the Indian

¹⁸⁶ Manz (1999), *The Rise and Rule of Tamerlane*.

Ocean in a series of great voyages led by eunuch admiral Ma Zhenghe 馬鄭和 (1371-1433). The times were ripe for maritime adventure.

Once arrived, the Portuguese went on to seize strategic points such as Hormuz in Iran, Goa in India, and Malacca in Malaysia in order to control the entire Indian Ocean by careful trade policies, and military intervention. The Portuguese reached China in 1517, and some 40 years later established Macao, which became the foundation for an important trade with Japan. Japan had a surplus of silver, which it was willing to use to purchase Chinese silk and other products carried in Portuguese bottoms.¹⁸⁷

While the Portuguese were developing their connections with China and Japan, the Spanish established their base in the Philippines and penetrated the Pacific. In 1565, they established a regular shipping route across the whole Pacific: the Manila Galleon, going from Manila to Acapulco and back.¹⁸⁸ If there is a single date for the end of the Silk Road as an economically viable route, it is 1565. The Eurasian heartland was henceforth a backwater, the situation changing only recently. Nearly all the important commerce was now ocean-based. What had been the Silk Road trade, even to the extent that it still existed, had become irrelevant. The Manila Galleon was part of an interconnected world trade; the commerce along the surviving Eurasian heartland routes was not. The Spanish and Portuguese immediately began introducing New World crops into East Asia. Fastest-spreading was tobacco. Actual foods very soon followed, with maize, sweet potatoes, and chiles being among the quickest to win adoption. Maize and sweet potatoes opened vast areas to cultivation, since they grow in soil too dry for rice and too hot or otherwise unsuitable for wheat. Chiles fitted into the extensive spice world of Asia, being instantly popular for their nutritional and medical virtues, as well as their taste and heat. In all these ways, they competed most directly with long pepper (*Piper longum*, a very close relative of black pepper), which they drove out of use, often usurping its very name, as in Indonesian *lada*.

Following this last burst of conquest, Central Asia broke up into local qanates and dynasties. Empires broke down into the qanates of Bokhara, Samarkand, and other cities—each khan holding an oasis and its centering city. In the 18th and 19th centuries, Russia conquered these one by one, eventually controlling all western and northern Central Asia. Little is recorded of foodways during the difficult times between Timur and the Russian conquerors. Notable at this time was the power of the Sufi orders, originally devotional and

187 Russell-Wood (1998), *The Portuguese Empire, 1415-1808*.

188 Schurz (1939), *The Manila Galleon*; Giraldez (2015), *the Age of Trade, the Manila Galleon and the Dawn of the Global Economy*.

mystical but heavily involved in politics from early medieval times. Their shared ceremonies and learning made them a logical center for political action, often opposed to narrower Islamic traditionalists and to secular power. A Sufi cookbook from Turkey reveals a simple, quite Central Asian cuisine.¹⁸⁹

10 Travels and Excursions after 1500

The western steppes did not greatly change their foodways. Anthony Jenkinson, a British trader who went through Russia in the 1550s, reported kumiz and horseflesh as major foods of the nomads, as they are today, at least among the Kazakhs. He related of the Tatars: “They eate much flesh, and especially the horse, and they drinke mares milke, wherewith they be oftentimes drunke.... Corne they sowe not, neither doe eate any bread, mocking the Christians for the same, and [saying it is] disabling our strengths, saying we live by eating the toppe of a weede, and drinke a drinke made of the same....”¹⁹⁰ Though Muslim, they retained some shamanist traits, including sacrificing a sheep and then telling omens from its scapula: “...they took certaine sheepe and killed them, and tooke the blade bones from the same, and first sodde [boiled] them, and then burnt them, and tooke of the blood of the saide sheepe, and mingled it with powder of the saide bones, and wrote certaine Characters with the saide blood” for magic charms; he dismissed their predictions at first but found the predictions were true.¹⁹¹ Scapulimancy links these 16th-century Tatars with the Shang 商 Dynasty Chinese and was once almost universal in Eurasia. Farther south, in the oases of Central Asia, he found yellow melons and watermelons, and sorghum, “whose stalke is much like a sugar cane,”¹⁹² and incidentally notes the presence of the guinea worm,¹⁹³ now long eradicated.

A Portuguese traveler named Benedict Goens went to China via Persia and high Central Asia in 1603, unfortunately dying in what is now Xinjiang. There he encountered Mongol or Turkic nomads: “These Tartars make use neither of wheat nor of rice, nor of any kind of pulse, for they say such things are food for beasts and not for men; they eat nothing but flesh...”¹⁹⁴ We have noted above his folk remedies for altitude sickness. The lack of mention of dairy products

189 Halici (2005), *Sufi Cuisine*.

190 Jenkinson, and other Englishmen (1886), *Early Voyages and Travels to Russia and Persia*, 53.

191 Jenkinson, *Early Voyages and Travels to Russia and Persia*, 77.

192 Jenkinson, *Early Voyages and Travels to Russia and Persia*, 69.

193 Jenkinson, *Early Voyages and Travels to Russia and Persia*, 83.

194 Yule, *Cathay and the Way Thither*, IV, 240.

reminds us of their near-absence from the *Yinshan Zhengyao*. Mongols do not talk much about this everyday staple.

Also appearing in our early travel accounts are many specialized accounts of food production, including the distillation of *kumiz* to make milk brandy. Peter Pallas (1741-1811) provides incredibly detailed descriptions of such distillation for several groups. Today, Pallas is perhaps best known today for the many species of birds and other animals which he was the first to describe scientifically, and others that are named after him, either scientifically or popularly. These species include the Pallas cat or Manul *Otocolobus manul*; Pallas's reed bunting, *Emberiza pallasi*; a pheasant, *Phasianus colchicus pallasi*; and many other birds large and small. He also described some bats, a squirrel, a pika and many fish. This list runs in the hundreds, a major contribution for one collector. Also ascribed to Pallas's discovery is Pallasite, a meteoric iron, whose composition he was the first to analyze. He likewise described many plants, large numbers of which also remain named for him.

Pallas also made major contributions as a geographer and, most important for us here, ethnographer. Particularly important in this regard are his *Bemerkungen auf einer Reise in die südlichen Statthalterschaften des Russischen Reichs in den Jahren 1793 und 1794*, Leipzig, 1799-1801), "Notices of a Journey in the Southern Administrative Units of the Russian Empire during the years 1793 and 1794," and the earlier *Sammlungen historischer Nachrichten über die Mongolischen Völkerschaften* (St. Petersburg, Frankfurt, Leipzig 1776-1801), "Collection of Historical Notices of the Mongolian Peoples."

Pallas was a Berliner, born on September 22, 1741. He died too in Berlin, on September 8, 1811, and is buried there. His was a relatively long life for those days. He was the son of a professor of Surgery, Simon Pallas, and studied first in Germany, at the University of Halle and then the University of Göttingen. He then moved to the University of Leiden, in Holland, where he received his doctorate, at age 19.

From the beginning Pallas was a naturalist and quickly began publishing in that area. A major change in his life occurred in 1767, when he was invited to Russia by Catherine the Great to become a professor at the St. Petersburg Academy of Sciences. It was in this capacity that he began to participate in expeditions to various parts of Russia, which led to his *Reise durch verschiedene Provinzen des Russischen Reichs*. Such expeditions along with zoological and botanical contributions continued until the end of his life, and beyond in posthumous publications. Pallas finally returned to his native Berlin and his headstone can be found in a beautiful church cemetery in Berlin-Kreuzberg, where it was seen by author Buell.

Pallas's *Sammlungen historischer Nachrichten über die Mongolischen Völkerschaften* (our focus here), is a massive work of some 600 pages. It is profusely illustrated with carefully-drawn plates—some 29 of them. Nearly always when a concept or thing is introduced, including diseases, accurate Kalmuck or Mongolian vocabulary is given in transcription. Few other early works on the Mongols from the period are as well documented.

The *Sammlungen* are in two parts. Part one is a general introduction to the Kalmucks of the Volga, the Buriats of Siberia, and the Mongols of Mongolia. This includes illustrations and descriptions of Kalmuck and Mongol distillation equipment. That on the Kalmucks is particularly full. Part two focuses on religion and religious practices (*Aberglauben*, “superstition”). Much of what is described is Lamaist Buddhism, but shamanism is not neglected.

Pallas speaks of Kalmuck distillation as follows,¹⁹⁵ in the earliest description of its kind, in the following terms. (It is clearly eye-witness testimony. In the case of his Mongol still, such equipment is still in use today):

To come to the usual excess in brandy of the Kalmucks, the same is, as the cooking of food, solely the business of the women. The equipment includes, as is clearly shown [in the figure below], the following: a large iron kettle with a little water is placed hanging over a small fire on a tripod in the yurt and warmed and filled up with processed sour milk up to within two finger widths of the rim of the kettle. Such kettles hold for sure three Russian buckets or more.

Placed on the kettle (*Chaistin*) is a top (*Charchaq*) that fits the kettle and its somewhat hollowed out. It is made from one or two pieces of wood and has two square openings. To the rim and the joints one is accustomed in the steppe to applying fresh cow dung when there is no fine clay or sod in the vicinity to seal the apparatus, or when it cannot be obtained due to the freezing of the earth. The Stawropolisch group, that is, the baptized Kalmucks, who have grain meal in more abundance, that is well-milled, use during the winter time, instead of clay, a roughly-kneaded dough of crude grain meal. Among most steppe peoples, including the Mongols and Buriats, always gathered are fresh *animal droppings*, which they find near their housing, without effort. That is the most common and the best [sealant]. As a recipient [vessel] during the distillation there serves a small kettle with a cover which must only have a large opening

195 Pallas (1776-1801), *Sammlungen historischer Nachrichten über die Mongolischen Völkerschaften*, 2 volumes (St. Petersburg, Frankfurt, Leipzig, 1776-1801), 1, 134-5. Translations by Author Buell.

and a small air hole and which is well smeared around the rim. This one, one places next to the tripod into a cooling trough containing snow or cold water.

The tubes (*torros*, Mongol *torgo*) which are intended to conduct the milk brandy from the big kettle to the production vessel is one that normally consist of tree bark bent into a semicircular shape, which is split, with one gutter hollowed out on both sides and refitted one to the other, and which is covered over with raw leather or gut. One end is attached to an opening of the production vessel and the other end is attached to one of the cover openings of the great kettle. It is smeared.

Finally, a couple of large bullets (*araten*, *chapchal*) of clay or cow dung mixed with ashes and sand must be prepared in advance in whose size and beauty one house wife seeks to be superior to the other, because they believe that the foals of the mares, from which the milk comes, will increase in beauty and size proportionately to the bullets. In this there are a number of these bullets more than are necessary. and later left on the fireplace.

As soon as the preparations are completed, a fire is made whereby one pays attentions through the uncovered opening of the large kettle until the milk is boiling in the same and the strong-smelling vapor which can even catch on fire through the distillation arises out of the opening. As soon as this happens one of the previously prepared bullets is put on this opening and pressed down and the fire reduced. The small opening of the production vessels remains alone uncovered, although many spirit vapors escape through the latter because without this [loss], say the Kalmucks, the distillation will not be successful.

The vapor decreases after an hour and a half. When this happens all the brandy (*arrki*) has been driven out and of cows' milk there remains a 30th part, at most, a 25th part, and of horses' milk a 15th of the entire milk mass. The product is clear, very watery and cannot catch on fire. However, it can be preserved in glass bottles like weak corn whisky, without spoilage.

Rich Kalmucks allow the milk brandy to be fortified through repeated processing and have various names which refer to the product after each rectification. The brandy produced from re-distilled *arrki* the first time is called *dang*. It is called *arsa* after a second doubling and *chorza* after the third. They go no farther as a rule, although they have special names up to a sixth rectification, whereby the first [additional distillations] are *schingza* and *dingza*.



PHOTO 37 A modern Mongolian still of metal

The Kalmucks enjoy the product of the first distillation communally. One pours the brandy from the production vessel, which has been removed quite warm into a wooden cup with a spout, and from this into a small bottle made of leather or bottle gourd.

Regarding the Mongols (and Buriat distillation, although he notes that the Buriats do not do much distillation) Pallas first notes the similarity of what they do to the practices of the Kalmucks, but also notes differences in the distillation vessel:¹⁹⁶

A hollow wooden cylinder is attached over the milk kettle in which there is a miniature bottom. An opening in the middle allows the vapor to rise into a cooling area above. The brandy that runs together, collects and is led off through a pipe.

Thus, Mongol distillation is different from Kalmuck in that there is no separate vessel to cool the output. It is cooled in the distillation unit, and then the finished product is led off. From these descriptions, one may notice the portability of the distillation equipment. Even the Kalmuck apparatus with its two metal vessels is relatively portable, as is the Mongol vessel, partly of wood. The tripod upon which the vessels are placed is a part of yurt equipment to begin with, and is not used specially for distillation. Note, incidentally, the passing mention of cows'-milk distillation, since fermented cows' milk was not frequently in use in the steppe since its products are inferior. Apparently the Kalmucks used cows' milk to make milk brandy only when mare's milk was out of season (much of the year), or otherwise unavailable.

The reference to multi-distillations among the Kalmucks is particularly interesting because the products of such distillation loom large in Mongolian folklore. Steppe heroes have produced for them a special milk brandy, distilled again and again, until the product of a whole herd of mares is taken up in a single cup. This, the hero must drink it right down to show his manhood, at which point one of two things happens: he either dies or survives more powerful than before. If he dies, his lady friend must go to the other world to rescue his soul, and bring him back to life. Of course, this is dangerous; she can die too. In this case, the hero's super-intelligent horse must do the deed. It is

196 Pallas, *Sammlungen historischer Nachrichten über die Mongolischen Völkerschaften*, I, 182.



FIGURE 5 A Kalmuck still



FIGURE 6 Mongolian still
Wooden version of that illustrated above.

unheard of for horses to fail; they are not only stronger than humans but smarter too.¹⁹⁷

And from the East....

The Qing 清 Dynasty took over China in 1644, during a cold, dry period, which, as Qiang Chen¹⁹⁸ points out, recapitulates the tendency of semi-nomadic, but agriculturally-based marginal states, or armies, to conquer China during climatically harsh times. Qing aggressively expanded into Central Asia.¹⁹⁹ The Manchus felt that they were allied, as a people, to the Mongols and Turks, and possibly the Tibetans. They formed relationships of domination by every means possible, from peaceful marriage to bloody genocide.²⁰⁰ They did everything possible to promote Tibetan Buddhism among the Mongols and other groups, in hopes of pacifying them with the Buddha's message of nonviolence. This seems to have had some effect. It certainly provided a bulwark against the spread of Islam, already the dominant religion in Turkestan. It was the Qing Dynasty that took over eastern Central Asia and named it Xinjiang, "New Borders." The takeover was a slow process, despite self-conscious desire to restore the old Han Dynasty borders and even expand them. "Chinese Turkistan" was a peripheral, nonetheless still important, pawn in what the British called the "Great Game"—the rivalry between the British (expanding north from India) and the Russians for control of Central Asia. The Russians especially flirted with the local warlord Yaqub Beg in the 19th century. However, the Chinese won that round; while Russia took the western khanates, the British managed to keep Afghanistan independent.

Qing also took over Tibet (again, in spite of British machinations), finally effecting a conquest long desired by China. Under the Qing, Tibet remained legally a separate realm from China. It was ruled directly by the Qing Dynasty and there was no Chinese civil administration. This circumstance is one basis of Tibet's claim to independence; the other being the fact that Tibet was an independent country for thousands of years before Qing and the latest PRC forced takeover. Nonetheless, its hope for self-determination is now increasingly forlorn, as China floods the country with Han settlers and makes every effort to destroy Tibetan culture. The same pattern is present in Xinjiang with its Uighurs. Mongolia was ruled in the same way, but Outer Mongolia successfully broke off, thanks to support by the USSR in the 1920s. Mongolia managed

197 Curtin (1909), *A Journey in Southern Siberia*. On Mongol distillation see also Buell and de Pablo, "Distilling of the Volga Kalmucks and Mongols."

198 Chen, 'Climate Shocks, Dynastic Cycles and Nomadic Conquests'

199 Perdue (2010), *China Marches West: The Qing Conquest of Central Eurasia*.

200 Perdue, *China Marches West*, 283-5; Schlesinger (2017), *A World Trimmed with Fur: Wild Things, Pristine Places, and the Natural Fringes of Qing Rule*.

to survive as an independent country instead of becoming an SSR, though it was a satellite of the USSR until the collapse of that empire in 1989-90. Once it was genuinely independent, the communists were quickly replaced in Mongolia by a more democratic, outward-looking regime, which prevails (with various tensions and vicissitudes) today.

Enormous Qing extensions still farther north and east, into Siberia and the Amur-Ussuri, gave China—or rather the Qing Manchus—control of all eastern Central Asia. These extensions were the objects of predatory imperial expansion by Russia in the 18th and 19th centuries, costing China an area almost as large as the western United States. The incredibly rich Amur-Ussuri was pried away from China through sharp, but rather shady, diplomacy in the mid-19th century. Nikolay Muraviev, who ran a virtually independent state in Siberia, negotiated the Treaty of Aigun in 1858 with the Qing government, and subsequently proceeded to take over the area, winning himself the title of Count Amursky. He supposedly was not totally open with the more cautious branches of the Tsarist government until this treaty was drawn up and in force. It is worth noting that Muraviev ran a virtual independent court by using as advisors, and sometimes even staff, the formidable brainpower of the Russians who had been exiled to Siberia, including the anarchist Mikhail Bakunin. This extra intellectual power helped greatly with the takeover, exploitation, and policy development of this former major and rich part of Qing East and Central Asia.

Qing records show the enormous amount of fish and mushrooms taken from these Mongolian and Siberian realms. Even the incredible wealth of fish and the incredible productivity of the mushroom mycelia of the area could not sustain Qing luxury tastes. Countless tons of fish and mushrooms, as well as furs and other products, were extracted.²⁰¹ The highly developed conservation ideology of the local people was not able to stand up under Qing pressure.

In short, the Qing Dynasty was as imperialist as the European powers. Westerners have sometimes wondered why China did not expand overseas and create a maritime empire. The reasons are twofold. The first, and by far the most important, was that China was threatened by Central Asia and needed to expand, conquer, and pacify in that direction—not south or east. The second was that China had peaceful trading relations with all the Nanyang 南洋 (“southern oceans,” i.e. lands reached by sailing thereon), and had no reason to waste lives and money on conquests. It lacked the naval resources as well.

Illustrative of the era are the Turkic, Mongolian, and Middle Eastern food words that reached Manchuria. The following is an excerpt from Jerry

²⁰¹ Schlesinger, *A World Trimmed with Fur*.

Norman's *A Concise Manchu-English Lexicon* (Seattle, 1978) (They appear here in the Manchu language, but would have been known to the Chinese at court as well):

arcan, "cream, milk thickened with wine and sugar" (Mongol *agharcha*, translated in Russian as tvorog: curds, cottage cheese)

arfa, "barley" (Turkic *arpa*)

arki, "distilled liquor" (Mongol *araq* <Arabic 'araq);

arjan, "liquor made from milk," (might be another form of Mongol *araq* *borchilaha*, "dried beef and mutton cut into squares and used to make soup" (Mongol *borcha*, jerky)

bosoro, "dates" (<Arabic *busr*, unripe dates)

ejihe, "a food made from dried cream" (Mongol *ejegei*, a cooked-down milk product)

kishimishi, "small green seedless grapes" (<Arabic *kishmish*)

kūru, "a type of sour cake made from cow or mare's milk and liquor" (Turkic *qurut*, dried yogurt)

mentu, "steamed bread (usually round in shape, i.e. *mantu* or *manty*)"

sile, "meat broth, soup" (Mongolian *silon*, *shulen*, etc; this word has also spread widely among the Manchu-Tungus speakers of the Khabarovskii Krai)

NB: The Chinese pastry name *shaqima* 沙琪瑪 —another borrowing—is from the passive participle of the Manchu verb *sachimbi*, "to chop." It is virtually identical to the Central Asian pastry *chakchak*: little chopped pieces of dough fried and held together, rather like Rice Krispies Squares.

Meanwhile, by 1700, the old Inner Asian heartland was increasingly penetrated by Russia, as Pallas' accounts show. At first it moved across Siberia and then south into Turkistan. Turkistan was under Russian control by the late 19th century. To the east, Eastern Turkistan gradually became the Chinese province of Xinjiang, while in the 18th century the Qing conquered all of Mongolia in part through use of new technology and mobile arms that the Mongols could not match.²⁰² The Inner Asia heartland was definitively broken up into zones of control for China and Russia. Farther to the south the Indian Ocean was dominated by Great Britain. Some indication as to why the Russians could succeed so well is found in the politics of Kokand just before Russian takeover: "[a new *qan*] reigned for only 14 days, after which he gathered up all the state's

²⁰² Perdue, *China Marches West*.

valuables and fled... [His replacement] began a decade of despoliation of his own people, a decade filled with plundering and murder of all kinds."²⁰³ The long breakdown that began with Tamerlane's death had run about as far as it could. Such governance took a toll on food production.

Settlement and actual functioning governance fell back to the local level. Travelers and explorers began to attest to local foodways as opposed to empire-wide ones. Johan Peter Falck traveled in Central Asia between 1768 and until his death in 1774. He recorded a great deal about food and ethnobotany of groups he met. The Bashkirs, for instance, were so noted as the best beekeepers in Russia, a folk etymology traces their tribal name back to *bash*, "head" and *kurt*, "bee"—an etymology with more food interest than believability (the *kurt* or *qort* is almost certainly a circumlocution for "wolf," and not bee). In any case, they not only kept enormous numbers of bees in tree-trunk hives, but they lived to a significant extent on honey, honey water, and mead. They provided most of the beeswax for Russia. They grew rye, wheat, barley, oats, peas, and spelt²⁰⁴—note that rye had replaced millet as a staple. They had large herds and made kumiz, butter, and cheese; it is unclear if they drank fresh milk. They ate nettles and other plants, including wild fruits and roots. Like their relatives 800 years before, they drank birch sap which was probably fermented. In summer they "lived mostly on sour horse milk or kumis, and the men who were lazy visited each other, and on most evenings they were all drunk."²⁰⁵

Further on, Falck met the "Kazaks" (*sic*) and other true nomads. He recorded: "A Kazak nobleman owned on average 100 camels, 3,000 horses and up to 1,000 cattle, 5,000 sheep, 1,000 goats and more than 100 donkeys, [and a]round 50 slaves." Even ordinary people, he goes on, had 1,000-5000 horses, though some had many fewer (down to 50).²⁰⁶ Again, kumiz, butter, and cheese were staple, and fat-tailed sheep fat was widely used. They took game with eagles but ate little wild food. They did not cultivate, meaning their diet was largely livestock products. Like modern Kazakhs, they loved horsemeat, including smoked horse ribs and horse sausages. They ate the contents of sheep stomachs, though they did also have flour from trade as a substitute.²⁰⁷

203 Annanepesov and Bababekov (2003), "The Khanates of Khiva and Kokand and the Relations between the Khanates and with Other Powers," 63-81; see Adle and Habib with Baidakov (2003), *History of Civilizations of Central Asia*, Vol. v: *Development Contrast: From the Sixteenth to the Mid-nineteenth Century*.

204 Ståhlberg and Svanberg, "Among Fishermen and Horse Nomads," 87.

205 Ståhlberg and Svanberg, "Among Fishermen and Horse Nomads" 89.

206 Ståhlberg and Svanberg, "Among Fishermen and Horse Nomads," 90.

207 Ståhlberg and Svanberg, "Among Fishermen and Horse Nomads," 92.

Farther east, and later (in the 1890s), the Russian explorer Petr Ostrovskikh found the Khakass Turkic people eating bird cherries as a major food. This wild cherry (*Prunus padus*) is pan-Eurasian and also almost identical to the wild cherries of North America. The Khakass ate the fruits, often making powder of them, which was made into pancakes fried in butter; bird cherries are still eaten in Siberia. They also ate lily bulbs, both martagon (Easter-type) and avalanche (dogtooth) lilies, wild onions, and various roots.²⁰⁸

Explorers who traveled in Central Asia in the 19th and early 20th century speak of plain food: *nan* and similar breads, the inevitable mutton and dairy, and dried or fresh fruit (especially melons, grapes, and apricots). Few vegetables were available, and game was already confined to relatively remote areas. Persian influences were abundantly obvious in the towns and among elites; Russian and Chinese influences had yet to penetrate on any scale. Khiva and Kokand reported more diverse crops: “Wheat, barley, oats...sorghum, maize, rice, *māsh* [green dry beans], sesame...melons, water melons, cucumbers, and squashes. In the orchards grew grapes, apricots, peaches, apples, pears, quinces, walnuts, plums, and cherries; and kitchen gardens provided onions, carrots, beetroot, turnips, etc. Wheat was the main cereal crop.”²⁰⁹ Rice and chiles were also grown. Taxes were extracted on land and flocks. Conditions were similar in other oases of Central Asia.²¹⁰ Thus, when the Qing Dynasty took what is now Xinjiang. They found the land to be held by the state, landlords, free farmers or Muslim charitable institutions; the crops were the same as above, adding hyacinth beans, but lacking chiles. The farming tools were simple. Weeding was ignored, and fertilizer was used extensively.²¹¹

Explorers soon learned to provision whenever they could and to bring as much with them as possible. Food was frequently hard to find even in relatively fertile areas. Enough food to maintain a serious expedition was simply impossible to find in remote areas.²¹²

The Russian exploration and conquest of Siberia—including, in the 19th century, Kazakhstan, Kyrgyzstan, and neighboring areas—still needs a thorough history in English. An incredible range of brilliant scientists and explorers followed Pallas.

208 Ståhlberg and Svanberg, “Among Fishermen and Horse Nomads,” 93–96.

209 Annanepesov and Bababekov, “The Khanates of Khiva and Kokand.”

210 Adle and Habib, *History of Civilizations of Central Asia*, Vol. v.

211 Ma (2003), “The Tarim Basin,” 181–208 (189).

212 See e.g. Andrews (1921), *Across Mongolian Plains*; Frederick Burnaby (1877), *A Ride to Khiva*; Hedin, *The Wandering Lake*; Stein (1912), *Ruins of Desert Cathay*; Stein (1933), *On Ancient Central Asian Tracks*.

One, the great Russian scientist Pyotr Semenov, explored what is now eastern Kazakhstan and northern Kyrgyzstan in 1856-57. In southwest Siberia, now eastern Kazakhstan, he found pioneer Russian settlers doing very well: "Peasant food was unusually plentiful... Meat meals, which consisted of beef and veal, poultry and game, as well as fish, were half of their week-day food. This was combined with wheat and rye bread, *pel'meni*, the favourite dish of Siberian people, vegetables and dairy products, the latter in unlimited quantity."²¹³ Russian pioneers in southeast Kazakhstan irrigated, and "planted wheat, oats, rye, *iaritsa* (unidentified) and some maize and sorghum, but millet did not thrive satisfactorily.... Peach-trees and vines planted in orchards were growing very quickly, not to mention apple trees...."²¹⁴ He saw apparently wild apple and apricot orchards in the Tian Shan foothills.²¹⁵ The Turkic leaders gave him feasts, typically involving "a very tasty *pilau* made with sheep's-tail dripping, mutton, raisins and onions."²¹⁶

Some of the story of Russian exploration of the Amur-Ussuri (east of the Heartland, but relevant for the food lore) is told in the wonderful book *Dersu the Hunter*, by V. K. Arseniev.²¹⁷ A Russian geographer, Arseniev tells the story of exploring the Amur-Ussuri around the turn of the 19th-20th centuries with the Tungus guide Dersu. The stories are lightly fictionalized but still very true to the ways of the Tungus of the China border in those days. Food there ran heavily to millet, with game and wild plants very important. Livelihood was more a matter of hunting and of collecting medicinal herbs—especially ginseng—than of agriculture. Arseniev emphasises the strong conservation ethic of the people, a point that might be dismissed as romanticizing if it were not confirmed by many other observers, including the authors of this book.

The Russians essentially won the "Great Game," holding all power in most of Central Asia, although British involvement in Afghanistan was intense and long-lasting. Readers of Kipling will know how impressed, and even daunted, the British were with the fighting abilities of the Afghanistans. And readers of Conan Doyle may remember that Sherlock Holmes' first recorded bit of mystery-solving was spotting Watson's recent visit there. Since that time, the people of Afghanistan have had many further occasions to impress and daunt other outsiders. One result of British presence was wider Indian influence. Traders brought more spices, and more Indian foodways, to the landlocked

213 Semenov (1998), *Travels in the Tian'-Shan' 1856-1857*, 11.

214 Semenov, *Travels in the Tian'-Shan' 1856-1857*, 59.

215 Semenov, *Travels in the Tian'-Shan' 1856-1857*, 74.

216 Semenov, *Travels in the Tian'-Shan' 1856-1857*, 134-135.

217 Arseniev, *Dersu the Trapper*.

and mountain-girt country. Indian influences on Afghanistan food became stronger and more widespread.

At some point in the 18th or 19th centuries, New World foods began flooding into Central Asia. Our sources are amazingly silent on when this occurred. Tobacco arrived before, being popular immediately—it was common in Siberia by the 17th century. Turkey was an early adopter of New World crops, growing tomatoes and chiles long before Europe did, and becoming so identified with maize that it was known as “Turkey corn” in 16th-century Europe; and the New World answer to the chicken is still “turkey” in English. (In Turkey it is more reasonably called the bird of the Indies.) These items all spread east as well as west, moving early into the Caucasus and Black Sea region not reaching far into Central Asia till later.

Potatoes appeared in Eastern Europe by the mid-18th century. Folklore has it that Catherine the Great popularized them by wearing wreaths of potato flowers in her hair.²¹⁸ Potatoes did not reach Central Asia until considerably later. From the 18th century on, white potatoes widespread in Western China. They were a staple food in Eastern Europe by the 1840s, when the infamous potato blight that ruined Ireland caused equally great disasters there. Central Asia seems not to have been potato-eating enough to be affected. In any case, it has a less optimal climate for the blight.

Tomatoes, chiles, pumpkins, summer squash, maize, common beans, and other crops slowly moved in. Chiles and maize were very rapidly adopted in India and China, being common before 1700; they probably reached Central Asia from those areas quite early. The Soviets actively promoted tomatoes and other fresh foods. Nonetheless, in striking contrast to the enormous importance of New World crops in China, Turkey, and parts of India, the core areas of Central Asia never really took to them. They were fairly minor crops, more flavoring than staple. Today they are commonest in the outward-looking oasis cities such as Kabul and Tashkent, and least common in remote uplands. Many of the New World foods that transformed China do not grow, or at least not well, in Central Asia (e.g., sweet potatoes and peanuts). Crops like maize demand too much water, so their scope was limited.

As a guess, we may hypothesize that maize spread slowly, surely from Turkey (it was very popular there as early as the 16th century), and from India, during the 17th and 18th centuries; chiles probably had a similar course. They came later, and stayed uncommon, especially north of Afghanistan. Potatoes moved in from China and Russia in the late 18th century, and into the 19th. The

218 Salaman (1949), *the History and Social Influence of the Potato*.

other vegetables did not come in any significant quantity until the late 19th and 20th centuries.

European crops are even less well documented. West Asian crops spread very early—many of them with the Neolithic—but there are mysteries. We have noted above the silence of the record as to when rye turned from a rare, half-wild crop in early Medieval times to a staple food in Eastern Europe, and in western Central Asia by the 17th century. Other crops are even less discernible in our sources. No doubt there are Russian records that would repay searching.

11 On to the Twentieth Century

Throughout Central Asia, the twentieth century brought revolution: the overthrow of Qing in 1911, the Communist revolution in Russia in 1917, and the long-lasting subsequent one in China that finally succeeded in 1949. Between these was essentially constant war in Chinese Central Asia. Russian Central Asia became a set of soviet socialist republics which are today the now-independent “stans.” This was not a peaceful process, and WWII did not improve the situation. Peace and relative prosperity came in the 1950s. Mongolia entered the Soviet orbit with the usual bloodshed; possibly 5% of the population died in purges, especially of the Buddhist clergy, in 1937.²¹⁹

Nonetheless the area remained poor, and ecological destruction replaced war as a driving force for poverty. The post-independence period has not been easy or pleasant. It brought brutal dictatorships, poverty, and violent, repressive regimes to all except Kazakhstan, and even that republic had strong-man rule. Afghanistan, as all the world knows, has been in a state of almost continuous civil war since the overthrow of King Zahir Shah in 1973.

With the decline of the old Soviet Union, new states have emerged in the Inner Asian heartland: Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Turkmenistan. Control of Afghanistan by the USSR was very brief, but most of the other countries were Soviet socialist republics from the 1920s to the breakdown of the USSR in 1989-1990; the “-stans” became independent in 1991. Before that, they were treated, *de facto*, as Russian colonies. Mongolia, nominally independent, was another *de facto* Russian colony. Russian food influences remain strong in all these areas, although in Kazakhstan there are now many Korean food influences as well.

219 King (2019), *Ocean of Milk, Ocean of Blood*.

At present all the major Inner Asian nationalities have at least autonomy, with the notable exception of the Uighurs. They are still controlled by China, which also has large Kazakh and Mongolian minorities.

Starting with Qing, but becoming far more intense after 1949, Chinese culture penetrated eastern Central Asia. Contacts along the Silk Road had already brought foodways ranging from noodle soups to rice. Rice was slow to spread. Barley was the main grain for pilau until recently.²²⁰ Now, all sorts of Chinese products have flooded in, and diets, especially in the cities, are changing fast.

Even so, the food of the area remains astonishingly un-Sinicized, with Uighur food being closer to Persian than to Chinese. These include: Persian-style breads, stews, fruit, nuts, and the like; Turkic-style dumplings; Central Asian and Persian ways with dairy products; and Near Eastern desserts such as *halwa* dominate the cuisine. The reasons for this are not far to seek. Persian cooking was developed in and for a continental desert ecology. It uses the plants that do best in desert-oasis conditions: wheat, barley, apricots, grapes, and the like. It uses the animals that flourish in the steppes, notably sheep and goat. Chinese preferences are for plants and animals of wet, warm conditions. Also, Qing's relatively light hand—or simply weak control—of the region after 1800, and its tendencies to administer outlying areas as subject to Qing, but not part of “China,” meant that Chinese influences were minimized. This is no longer the case; Han Chinese now outnumber Uighurs in Xinjiang and have ruthlessly repressed Uighur culture—partly under a not-wholly-unjustified fear of resurgent militant Islam.

Mongolia remains its own little world different from the Turkic societies. Outside influences in the last century have come overwhelmingly from Russia. This is now changing. Korea, for example, has an active relationship with Mongolia, in part through the many Mongolian students studying there.

In the late twentieth century, globalization reached Central Asia, with the usual snacks, processed starches, canned drinks, and excessive amounts of salt, sugar, white starches, and vegetable oil. Outside of China, most of these come from Russia, though the countries in question are now making their own versions. Obesity, diabetes, heart disease, and cancer have followed apace, and replaced infectious disease as major killers.

Today's successor cultures to the old peoples and movements of the Inner Asian heartland are spread from one side to the other, along what used to be the Silk Road. They also go vertically inland, through links to former and still existing centers. There are also pockets of Silk Road culture located far beyond

220 Nesbitt, Simpson, and Svanberg, “History of Rice in Western and Central Asia,” 308-340, 535-541.

the actual zone of the Silk Road, thanks to the influences exerted by Silk Road cultures, some of them quite distant and indirect. India was long ruled by the Moghuls, ultimately from present day Uzbekistan, and Turkic influence remains strong in the subcontinent's northwest. China was entirely conquered by the Mongols. Mongol influence remained strong well into the Ming, and even in Qing, whose ruling dynasty was half Mongol by intermarriage and alliances. Russia also, like China, has never rid itself of Mongol and other Central Asian influence (thanks in part to an Islamic migration from the former Central Asian republics that is growing rather than waning). Turkey was also a more distant recipient of Silk Road influence. It was European in most ways, but the Turks had originally come from Central Asia. Ottomans enjoyed the advantages of the major long-distance land and sea trade that existed during the Mongol era. In fact, such trade, at least the land side, pre-dated the Ottomans. It was well established in Roman and Byzantine times.

In the end, Central Asia has remained the last place to take up the new global foodways. In the back blocks and expanses of Mongolia, Afghanistan, and elsewhere, one still depends on local foods even if frozen French fries have invaded the *shūlen* (as Buell and de Pablo saw in a restaurant deep in Mongolia). In 1974 in Afghanistan, from Bamiyan through the high Hindu Kush, Anderson found that the only available food for sale was bread. It was made from locally grown hard mountain wheat, ground on stone mills (leaving some rock flour in the product), and baked in huge village tandur ovens. It was superb, despite the occasional rock flour (Anderson, personal observation). Even in Kabul in those days, there was almost nothing in the markets from the outside world, except for spices and other minor items from India. Things today are not quite so simple. Even the most isolated towns of Mongolia have shops with a range of Russian or Korean snacks. Still, the dominance of bland, packaged, mass food is not yet at hand.

Contemporary Food

1 Lifestyles

The weight of tradition is clear in modern Central Asian foodways. They are, on the whole, much as the Medieval travelers described them. By far the most obvious change is the coming of New World food crops: maize, potatoes, tomatoes, green beans, and others. These were totally new when they appeared in the 1500s and spread only slowly; they received a major boost from the USSR. They are still spreading today. Influences from China and India have become stronger but were evident from earliest times.

The Eurasian heartland reminds us more clearly than any other region on earth that humans cannot eat grass or wood, as many animals can, and that most of the earth's land surface is covered with grass and wood. As we have seen, only a tiny percentage of the area has soil and water adequate for crops. The rest is covered with vegetation that provides food for humans only when cycled through herbivorous animals.

This is a fact that vegetarians conveniently ignore. Vegetarians survived and even thrived in the least deserts parts of Central Asia—the Buddhist monks, nuns, and priests, most notably—but they still depended on dairy products. Few if any vegans could survive. Although farming has been important in the region for over 7,000 years, hunting and stock-raising have always been the only food-productive uses of most of the land. Recently, as overhunting has caused game to diminish, stock-raising has become even more important.

Nowadays, the limited farmland produces largely grain and fiber (cotton), as well as fruit and a few vegetables; most of the latter are now New World ones. They are better adapted to the extreme conditions than most Old World vegetables.

Earlier influences in the region had been overwhelmingly from the Near East via Iran and the steppes, but increasing influence from Russia in the 19th century led to substantial takeover of all the region by Russian brands, except for Xinjiang and Inner Mongolia. Processed food such as canned items, jams, snacks and cookies tend to be Russian, or, failing that, from Eastern European countries formerly in the Soviet orbit. Borscht and many excellent forms of Russian salad are ubiquitous on menus. Bread and trimmings are Russian style, to the comfort of the traveler, since even poor imitations of Russian bread are generally superior to the white tastelessness of mass-produced international

breads. Meals in hotels and resorts follow Russian presentation norms. Vodka is common, even for breakfast in Mongolia. Islam mercifully saves most of the region (notably, not Mongolia) from the heavy alcohol abuse so chronic in Russia and Eastern Europe. Even so, abuse is far from unknown.

In an earlier age, influences went the other way: Russia got tea, *shashlik* (kababs), filled dumplings, noodles (or at least some noodle dishes), and much else from the Eurasian heartland, or from Iran via the Caucasus. Pickles, caviar, and a general fondness for herbs and vegetables came, in large part, from Iran via the same route.

Chinese influences are increasingly strong in Xinjiang and Inner Mongolia, where the majority of the population is now Han Chinese, and the indigenous peoples suffer increasing discrimination. Inner Mongolian food has long had Chinese influences, and the Gansu corridor has always blended Chinese and Inner Asian foodways. In Medieval times, Central Eurasian influences on Chinese food were strong, ranging from breads and dumplings to the whole range of dairy products. All this influence was much stronger in the North, but the South did not escape. Borrowing almost stopped after the Mongol period. The breads and dumplings stayed, but milk products disappeared. Françoise Sabban, the leading expert on this and many other aspects of Chinese food history, calls this “a forgotten *savoir-faire*.”¹

In contrast to China, the Near East has contributed much to the cuisine of the Eurasian heartland. This is for three reasons: first, agriculture was first in the Near East, and it naturally contributed to all the realms around it; second, the Eurasian heartland, in early historic times, was populated largely from the Near East and Eastern Europe; third, and most important, Central Asia is climatically and ecologically like the northeastern Near East and very unlike China or India.

This being so, it is no surprise that the staples are still the familiar Neolithic ones: the grains are wheat and barley; the dominant animals are sheep, goats, and cattle; and that the dominant fruits are grapes, pomegranates, and melons. The Eurasian heartland itself contributed the horse and the apple. The dominant vegetables are cucumbers, onions, garlic, cabbage (the western species, *Brassica oleracea*), coriander, carrots, and other Westerners. Sesame seeds are commonly sprinkled on breads and other baked foods. Spices are most commonly cumin, coriander (both leaves and ground fruits), and other apiaceous seeds from the Near East, as well as black pepper and cinnamon from India. Cardamom and cloves have become common in the Indian-influenced

1 Anderson, *The Food of China*; Sabban, “Un savoir-faire oublié: le travail du lait en Chine ancienne,” *Zibun: Memoirs of the Research Institute for Humanistic Studies* 21(1986), 31-65.

cooking of Afghanistan. Saffron is an expensive spice used in the areas nearest its current center of production and use, Iran. Ginger, when used, is in its dried and ground form, as in India. The Chinese use ginger fresh; this is not done in western Central Asia. Fresh ginger does occur widely in Indian cooking, but Indian uses have not spread far into the Eurasian heartland. Thus, the use of fresh ginger is largely confined to the areas now part of China.

Kababs, stews, and soups with large chunks of ingredients, thick stews, layered dishes, and any and all baked goods indicate Near Eastern origin. Stews of meat and fruit do also; these go back to Greek and Roman ideas, and were helped in their transmission by medicine, since the ancient Greeks recognized that fruit made heavy meat dishes more digestible. They often phrased it as a heating/cooling issue (meat being heating, fruit cooling). There were naturally other theories in play, but the sheer pleasure in the combination remains the dominant explanation. The Persian world has always idealized putting all sorts of fruit, herbs, and light vegetables in meat dishes. Ibn Khaldun in North Africa wrote that he “counted forty kinds of vegetables and meats in a single dish.”² This would be derived from a Mesopotamian, probably Persianized recipe. Recipes including “everything but the kitchen sink” were already known in ancient Mesopotamia³ and cast a long shadow over Persia and hence Central Asia—with a steady falling off in numbers of fruits and vegetables as one moves from Persianized south and east Afghanistan to Mongolia.

Concentrating on flowers, Central Asia seems not to use rosewater and rose petals on any significant scale, though they are passionately adored in food and as tea in many parts of the Near East and Mediterranean. Desserts are the milk puddings, ground rice puddings, and halvas, just as in the Near East.

2 Bread

In terms of culinary style, the most visible, obvious, and important Near Eastern contribution is bread. Most often, it is the Persian form known almost everywhere by the Farsi name *nan*. Everywhere in the Eurasian heartland along the main routes, the influence of Iran is overwhelmingly obvious in the bread. It is usually the flat, circular, leavened Persian bread, typically sprinkled with sesame seeds. This is known in Farsi as *nan* and the word has now spread through most of the Eurasian heartland. Often, it is pronounced *non*—o as in

2 Dale (2015), *The Orange Trees of Marrakesh: Ibn Khaldun and the Science of Man*, 232.

3 Bottéro (2001), *Everyday Life in Ancient Mesopotamia*; Bottéro (2004), *The Oldest Cuisine in the World: Cooking in Mesopotamia*.

“log.” This is a regular sound-shift: eastern Iranian languages usually convert long *a* to open *o*, so, for instance, Afghanistan is pronounced Aufghaunistaun in that country, and was often so spelled by 19th-century British travelers. The same sound-shift has occurred in Uzbek Turkic.

Persian bread has spread far beyond the word. It reached China probably with Persian refugees from the Muslim conquest in the 8th century; Persian refugees were apparently selling *nan* on street corners.⁴ In central and eastern China it shrank over time, becoming the *shaobing*, 燒餅, “roasted cake,” of today. Western China has moved in the opposite direction, making very large raised wheat flatbreads covered with sesame seeds (a specialty of Muslim areas). They often contain chopped green onions and are usually eaten with some sort of lamb dish. Buns, rolls, leavened breadstuffs, and unleavened chapati-like breads abound.

European-style industrial loaves are now common, largely because of recent Russian influence. A mild-tasting industrial form of Russian rye is found in stores in the former USSR countries, and in Mongolia, but rye bread is not normally an indigenous Central Asian item. Bread is almost always of wheat—today usually white flour from near-tasteless modern high-yield varieties, which have recently replaced the exquisite-flavored but low-yielding wheats of old. Heritage varieties still exist in remote areas, and should be a first priority for saving and breeding with modern wheats. The old varieties often have disease and weather resistance that makes them valuable today, as well as incomparable flavor.

In many parts of Europe, the Near East, and Central Asia, bread is sacred or highly respected. Rituals involving bread, and often centering on it, abound.⁵ Crumbs are carefully brushed up and disposed of respectfully, sometimes by feeding them to the wild birds. Finnish folklore (from the very edge of Central Asia) tells of a girl who naughtily stepped on a crumb of bread, and it carried her down to Hell (Marja Haikonen, personal communication). A Mountain Tajik from Tajikistan tells of getting into a fist fight over disrespectful treatment of bread, and credits his victory to his having saved a scrap of bread from being stepped on.⁶ The Afghan chef Said Hofiani relates that “Bread is considered sacred, and you shouldn’t abuse it or step on it.”⁷

4 Schafer, *Golden Peaches of Samarkand*, p. 29.

5 Van Oudenhouven and Haider (2015), *With Our Own Hand*, 97.

6 Van Oudenhoven and Haider, *With Our Own Hands*, 97.

7 Said Hofiani, *Afghanistan Cuisine* (author, 2008), 147.

A fascinating footnote to bread studies concerns Cyril Robinson's tireless inquiries into the history of the bagel.⁸ Robinson first noted ringbreads, similar to bagels, found among the Uighurs in Xinjiang. There are ringbreads scattered throughout the Near East and Central Asia. It seems likely that this is one tradition. They are not known to be associated with ancient Israel or Palestine; the Jewish bagel was one of the foods picked up in Eastern Europe, like its inevitable companions, lox and cream cheese. The circle was ritually important in ancient Eastern Europe, and the ringbread may have begun as a ritual product.

Bread is usually leavened, though the unleavened Indian *chapati* exists in southern Afghanistan and other areas. Leavening today is usually with ordinary yeast, *Saccharomyces cerevisiae*, whose native home is grape skins and other fruit and seed coatings. It probably spread to baking from winemaking and beer brewing. Other fermenting agents occur or once occurred in local sourdough cultures, but such are now rare.

3 The All-Important Noodle

Wheat succeeds so well partly because it is so versatile. Its sticky gluten allows for leavened bread, and for an infinite range of dishes that depend on dough holding together even in the thinnest sheets and longest extensions.

Anywhere in the Eurasian heartland, outside of the most isolated areas, the most likely food to find on a table, after bread, will be something made of boiled wheat dough. Noodle soup, with long wheat noodles in a rich broth with bits of mutton is the commonest. Dumplings made of various chopped fillings enclosed in a thin wheat-dough skin are also universal. Of the 95 "exotic" recipes in the *Yinshan Zhengyao*, 23 are noodle-based. Noodle recipes also frequently featured in the *Jujia biyong shilei*, including this recipes for *salma* which is often mentioned in other sources as well:

Noodle dish from the *Jujia biyong shilei* (22B, 13)

Salma ["water polished"] Noodles

Use the best quality flour. During the spring, the summer, and the autumn use freshly drawn water. Add oil and salt. First mix together uniformly. When the flour becomes dough-like, gradually add water. Press together into balls. Use the hands to [press] open. Make into [flat] lumps. Then sprinkle with oil and water. Combine by kneading one or two

⁸ Robinson, "The Bagel and Its Origins—Mythical, Hypothetical and Undiscovered," *Peteits Propos Culinaires* 58 (1998), 42-46.

hundred times. After doing this three or four times, the dough will be very soft, like a cake. With the dough placed on a table, use an *aop'eng* 拗捧 and roll out more than a hundred times. If one does not have an *aop'eng*, knead a hundred times with the hands. When the dough is ready, it can then be divided to make noodle fingernails [i.e., shaped like fingernails]. Put into recently cooled water. Soak for a couple of hours or so, waiting until the noodles are ready. Then put into the pot. [The noodles] will be ample and fine. Make them as one pleases. During the winter months soak the noodles in warm water.

Noodles provide one of the more complex problems for food historians and have attracted endless attention. The earliest known noodles have been found in a Chinese tomb possibly as much as 4,000 years old.⁹ They were apparently made from millet, though possibly from wheat according to a reexamination. Ge Wei and colleagues point out that one cannot stretch out or roll out millet dough—it has no gluten and will not hold together—but noodles of gluten-free grains are made in China by forcing dough through a sieve into boiling water, not by stretching or rolling. The noodles cook without being manipulated. Noodles and dumplings with wheat skins occur in Inner Asian tombs, in what is now Xinjiang, dating to Han and Tang times.¹⁰

Noodles did not appear in the Western world until they were invented, apparently independently, by the Greeks. This occurred in the later ancient period, probably around 400 CE.¹¹ They were known as *itria*, a word still used in Mediterranean languages. About the same time, flat dough sheets called *laganon* were being baked, later fried, and layered with cheese and honey. In Sicily—a Greek realm until the Arabs took it in 800 (parts remained linguistically Greek for hundreds of years after that)—the *laganon* was boiled, interlayered with cheese, and topped with white sauce; the name evolved into *lasagna*, apparently during the Arab occupation (800-ca. 1100). Thus was born the first modern pasta dish of the West. Many noodle types and dumplings with noodle-dough skins evolved. The story that Marco Polo introduced pasta from China is, of course, pure fiction.¹²

Chinese noodles, *mian* 麵, spread from the East. The word *mian* is a general Chinese word for flour and flour products.

9 Wei, Liu, Chen, and Jin, “Can Noodles Be Made from Millet? An Experimental Investigation of Noodle Manufacture Together with Starch Grain Analyses,” *Archaeometry* 53 (2011), 194–204; Feng (2013), *Early China: A Social and Cultural History* (Cambridge, 2013), 38.

10 Anderson, “Ancient and Modern Foods from the Tarim Basin,” *Expedition* 52:3 (2010), 5–6.

11 Serventi and Sabban (2002), *Pasta: The Story of a Universal Food*.

12 See Serventi and Sabban, *Pasta*, for the full history of pasta in the west.

The cities and oases of the Eurasian heartland were conquered by noodles and by dumplings wrapped in noodle dough, more thoroughly than by armies. Noodles and dumplings are now a major food everywhere. The dumplings may have started as the *samusa* or *samosa* of the Arabs; that word is said to be from Farsi *sanbosag* (Wikipedia, “*samosa*”). Boiled dumplings may be even older. The word *samusa* has now been borrowed from Africa to India, appearing in Central Asia as *samsa* or *somsa*. On the other hand, archaeological finds of dumplings in Tang Dynasty tombs in Xinjiang¹³ possibly indicate an actual local origin. To the Eurasian heartland, specifically to Siberian groups, e.g., the Yakut and early Turks (by all evidence—but we cannot be sure), we owe the word *manty* for dumplings.¹⁴ One or another variant of this word now stretches from Greece (*manti*) to Korea (*mandu*), and China (*mantou* and *mantai*). They are generally boiled or steamed, and are filled with chopped meat and onions or similar chopped fillings. Despite this, the Chinese *mantou* are now unfilled—simply steamed dough buns. Russian and East European words for dumplings—*pelmeni*, *vareniki*, *pierogi*—trace back to other Turkic terms. (The Jewish word *kreplach*, on the other hand, has a Hebrew root.) It appears that the dumpling found its true fulfillment among the Turkic peoples. Italian ravioli possibly descend from Greek *manti*, but the distinctive word likely indicates a quite independent origin.

In China, they have evolved into large unfilled steamed buns. The small filled dumplings were originally called *mantou* 饅頭, as we know from such sources as the diary of the Japanese traveler Ennin in the Tang dynasty.¹⁵ These dumplings are now *jiaozi* 餃子 and are steamed or shallow-fried.¹⁶ The term “wonton” in English is derived from the soup *huntun* 餛飩. The Chinese is a graphic description of the thick soup with dumplings floating in it; it literally means “original chaos from which the universe formed.”¹⁷ *Mantou* has developed a rather grisly folk etymology: it sounds like “barbarian heads,” and supposedly commemorates heads seen floating down the river after a Three Kingdoms battle. However, this legend is referred to in only some of the names used for the dumpling in China. The form of the word in the *YSZY*, for example, is written like a foreign transcription. Filled fluffy buns (as opposed to small dumplings) are now *baozi* (etymologically “little wrapped ones”), but from Shanghai north they are often still called *mantou* (Katy Hui-Wen Hung, Facebook postings, Jan. 4-5, 2020).

13 Anderson, “Ancient and Modern Foods from the Tarim Basin.”

14 Buell, “Mongolian Empire and Turkicization: the Evidence of Food and Foodways.”

15 Reischauer (1955), *Einmin's Diary The Record of a Pilgrimage to China in Search of the Law*.

16 Anderson, *The Food of China*.

17 Anderson, *The Food of China*; Girardot (1983), *Myth and Meaning in Early Taoism*.

The following are some sample recipes. Two are for *Manti* and one for Peremech meat pies:

1. Cut Flowers *Manta* (YSZY 1, 47B-48A)

Mutton, sheep's fat, sheep's tail, onions, prepared [dried, then soaked] mandarin orange peel (cut up each finely).

[To] ingredients add, according to recipe, spices, salt and sauce. Make the stuffing. Form the *manta*. Use scissors to cut out into various flower shapes. Steam. Use safflower to dye the flowers.

2. Oshkovok *Manti*, steamed pumpkin dumplings (Charles Perry, personal communication Nu'mankhojaev family)

Manti can be stuffed with meat or vegetables. Winter squash is a favorite filling. Since *manti* are steamed, rather than boiled, the method of sealing the packets doesn't have to be as sturdy as would be the case for ravioli. If the piece of dough is circular, the cook folds it over the filling and crimps closed about half way from one end to the other, before he turns it around, and crimps from the other end to make a sort of clutch purse shape. With a square piece, the corners are usually folded to meet in the center and crimped together to resemble an Egyptian pyramid. The unusual method described below is traditional in the Ferghana Valley of Uzbekistan which produces an unusual scarab shape:

Filling:

1 winter squash such as butternut, about 2 ½ pounds before cleaning out
1 onion, minced

Oil for frying

¾ teaspoon salt, or to taste

teaspoon cayenne

¼ teaspoon cinnamon

¼ teaspoon turmeric

With a large serrated knife, cut the squash in half. Scrape out the seeds with a spoon. Bake the squash halves at 350 degrees until soft, 45 minutes to an hour. When cool enough to handle, scrape the flesh from the rind with a spoon and mash it.

Fry the onions until golden. Mix with the squash paste and salt, cayenne, cinnamon, and turmeric.

Pasta:

4 cups flour

2 teaspoons salt

2 eggs

About 4 cups water

1 stick butter, melted

1 pint sour cream

Put the flour in a large mixing bowl, stir in the salt and break the eggs into the bowl. Add the water and form into a kneadable dough, adding more water or flour if needed. Knead firmly until smooth and elastic, about 8 minutes. Cover the paste with plastic wrap at least ½ hour to rest.

Cut the ball of paste into 8 equal pieces. Remove one to work on and cover the rest with plastic wrap to keep them from drying out. Roll the first piece in a pasta machine as for fettuccine (next to finest thickness). Cut into 4-inch squares and stuff each with 2 tablespoons of filling.

The Ferghana method:

Fold one corner of paste over the filling, then fold the opposite corner over that. Repeat with the other two opposite corners. Place your index finger vertically alongside the flat edge created by the first fold (do not put it next to one of the edges created by the second sequence of folding or the packet will pull apart). Use the index finger and thumb of your other hand to pull one of the packet's corners around that index finger; hold it there with the middle finger of the first hand. Then pull the next corner over the index finger and firmly pinch the two tabs of paste together. Repeat on the other side and tug the packet to give a neat oval shape.

However you fold them, dip the bottoms of the *manti* into melted butter as they are finished to keep them from sticking to each other or the steamer, and set on a work surface covered with plastic wrap. Put as many as will conveniently fit into your steamer at one time, probably 3 or 4, and steam over boiling water until the raw dough aroma is replaced by the smell of squash (about 20 minutes). Set aside while working on the rest of the paste and filling. *Manti* reheat well in a microwave oven.

Serve 1, 2, or 3 *manti* per person, with sour cream to taste.

Makes about 24 *manti*.

3. *Peremech*, Tatar “window” meat pies (Turanmirza Kamal)

2 cups yogurt

Water

½ teaspoon salt
 ¼ teaspoon sugar
 2 eggs
 4½ to 5 cups flour
 3½ tablespoons butter
 2 large onions
 1 ½ cups chicken stock
 1 pound ground beef
 1 teaspoon salt
 Pepper

1 cup oil for frying

Beat ½ cup of the yogurt with ½ cup water, salt, sugar, and eggs and add enough flour to make a slightly stiff dough. Knead with the butter until stiff, 7 to 8 minutes. Cover and let rest 1 hour.

Peel and dice 1 onion. Add to the chicken stock in a saucepan and simmer until the onion is soft. Set aside.

Peel the remaining onion, mince, and mix with ground beef, salt, pepper and ¼ cup water.

Divide the dough into golf ball-sized lumps. You will have about 24 of them. Roll each lump out to circle about ⅛-inch thick. Divide the filling among the dough circles. Place the index finger of one hand in the center of filling and use the thumb, forefinger, and middle finger of other hand to fold the dough up to the index finger. Pinch the dough together in tight pleats.

Heat the oil in a frying pan and fry 3 or 4 *peremeche* at time, placing them face down (“window side” down) in the oil until golden and then turning over to finish frying. Serve hot.

To serve, spoon some of the onion and broth onto each *peremech*. Then add 1 tablespoon yogurt.

Makes 8 to 12 servings.

And here, for comparison is an old recipe for *samosa* (YSZY 1, 29B):

Barley *Samsa* Noodles

They supplement the center and increase *qi*. They strengthen spleen and stomach.

Mutton (leg, bone and cup up), tsaoko cardamoms (five), chickpeas (half a *sheng*; remove the skins).

Boil ingredients together into a soup. Strain [broth. Set aside meat]. Make [*samsa*] noodles from a combination of 3 *jin* of barley flour, 1 *jin* of

bean paste. [Fill with] mutton and fry. Adjust flavors with fine *qima* [finely cut up meat], 2 *he* of juice of sprouting ginger, coriander leaves, salt, and vinegar.

In Afghanistan, filled dumplings, often containing leeks or Chinese chives as well as meat, are often seen in the dish *ashak* (Iranic *ash*, “stew”). This dish involves cooking the dumplings in tomato sauce or something similar and usually includes yogurt. With proper spicing, it is one of the most interesting dishes from the cities and oases of the Eurasian heartland.

In Turkic Central Asia (specifically in Uighur and in other southern Turkic languages), noodles or noodle soup are *laghman*. This word may derive from Chinese *la mian* 拉面, pulled noodles, or perhaps the word went in the other direction. We suspect a connection with Iranian *lakhsha*, seen all over Asia (e.g. Bahasa Malaysia *laksa*, which has actually been borrowed into Chinese, via Chinese merchants who went to Malaysia and Indonesia and returned home with recipes). There is, for instance, Afghan *lakhchak*, a lasagna-like dish made with wide flat noodles. Nonetheless, the word *laghman* is unique to Central Asia and China; Farsi and other languages to the westward lack it. A long discussion of this issue, with countless words from many languages adduced, was aired by Victor Mair and others on “Language Log” in 2014.¹⁸ There is even a Laghman province in Afghanistan, although its name is a transformation of ancient Lampaka via later historic Lamghan.

4 Other Grain Foods

Millet, formerly far more important than now, is normally eaten as porridge. Early accounts show it was often, or even usually, boiled in the stock of boiling meat after the meat was taken out.

Wheat is often made into thick porridge also. Ibn Battuta, commenting on what is now Ukraine or South Russia in the early 14th century, found that the Turks there “do not eat bread nor any solid food, but they prepare a dish made from a thing in their country like millet, which they call *dūqī*.” The word now means pounded rice; presumably it was millet at that time. They boiled water, stirred this in, added meat if they had it, and ate it with yogurt or kumiz. He also describes eating it—*dūqī* this time—with dried meat on it.¹⁹ This would be similar to the various wheat-and-meat porridges of the Near East and Cen-

18 Go to <<http://languagelog.ldc.upenn.edu/nll>>.

19 Ibn Battuta, *The Travels*, volume 3, 539.

tral Asia, as seen in the *YSZY*'s initial recipes. They also made beer from this grain and called it *būza*²⁰—the Persian or Turkic word that is the origin of the English word “booze.” (*Boza* is an Old Turkic word as well as an early Persian one.) The liberal Hanafi Turks drank it without guilt, since though alcoholic it was not wine (*khamr*) or strong drink; it was *nabidh*, originally date wine, held legal by Hanafi because of its mild or nearly absent alcohol content. They also drank mead on the same theory.²¹

Most of the Medieval Turkish grain dishes are still prepared by the Central Asian nomads. Apart from the porridgy beer called *boza*, they are summarized by Charles Perry in the following categories:

1. Preparations of whole grain: *talqan* (crushed grain, or a porridge made from it; sometimes flour or toasted flour); *qawirmach/qawirmaq* (fried or toasted grain), *yarma* (split barley).
2. Soups and soup adjuncts: *botqa* (porridge or soup with small pasta), *töp* (thick porridge), *köçhä* (crushed grain cooked with dairy products), *bulamıq* (thin porridge), *ovmach* (pea-shaped noodles), *salma* (broad noodles of varying shape; in Kazakhstan, where *salma* is usually rectangular, more often served with boiled or roasted meat, as we might serve rice, than in soup), *kesme* or *kespe* (literally, “cut”; this is the modern name for sliced noodles, replacing the Medieval word *tutmaj*).
3. Breads and pastries: *bawırsaq* (lumps or disks of rich fried dough; when fried in mutton fat, they keep indefinitely and are carried by travelers as provisions for the road), *quymaq* (thick pancake of leavened dough containing egg), *chälpäk* (pancake or thin bread fried in deep fat), *kömäch* (thin bread fried in ashes; the coin-sized Kirgiz version is served in hot milk with butter and thickened yogurt), *toqach* (usually a bun; used as the general word for bread in Kirgiz), *chöräk* (fine bread; among nomads, only known to the Turkmens and Kazakhs), *yupqa* (thinnest flatbread, often served or made in layers), *qatlama* (fried bread made from dough rolled out thin, greased or sprinkled with dried fruit or fried meat, rolled up tightly and then sliced crosswise, jellyroll-fashion), *qatırma* (thin bread fried in a *qazan*), *böräk* (a small savory pie; among the nomads, only known to the Kazakhs and Turkmens; among the latter, a sort of ravioli).

20 Ibn Battuta, *the Travels*, volume 2, 474-5.

21 Ibn Battuta, *the Travels*, volume 2, 495.

The present-day Kazakhs make *belish* (literally, pillow), a class of pies with various fillings, but this is doubtless a borrowing from the settled Tatars, who have a vast repertoire of pies of various shapes and compositions. It requires a tandoor or other oven, so it is not nomad food.²²

5 Cooking Meat

The importance of meat in Central Asia finds no better documentation than a variant of Omar Khayyam's famous quatrain translated by Edward Fitzgerald:

A book of verses underneath the bough,
A loaf of bread, a jug of wine, and thou...²³

The variant (in the Persian) has "a book of verses" replaced by "a leg of mutton."²⁴ That version makes sense before dinner, but after dinner the book of verses may seem more appealing.

As noted above, meat came from sheep, horses, cattle, camels, goats, and game. This list is in approximate order of importance, although some groups, notably the Kazakhs, have long preferred horse meat. Game was formerly exceedingly plentiful in many areas; it has been killed off in the last couple of centuries. As we have seen, the Mongols, at least, preserve highly conservationist rules,²⁵ but many others do not.

Across the region, there are several ways to cook meat. Two we have met above: cooking bits of it in soup with noodles; or stuffing it, chopped, into dumplings. Other methods are more robust. One is pilau, pilaf, or plov: rice with meat chunks or other chunked, moist items cooked in or under it. There are countless recipes, some of which will appear below. Occasionally, vegetarian pilafs are seen. The word is apparently Farsi, *pilau*; this led to *pilav* and thence *pilaf* in modern Turkish, to *palav* in Turkmen, *palo* in Kyrgyz, *palau* in Kazakh, *polo* in Uighur, and *plov* widely in Uzbekistan and the area near it. There are other pronunciations throughout the world. *Pilau* was picked up into English from Turkish around 1600, the earliest attestations being in travel

22 Perry (1997), "The Horseback Kitchen of Central Asia," 243-248 (p. 246).

23 Khayyam (1900), *The Rubáiyát of Omar Khayyam*, trans. Edward FitzGerald, 98.

24 Arberry (1959), *The Romance of the Ruba'iyat*, 117.

25 Humphrey and Onon, *Shamans and Elders*; Metzko, "Articulating a Baikal Environmental Ethic," *Anthropology and Humanism* 30 (2005), 39-54; Anderson personal research.

books from 1612 (*OED*). Apparently “the first detailed description of how to prepare a pilaf properly” comes to us from Avicenna (Ibn Sīnā, ca. 980-1037).²⁶

Another robust dish is the kabab (pure Arabic: *kabāb*), a skewer of small bits of meat, typically alternating with small bits of tail/rump fat of the fat-tailed sheep. Other kababs involve meatballs, vegetables interspersed with meat, and long thin strips of meat. Kababs are rarely the huge ones of American restaurants; most are more like Indonesian *saté*, about 6 inches long with small items skewered. *Shishkabab* involves marinating the meat. Russian *shashlyk* is from Persian via Central Asian Turkic and means more or less the same thing as *kabab*, with some implication of being larger and possibly having vegetable cubes interspersed with the meat. Not all *shashlyk* is on a skewer, and most types of kabab are not; skewered ones are properly *sikh kabab*.

There are many recipes for meat stewed with vegetables or fruit. Some of these go back to medieval Arab and Persian recipes.²⁷ The Persian word *ash* for stew is limited in use, and in Afghanistan it has become specialized on one dish (dumplings with leeks, *osh*). It is far more common in Turkic languages where *ash* is a generalized term for a dish that is not exclusively meat, and even what we would consider a pastry in some cases. Arabic *qurma* is more widespread, in various forms and borrowings, as is the equivalent Mongol and Turkic *shulen/shölen*. The latter is almost universally a thick soup with additives, even gathered foods. This variant is associated with Nepal, Balpo being an old name for that region. The food is basically Mongolian court food even if some of the spicings are not. Note the use of Turkic words for small coins to indicate sizes; using coins to indicate size is a standard Near Eastern device:

A *Shülen* from the YSZY (1, 27A-27B)

Bal-po Soup (This is the name of a Western Indian food.)

It supplements the center and brings down *qi*. It extends the diaphragm.

Mutton (leg; bone and cut up), tsaoko [large brown] cardamoms (five), chick peas (half a *sheng* 升;²⁸ pulverize and remove the skins). Chinese radish.

Boil the ingredients together to make a soup. Strain [broth]. [Cut up meat and Chinese radish and put aside]. Add to the soup [the] mutton cut into *sashuq* [coin]-sized pieces, [the] cooked Chinese radish cut up into *sashuq*-sized pieces, 1 *qian* of *za'faran* [saffron], 2 *qian* of turmeric, 2

26 Nabhan, *Cumin, Camels and Caravans*, p. 135.

27 Rodinson, Arberry, and Perry (2001), *Medieval Arab Cookery*.

28 A *sheng* is today 516.19 ml.

qian of black [“Iranian”] pepper, half a *qian* of *kasni* [asafoetida], cordian-der leaves. Evenly adjust flavors with a little salt. Eat over cooked aromatic non-glutinous rice. Add a little vinegar.

Much rarer, but extremely valued when it does occur, is the roasting of a whole animal and sharing it among a whole group. A rich leader will do this, often to reward his followers and make them more obligated to him. Followers who were not properly feasted would tend to find a more generous host. Steppe politics being what it was, the generous leader would often be an enemy of the stingy one. The survival chances of a stingy leader would then be very close to nil.²⁹

The Central Asians also shared in the great West Asian tradition of lavish hospitality and enjoying life with family and friends. Modern medicine has indeed found a correlation between longevity and time spent relaxing with friends.

The Mongols prefer to boil meat, often in large pieces, because boiling preserves the vital essence of the meat, found in the bone and blood. Boiling also helps provide liquids where other liquids are scarce. The Mongols, and other steppe groups, also pit-barbecued whole animals. The pits were lined with aromatic vegetation—leafy willow boughs in a 14th-century recipe (YSZY; see below):

Willow-Steamed Lamb (YSZY 1, 47A)

A sheep (one with hair),

[For] ingredient construct a brazier on the ground three *chi* 尺 [about 1.5 m] deep. Surround with stones. Heat the stones until red hot. Use a *tabaq* [plate] to hold the lamb. On top use willow [branches] to cover and seal with earth. Cook until done].

Readers without a farm background need to know something of the strategies involved in using an animal killed in the field. There was blood everywhere, some of which can be recycled into sausage and other products using blood (although such use is prohibited by Islam). As the animal is cooked, people become merry with the good food and drink by their side (alcohol is also prohibited in Islam). There is a great variety of organs. The Mongols, and evidently all nomads before Islam brought in its restrictive rules, ate and still eat literally every part of the animal: skin, head, feet, lungs—everything. They do not now eat the bones, though they probably once had the custom. These were

29 See, e.g., *The Secret History of the Mongols*, and Robertson, *The Kafirs of the Hindu-Kush*.

certainly involved in broth-making. The custom of bone-eating was found until recently among Plains Native Americans in North America, who pounded up the bones and boiled them down to get the last bits of broth and fat. “Bone grease” was highly prized. Worldwide, bones are split and the marrow sucked out after cooking. Some stalls in the huge Tashkent public market still specialize in marrowbones, sawn open for convenience.

Muscle meat can be salted, packed down in grease (which seals it if no meat is left sticking above the top grease layer), or dried. Drying is common in every dry climate in the world. In the Americas, it was known by the Quechua Indian name *charqui*. This became “jerky” in English, and led to a rather delightful extension of the verb “to jerk” for preparing same. In South Africa, it is *biltong*. In any event, in a dry climate, muscle meat can be saved indefinitely once an animal is butchered. The meat is often salted for drying.

This is not true of the internal organs. They are moister, richer in nutrients, and largely impossible to preserve. They must be eaten at once. Hence the worldwide popularity of the type of dish represented in Central Asia by the Azeri *djyz-byz* and Uzbek *kalya pochka*. This is a variant of the Iranian *kale pache* (pronounced kah-leh pacheh), “heads and feet.” It is a stew of lamb brains, tongues, and feet. The Iranian word has been borrowed, variously altered, all over Central Asia; it has even reached the Uighur, as *khoi padji* or similar words. Stews of this kind are made from the more spoilable internal organs. The *pache* of Iran involves head, stomach, feet, and sometimes tongue and other parts of sheep. The Iranian and Armenian equivalent is *khawsh*, a stew of cow tripe, lamb tongues, and sheep brains. The Armenian version has pig feet. It is often as a hangover treatment; it is definitely a man’s dish, though some women love it. There is also an Afghan variant. There are Mexican counterparts such as *menudo* (“minor” parts) consisting of cow tripe, and *birria* (“left over”), lamb stew made of anything from butchering. The latter dish probably has Moorish roots, but could go back much farther, to Paleolithic cuisine! El Salvador’s *sopa de pata* of tripe with a cow’s foot is similar. Indeed, most cuisines worldwide have something of this sort. From *kale pache* to *menudo*, they generally have a reputation as hangover cures.

Blood, as noted, and stray leftover bits and the less damp internal organs can be made into sausage, which provides a use for the animal’s intestines. Often much of the muscle meat goes into these also. In Turkic areas, the horse is particularly favored, because it provides a huge amount of good, sweet meat for sausages, as in the *kazy* of the Kazakh. Horse meat is high in glycogen, “animal starch,” used to bank energy by bonding sugars into a long-chain molecule. This makes it taste sweetish when cooked. It tends to be more tender than mutton and other meats.

Ibn Battuta observed of the Turkic nobility in South Russia: “Their food consists of boiled horse-meat and mutton,” cut up with the bone in the meat.³⁰ Apparently even royal banquets consisted of nothing else, except *kumiz* or mead to drink.

Chicken is now common in towns, cities, and agricultural areas. A favorite preparation is *tabaka*: split, flattened, and roasted, often brushed with oil or covered with tomato or sour plum sauce. It is sometimes confusingly Englished as “tobacco chicken.”

Fish used to be common anywhere near rivers and lakes, but pollution, over-fishing, and loss of lakes and waterways—the Aral Sea is only the most extreme case—have devastated the once-vast populations of sturgeon, carp, and other good aquatic foods. Sturgeon, once a major food resource of the region, are now facing extinction because of overharvesting for caviar as well as habitat loss. Still available in rivers of western Central Asia is the sander (or zander, pike-perch, *Sander* spp.), a superb fish with firm white flesh, extremely popular for kababs and roasting. In the east, excellent salmon, trout, sturgeon, carp, and relatives, as well as less gourmet-approved fish, occur in the northward- and eastward-draining rivers of Mongolia.

The “poor man’s meat,” legumes, are food of settled people rather than of nomads. Chickpeas abound everywhere in Central Asia, but other legumes do not. New World beans and Indian mung beans appear especially in the southern parts such as southern Afghanistan, and soybeans have now moved into Xinjiang, largely in the last 100 years. Yellow split peas are important in Afghan cooking.

Charles Perry summarizes traditional meat use in the nomadic and once nomadic world as follows (transcribed forms are his renderings):³¹

At one time the nomadic Turks must have had a dish of fried meat called *qawirma*, to judge from the presence of the word in India (*korma*), Iran (*ghormeh*), and the Levant (*qawirma*). In the latter two places, the name refers to mutton preserved in fat, a sort of mutton *confit*. The modern nomads (and their settled Tatar cousins to the north) call a fry-up of meat, usually including various organ meats and offal, *qawirdaq* (in Kazakh, *kuirdak*), and this word has entered Russian as *kavardak*, ‘confusion, disorder, mess.’

In ancient times, spit-roasted meat was called *söklüinchü*. This is from a root meaning “to snatch or tear off”).

30 Ibn Battuta, the *Travels*, 2, 95.

31 Perry, “The Horseback Kitchen of Central Asia,” 244-45.

6 Dairy Foods

Dairy products, which the English once called “whitemeat,” are all-important throughout the Eurasian heartland. They are the staples of the nomads, today along with what wheat flour they can get. Nonetheless, most of the inhabitants of the region, especially in the East, lack the gene for lactase, the enzyme that allows digestion of fresh milk in adulthood by breaking down lactose—milk sugar—into galactose and glucose. Most human beings stop producing the enzyme lactase at about the age of six. They cannot break down and digest lactose. Fresh milk then causes bloating, gas, and indigestion, comparable to eating a great deal of beans. A young mammal has no need to produce lactase in adulthood, since it encounters milk only in infancy.

In two parts of the world—Europe and East Africa—people have had to depend heavily on fresh milk over a great deal of history and prehistory. Mutations have arisen that allow production of lactase throughout life. Europeans have one gene for this; East African pastoralists have up to four. The European gene apparently arose early in the history of dairying, about 5000-7000 years ago, give or take a millennium or two.³²

East of Ukraine and the Caucasus, rather few Asians have these genes; in Mongolia and Xinjiang, very few do. Drinking a glass of milk does not hurt much, but beyond that one glass, indigestion generally follows. Asians thus depend on bacteria, *Lactobacillus* species and others, to break down the lactose. Milk is converted into yogurt, kumiz, or cheese. Hard cheese manufacture both microbially breaks down lactose and disposes of it in the whey.

Alternatively, people can separate off the protein fraction (as hard curds) and discard the lactose-rich whey. Hard balls, cakes, or powder of dried skimmed milk or yogurt are universal staple foods of nomads—the *qurt* of the Turkic world, *aaruul* of Mongolia, and *kishk* of the Arabs. These are usually made from yogurt, sometimes from unsoured milk. If unsoured milk is simply dried, this merely concentrates the lactose, so (often or usually) the milk is soured and the whey is separated.

Butter-making also gets rid of the whey and lactose, but nomads have little time to churn, and in any case, Central Asians tend to prefer using cream to churning and separating the butter. Butter is important for Buddhist worship, so is produced where Buddhism is practiced. Boiling milk and skimming off the successive skins that appear on the boiling milk, which concentrate the fat, is more common than butter-making in many Central Asian areas. The

32 Curry, “The Milk Revolution,” *Nature* 500 (2013), 20-22

skimmed-off skins, as well as concentrated cream in general, are widely known by the Turkic word *qaymaq*.

Finally, to some tastes the best way of getting rid of lactose is to make *kumiz*, fermented mare's milk. Horse milk is particularly high in sugar, to fuel the foal, which must be able to run away from wolves almost immediately after birth. This sugar is great food for yeasts and *Lactobacillus*. Other animal milks can be used, including cow's milk, in which case sugar must be added, producing a product generally considered inferior. Human milk is also high in lactose—to fuel brain growth, not for escaping wolves—so it might make good *kumiz*; knowing the nomad world, we are sure someone has tried it.

The drink is extremely popular with the nomadic groups. (It is now obligatory even for urbanized celebrations. At a Ph.D. thesis defense by a Kyrgyz student at the University of Washington, Seattle, her family had *kumiz* flown from home for the event, and all those present, including author Anderson, had some.) Even Muslim groups consume it, in spite of the Islamic prohibition of alcoholic drinks. *Kumiz* can also be distilled, producing a vodka-like drink generally known by some derivative of Arabic *'araq*, literally “sweat” or “sweated.” This standard Arabic word for distilled alcoholic liquids has now spread from Mongolia to Indonesia and from England (“arrack”) to Africa. Milk vodka is not as well-known as it should be, and would sell outside Mongolia if someone can figure out a way to mass produce it commercially. It is at least sold in Mongolian supermarkets, so mass production could start soon.

It is hard to explain why the human gene for lactase production in adulthood did not spread from Europe eastward, given the enormous amount of gene flow in history and the obvious usefulness of the gene. The two explanations are that nomads need to preserve the milk anyway and thus to dry or ferment it, and that most of the gene flow was from East to West. These explanations are not fully adequate, and we are left with a bit of a mystery.

7 Other Drinks

Tea is called by the Farsi word *chai* almost everywhere. *Cha* 茶 is the North Chinese word for the item. The telltale Iranic ending *-i* shows who really distributed tea throughout the region. Tea was, of course, known before modern Farsi evolved, nonetheless, the Farsi word seems to have displaced any earlier words. One can easily tell which parts of the world learned of tea via the routes of the Eurasian heartland by following the progress of this word, which is the term for tea from Russia to India. Countries that traded directly with China call it either *cha* or *te*. The former is the usual word for tea in most Chinese languages. The latter is the pronunciation of *cha* in Fujian 福建 province, long a

center of tea production and trade. *Chai* demonstrates the enormous importance of the Iranic cultural world in Central Asia. Pronunciation usually remains close to the original, but with expected regional changes: in Kazakh the word has evolved into *shäy*; in Uzbek, *choy*.

Iranic peoples along the Silk Road as well as along its associated routes, gated and mediated trade and distribution of China's most famous product. This was even true within westernmost China itself.³³

Tea shops are *samovar* in Afghanistan. The name shows a Russian background, with extension of the name from the famed Russian teamaking device. The Farsi term *chaykhana*, "tea house," is common everywhere and is replacing *samovar*.³⁴ As elsewhere in Asia,³⁵ the tea house is the center of socializing, the poor man's office, the home of debate and politics, the leading venue for music and other entertainment, and everyone's Third Place *sensu* Ray Oldenburg.³⁶ Islam forbids alcohol; bars are not there to compete. We not aware of active suppression (as there was sporadically in China,³⁷ and as there has so often been of coffee houses in the West), but the tea shop role in fomenting political unrest did not escape authorities.'

Sharbat (Arabic, from the root *sh-r-b*, "drink") is fruit juice or blended-up fruit, now often blended with milk, and sometimes flavored with spices or seeds. See below, under Afghanistan.

Alcohol is forbidden by Islam, though plenty of it enters the Muslim countries. Mongolia makes beer and vodka, inevitably named after Chinggis Khan (as spelled on the bottles). It also imports much vodka from Russia.³⁸

8 Vegetables

We have listed above the standard vegetables. In cooking, onions are universal, cut up into slices or chopped and added to salads, soups, and dumplings. Carrots are widely used in pilafs, especially the *qabuli pilau* and its relations. Potatoes are ever more widely used, often fried. Russian and Iranian influence has made herbs and salads widespread. Few meals in the ex-USSR nations are

33 There are several other words for tea out there; see Mair and Hoh (2009), *the True History of Tea*, especially Appendix 3.

34 Dupree, *Afghanistan*, 153.

35 Di (2008), *The Teahouse: Small Business, Everyday Culture, and Public Politics in Chengdu, 1900-1950*.

36 Ray Oldenburg (1997), *The Great Good Place*.

37 Wang, *The Teahouse*.

38 On alcohol in central Asia, see Fragner, et al., *Wine Culture in Iran and Beyond*. A lot more drinking went on than is generally realized.

without the ever-present cucumber and tomato salad; normally the two are simply cut up, but often they are at least salted, and sometimes given a dressing. Russian salads with mayonnaise and/or beets are general in hotels and international-style restaurants in the ex-USSR countries and Mongolia. Tomatoes enter widely into soups and stews. Garlic chives and leeks are common in Afghanistan and widely used elsewhere in more southerly parts of the region. Vegetables are considered far beneath meat in worth and prestige. Nonetheless, they enter, in their unobtrusive way, into all meals and almost all “made” dishes.

A vast number of shoots and leaves is used for greens, especially in spring. Purslane, dandelion, dock, clover, thistles, cresses, and other less familiar plants are heavily used. Roots such as cinquefoil, wild lilies, wild onions, and clover contribute, as in the case of Cinggis-qan’s childhood. Their vitamin C can be lifesaving after the long, hard winters. All traditional people have knowledge of local plants, but pastoralists must be especially aware of them, because the herders have to know what plants are good for livestock, what are poisonous, and what are medicinal. Herbivores usually know what to avoid, but sometimes they eat dangerous plants. They may overeat favored but not ideally nutritious plants—what American ranchers call “candy plants.” Humans have, in the past, learned from livestock what can be eaten and what are the effects of specific plants.³⁹ Food thus grades into medicine. The Medieval and later texts discuss medicinal eating at great length. These sources explore both the medicinal values of common foods and the edibility of medicinal plants.

Forest foraging occurs in favored areas. Gathered are mushrooms (perhaps especially in Mongolia which has given China one of its words for mushrooms, *möög*, Chinese *mogu* 蘑菇), young tender pine cones (boiled), and even pine bark. The Siberian stone pine (*Pinus sibirica*) produces highly valued pine-nuts, largely in northern Mongolia.

In short, vegetable foods are highly important in Central Asia. This is a point rarely made in the literature, focused as it often is on animals.

9 Sweets

The overwhelming popular choice for sweets is fruit, both fresh and dried. The “Strawberry” song that opens this book conveys the popularity of this fruit,

39 Information from Anderson’s research on several continents. Discussion with Rainer Bussman, an expert on montane plants of west and central Asia, is gratefully acknowledged.

which in late spring appears in unbelievable quantities in the markets of the more agriculturally productive areas. Cherries, mulberries, pomegranates, and other spring fruit appear with them. Pomegranates are relatively storable and bear over a long season, making them a more regular food. Their red jewel-like seeds probably gave their name to garnets, because of the resemblance. These seeds are sprinkled on top of pilafs and other dishes. More common year-round are dried mulberries, apricots, raisins, and sometimes other items. Dozens of stalls in the vast Tashkent market, and countless stalls, roadside stands, local shops, and sidewalk set-up tables everywhere in the region, sell nibbles of dried fruit, nuts, and seeds. People spend a great deal of time nibbling on these convenient foods. Stuffing dried apricots with nuts and raisins is a more elaborate preparation. Dates, generally a rare luxury (less rare in Afghanistan), are similarly treated. Nuts, mostly walnuts but often also almonds, pistachios, and others, are eaten with dried fruit and are made into various pastes and sauces. Stalls and sidewalk vendors provide nibbles of dried fruits and nuts, as in the Iranian world.

Wild berries and fruits are important where found. Cranberries (*Vaccinium* spp.) are popular, often under the Russian names of *kliukva* (or *klikva*) and *brusnika*. In addition to jam and eating fresh, they sometimes get into horseradish, a wonderful combination. Sea buckthorn (*Hippophae rhamnoides*) is one of the few good fruits growing in desert conditions, and thus widely used, sometimes grown in small orchards. A wild apple relative called *bayarka* in Kazakhstan provides good fruit. Wild roses, currants (*Ribes*), and other fruits are locally available. Wild apples, almonds, apricots, and other wild forms of domestic fruits persist in mountain areas.

More ambitious are the many types of halwa, ranging from simple sweetened flour dough to milk preparations and sesame, carrot, and other halwas. Baklava-type dishes are widely but not commonly found. Russian jams and preserves are much more in evidence.

10 Spicing

Elisabeth Rozin⁴⁰ has pointed out that a cuisine is best defined by its signature spicing. Most of Central Asia uses a classic Near Eastern mix: black pepper, coriander (the ground seeds and the fresh leaf), and cumin. Often cinnamon is added. This is well attested in Medieval texts like the *Yinshan Zhengyao*. Mint and poppy seeds occur, rarely, in the *YSZY*, and are locally used still. Black cum-

⁴⁰ Rozin (1983), *Ethnic Cuisine: The Flavor Principle Cookbook*.

in (nigella) is occasional, mostly in areas influenced by Indian or Iranian medicine. Today, the New World chile has made an appearance, but it is far less common than in India or Turkey. It is most evident in south Afghanistan, from Indian influence, and in Xinjiang, from western Chinese usage.

In the southwest, more Persian and Arab spices like saffron, sumac, and dill are used. In parts of Afghanistan near India, turmeric becomes common. Chinese use ginger, large cardamoms, and soy sauces and ferments. These did not spread to the Eurasian heartland till recently, and then only in Inner Mongolia and Xinjiang, and very locally in Mongolia. (The large cardamoms in the genus *Amomum*, different species from the usual flavoring cardamom, are more widespread as a medicine.) Chinese chives spread to Afghanistan and are very popular there.

Sour foods are widely liked. Lemon juice, vinegar, sour plums, and wild sour plants such as dock are popular, but the overwhelming favorite for souring is *Lactobacillus*. Pickling vegetable foods and preparing soured dairy products and preserved sausages depend on the many species of this all-important genus of bacteria. It would be impossible to imagine life in Central Asia without it, since it preserves and makes available the dairy foods as well as many vegetable items. Pickling vegetable foods is not likely among nomads—where would they put the jars?—but settled people manage it. Central Asia is ringed by the great pickling cultures of the world: Iran, Armenia, Georgia, East Europe, Korea, China, India⁴¹. These cultures depend on storing food for the winter by this method; the *Lactobacillus* produces lactic acid that adds to the salt used in pickling to preserve the food thoroughly, though vitamin C is lost.

11 Cooking Utensils

Cooking in Central Asia is done in the usual ways, but the nomadic tradition makes grilling, roasting at a campfire, drying, and boiling in a big kettle or pot much more important than they are in much of the world. Settled agricultural people use pottery vessels. Frying pans are often similar to the Indian *kuali* or Chinese *wok*. *Shishkababs* are cooked on a *shish*, Turkic for sword or skewer. People eat from bowls, using spoons and knives. Forks are a modern import. Chopsticks occur only Han-influenced parts of Chinese Central Asia.

Bread is usually cooked in an earth oven, *tandur* or variant words; in some places this is a beehive oven, made of bricks covered and sealed with clay. In either case, fuel is burned to heat the *tandur* to an extremely high temperature;

41 On pickling, see Katz (2007), *The Art of Fermentation*.

the ashes are then taken out; the bread is placed on the oven floor or stuck to the walls. Author Anderson observed a tandoor dug into the ground in Bamiyan, Afghanistan, that was as big as a room; very long peelboards were used to stick the bread on and later remove it, baked; the skill of the peelboard-wielders was incredible, and the bread was the among best Anderson has ever tasted. Nomads in remote settings use a griddle with a raise to it, like an inverted shallow wok, called a *saj* in Turkic; other vessels include “*oqlaghu* (later *oklava*), a thin rolling pin (from *oq*, “arrow”); *süzgüch*, a colander especially used for straining curds; and *tägirmän*, a stone for grinding grain. Most Turkish languages use the Iranian word *hâwan* for mortar.⁴²

42 Perry, “The Horseback Kitchen of Central Asia,” 247.

Food by Country

Medieval chronicles speak of tribes living on dairy products and meat, trading for millet (or growing some), and trading for wheat products. Settled people had more elaborate cuisines, with spices typical of the neighboring civilizations: Iranian, Indian, or Chinese, (depending on whether one speaks of West, South, or East within the larger region). Overall, cuisines were not diverse or complex. There was considerable local variation, as now, from oasis to oasis. The *Yinshan Zhengyao* is one of the few sources making an effort to mark local foods. A recipe for Kashmiri or Nepali curry, “Bal-po curry,” reveals a Tibetan informant for the dish. It is also the first known curry recipe, pre-chile, pointing up many connections.

Certainly, coming from Iran to Afghanistan convinces one that the food of the latter is basically provincial Persian. This is in spite of the use of turmeric and other characteristic Indian spices, and a few Indian beans such as mung beans in the areas closest to the Khyber Pass.

Food language throughout much of Central Asia is not only Iranian, it is specifically Farsi, complete with the heavy dose of Arabic loanwords (*halwa, kabab, sharbat...*), typical of that language. Widespread food words from Farsi include: *berenj* and derivatives for rice, *ash* for stew, *kuku* for omelet-like egg dishes, and *murgh* for bird (usually understood to be chicken).

Twentieth century sources still write of old foodways in remote areas, and indeed the diet of rural Mongolia is still usually dairy with some meat (usually tough boiled mutton), and flour foods. In most of Central Asia, foods are more diverse and varied, and show that there has been considerable change over time.

The major processes that created this change involve the usual “modernization” and “globalization,” but took specific forms. One was the steady expansion of the Russian state, which by the 17th century brought it to the doors of the Eurasian heartland, beyond in the North. Slowly, the power of the Turkic khans was eroded or violently attacked. In the 19th century Russia conquered and incorporated Khiva, Bukhara, Farghana, and Samarkand, into the Russian empire. The Russians moved in the direction of Afghanistan, causing a British response that led to serious fighting. This was to continue for decades. Transformed into a worldwide effort, it continues today, as the Western world tries to hold Afghanistan as an ally, and bring the other Central Asian countries into

the world. Turkey has been particularly active in wooing the Turkic-speaking “-stans.”

British influence on food was negligible, except in India. Russian influence has waxed steadily in the former USSR states and in Mongolia. Familiar today are borscht, Russian salads, favorite Russian foods like cucumbers and pickles, and more recently the whole suite of Russian canned, bottled, and preserved goods. Russian alcoholic and soft drinks are widespread, although lately Korean food is seriously competing with the Russian in Mongolia.

Another effect of globalization was the coming of the New World food crops. They seem not to have been known in the region (beyond trivial incursions) until the 18th or even 19th centuries. After that, potatoes became very widespread, with tomatoes and New World beans widely known. Tomato-based stews exist, for example in Afghanistan. Chiles are far less widespread than in neighboring areas, but are still found widely in the southern borderlands.

Commercialization and related economic forces, including communist central planning, led to the disastrous choice of abandoning food growing to expand cotton farming. More positive was a sharp increase, especially in the 20th century, in cultivation of fruits, especially grapes, melons, mulberries, peaches, apricots, and apples (locally in the northwest). The melons are deservedly famous.

Commercialized grain farming came to areas where grassland could be cultivated, especially in Kazakhstan (the “virgin lands” developed from the 1950s) and Inner Mongolia; results have not been good. In general, commercialization of agriculture has had negative (even disastrous) effects on local populations in developing countries. Communism, with its detailed plans and government bureaucracies substituting for a freer market, has not had a stunning record of success. Neither has capitalism, either in neighboring lands or in post-Soviet Central Asia. One can only speculate as to what the ideal economic formation would be; the region has not found it yet.

The following country by country survey reflects current information including a plethora of cookbooks. Many were clearly intended for foreign consumption. With modernization has also come improved scholarship in the countries of Western Turkistan. Now also found alongside the well-illustrated, and glossy cookbooks are works such as Dosymbek Qatran's *Qazaqtyng дәsturlı as-tagham madenieti*, “Culture of the Traditional Foods of the Kazakhs.” The author is a Kazakh (born in Mongolia) associated with the Kazakh Central Museum in Almaty. He not only presents a broad cross-section of traditional Kazakh foods, but gives a rich linguistic foundation for his works, from important terms to proverbs of the type so important in Kazakh life. Similar works

are now appearing in the other Turkistanian republics and in Mongolia, showing a new attitude to food history and past culture.

1 Afghanistan's Food

Louis Dupree, an anthropologist who spent many years in Afghanistan and loved the country and its people, provided a thorough ethnographic account of the food in his comprehensive book *Afghanistan*.¹ Afghan food is typical of a much broader area and shows the influences that have repeatedly swept over the region. Dupree's book represents the traditional foodways of 50 years ago. Little had changed at the time Anderson studied them in 1974, and as Helen Saberi recorded much more in the 1980s (see below). Over 40 years of civil war have now altered conditions completely, and chaotically. It seems worthwhile to record the old ways before even more has changed or been lost.

Dupree's book is, unfortunately, now rather hard to find, and deserves thorough coverage, so we will quote and summarize extensively, with our own observations added. For the record, Dupree gathered information for the U.S. government, and if that government had listened to him, the horrific last 40 years of Afghanistan wars might have been avoided. Afghanistan's dismal history needs no recounting here; it is too well known to the world. The country might not even exist, but for old imperialist rivalries. Suffice it to say that the usual problems with food supply—short-term policies, urban sprawl, water mismanagement, pollution and all—add themselves to the country's endemic violence.

Dupree begins with bread: "The Afghan does not live on bread (*nan*) alone, but he comes mighty close to it. At least eleven terms for bread exist in Pashto. Throughout much of Afghanistan, the term *nan* refers to food in general. Hot *nan*...is one of the world's great foods."² This remains true today. Afghan chef Said Hofiani has recently written: "Bread is considered sacred and you shouldn't abuse it or step over it."³ This is true throughout much of the Middle East and Europe. The importance of bread in the Bible is well known.

Bread is also made from mixed grains, including barley. In Nuristan, millet and maize breads are made. Dried mulberries and pulses find, or used to find, their way into bread; mulberries were a staple food in many areas before recent scorched-earth warfare eliminated the trees. Breads with potato or leek stuffings baked into them (*bolani*) resemble Indian stuffed parathas.

1 Dupree, *Afghanistan*, 224-238.

2 Dupree, *Afghanistan*, 224.

3 Hofiani (2008), *Afghanistan Cuisine*, 147.

Bread is usually baked in a *tandur*, a conical pottery or earth oven that ranges from a couple of feet high to a vast room-sized underground village oven. A fire is built in the bottom and allowed to burn to coals. Then the breads are slapped against the wall, where they stick until they are done—at which time one must move fast to get the bread before it falls into the fire. It takes great skill with a long peel-board to get the breads off the walls of a deep earth oven. Besides *tandur* breads, *chapatis*, as in India, are eaten. They are usually cooked on a *tawa* (the “*tava*” of nearby regions), an iron sheet or griddle, often convex. A *chapati*-like *tandur* bread is *lawausha* (again familiar in Iran and Armenia as *lavash*; that *a* to *au*, i.e. short *o*, conversion again). The Indian *paratha* appears as a leavened griddle bread, *naun-i-parauta*.⁴

Hofiani,⁵ and other Afghan chefs,⁶ give recipes for *rot* (rhymes with “coat”). This is the Afghan version of the universal West Asian and European sweet egg bread. In Christian communities in Europe, the Levant, and Latin America, it is an Easter bread, and in Mexico, the bread for Day of the Dead.⁷ Made of flour (sometimes whole wheat), eggs, and milk, and flavored with savory seeds, it catches all the possible fertility symbols—the indexical signs of a fertile farmstead. In Afghanistan, it is served with tea, but seems otherwise unritualized, except that it is traditionally served when a newborn child is forty days old.⁸ This classic bread, probably Near Eastern in origin, went even farther than Afghanistan; versions of it even turn up in the *YSZY*, including a bread flavored with Chinese flower pepper and fennel, called by a Turkic name, *Chuqmin*:

Bread from the *YSZY* (1, 49B)

Chuqmin (same as “long bread”)

White flour (10 *jin*), vegetable oil (one *jin*), Chinese flower pepper (one *liang*; roast and discard the juice), fennel (one *liang*; roast)

[Mix] ingredients and keep overnight. Use leaven, salt, soda, and warm water. Combine this with flour [dough]. The next day add flour to thicken. Combine again into a dough. Divide each *jin* [of dough] into two loaves. Put into a *long* 籠 [steamer] and steam.

4 Hofiani, *Afghanistan Cuisine*, 96.

5 Hofiani, *Afghanistan Cuisine*, 150.

6 Amiri (2002), *Classic Afghan Cookbook*, 102; Saberi (1986), *Noshe Djan: Afghan Food and Cookery*, 48.

7 Anderson, *Everyone Eats*.

8 Saberi, *Noshe Djan*, 48.

The modern Afghan relative:

2 packets dry yeast

1 ½ cups milk

1/3 lb butter or 1 cup vegetable oil

8 cups unbleached white flour

2 cups sugar

4 eggs

1 tsp black caraway seeds, cardamom seeds, and/or poppy seeds

Scald the milk (bring almost to boil, then turn off). Dissolve the butter in it, if using butter. When the milk is cool, put in the yeast and wait for it to cream, 15-30 minutes.

Meanwhile, mix the dry ingredients (flour, sugar, spices).

When yeast is creamed, mix the milk and eggs into the dry ingredients. Allow to rise till doubled in bulk, ca. 2 hours depending on warmth of room. In Afghanistan the bread is then baked, but in most of the rest of its worldwide range it is punched down, allowed to rise again, punched down again, divided into parts, rolled out, and braided—a delightful way to produce it.⁹

The other great flour food in Afghanistan is pasta, which is evidently very ancient there. *Ash* is a general Farsi word for stew, *osh* (*aush*) in Afghan and in the Turkic languages of the area. *Ashak* (or *aushak*) is wonton-skin-wrapped dumplings stuffed with chopped leeks or green onions or Chinese chives. Spinach can be added. Other fillings (cheese, *etc.*) are possible. They are then covered with *chakah* (drained yogurt, the Arab *lebni*) or *qruti* (here meaning sour cream or skimmed cream skin, not the dried yogurt that the word more usually means), and meat sauce with tomato and mint.

Mantu are dumplings stuffed with chopped meat, as elsewhere. In Afghanistan, the *mantu* are larger than those in Turkey. They too served are covered with yogurt and tomato sauce, and often cilantro and mint are added. A more elaborate topping is made from yellow split peas with onion, tomato, coriander, and tomato.¹⁰ Shallow-fried dumplings, flat, with thin shells, are *bulani* (a being typically pronounced *au* as usual). They are stuffed with all sorts of vegetable stuffings. *Sambosas* are the Arab *samosas*. These are deep-fried, and

9 Adapted from Amiri, *Classic Afghan Cookbook*, 102, with heavy amendments from Anderson's long experience with this bread. See also Saveri, *Noshe Djan*, 48, and Hofiani, *Afghanistan Cuisine*, 150, for quite different versions.

10 Amiri, *Classic Afghan Cookbook*, 25.

stuffed with raisins or dates, nuts, sugar,¹¹ or potato, dal, and coriander.¹² Here is a similar *manta* or *mantu* from the *YSZY* (1, 47B):

Quick *Manta*

Mutton, mutton fat, onions, sprouting ginger, and prepared (soaked) dried Mandarin orange peel (cut up each finely)

[To] ingredients add spices, salt and sauce, and combine into stuffing.

A wheat and milk pudding, *faludah*, is boiled for up to several hours.

The other great starch staple is rice, grown locally in the southern river valleys, but now mostly imported. It is usually long-grain, and often basmati or something similar. (“Basmati” is not a variety of rice; it is a general term for scented, very-long-grain rices from northwest India and north Pakistan.) A unique Afghanistan touch—noted by cookbooks, not by Dupree—is cooking rice with brown sugar dissolved by heating.

Short-grain, sticky rice is also used, in different types of dishes. This is *kichri* or *bata*. These can contain vegetables or chickpeas, or meat and fat can be poured in.

Dampokht, rice boiled in water and oil, or cooked with a bit of melted sugar, is a simple starch base. A more general *dampokht* is rice cooked Iranian style: there is a first cooking, then after draining off the hot water and a re-cooking with more,¹³ but using some fat. Iranian use of butter in the second cooking, to get a good *tahdig* (pan crust), is not reported for Afghanistan.

Rice is usually made into *pilau*, the national dish, which uses long-grain rice. This involves boiling the rice in a pan with meat, vegetables, and fruit; usually the rice is not fried first, as it is in many Middle Eastern pilafs. Dupree lists the following major types of pilau:

Chilaw: plain rice with a large hunk of mutton or a chicken buried in the center. [Chilaw can also mean plain white rice cooked with some oil.]

Qabli [not ‘Kabuli,’ as commonly believed by many foreigners] pilau: with raisins, shredded carrots, almonds, and pistachio nuts. To serve a guest *qabli* indicates great respect.

Sabzi [or *zamarrud*, *zumurrud*, all from the Greek word for “emerald”] pilau: with spinach. (“Sabzi” means “greens” in Farsi.)

Mashong pilau: with small green peas [*māsh*, dried green small beans].

¹¹ Hofiani, *Afghanistan Cuisine*, 105.

¹² Amiri, *Classic Afghan Cookbook*, 14.

¹³ Amiri, *Classic Afghan Cookbook*, 68.

Yakhni pilau: with mutton...steamed with the rice.

Reshta pilau: with [noodles and] eggs. [And presumably sometimes with pasta, *reshta* in Farsi.]

Bonjan-i-sia pilau: with eggplant. [Farsi *bademjan*, eggplant; probably the name is *bademjan-e-siyāh*, “black eggplant”; Dupree spelled phonetically, not linguistically].

Morgh pilau: with chicken. [Farsi *morgh*, bird, chicken.]

Naranj pilau: a sweetish pilau with dried orange peels. [Farsi, from Arabic, for “orange”; source of the English word.]

Kala-pacheh pilau: with the head (including eyeballs, usually served to the honored guest) and feet of a sheep.

Landi pilau: with dried meat prepared like jerky; a favorite winter dish.¹⁴

It remains to be noted that these are seasoned with salt, pepper, sometimes coriander, cumin, and other spices. Usually the spicing is Near Eastern, but the closer to India one gets, the more Indian the spicing becomes, with the typical cardamom, cinnamon, turmeric, and other spices.

Pilau are usually well laced with *roghan*, fat—especially *roghan-i-dumba*, the fat of the fat-tailed sheep’s hind end. Ghi (Indian-style clarified butter) and vegetable oil are used.

Here is a recipe for *qabli pilau*, as close to a signature dish as Afghanistan affords:

2 cups of basmati rice, washed (3 changes) and soaked at least 15 min.
 Ca. 4 tbsp oil, 1 white onion, chopped
 1 lb. lamb, cubed, ideally with some tail fat
 1 tsp salt
 ½ tsp. cinnamon, ground
 ¼ tsp cloves, ground
 ¼ tsp cumin, ground
 ½ tsp cardamom seeds
 2 cups water
 2 carrots, shredded
 1 tsp sugar
 ½ cup oil
 1 cup dark seedless raisins

¹⁴ Dupree, Afghanistan, 227-29.

While soaking the rice, fry the onion in the oil. Add the lamb, brown it, add the spices, then the water. Simmer till lamb is tender. Take out the meat, drain the rice, put it in the meat stock, and add enough water to cover the rice (water should be 1" above the rice). Cook over low heat

Meanwhile, fry the shredded carrots in the oil, adding the sugar. Remove, put raisins in the oil, cook till they begin to swell. Take all out, add oil to cooked rice.

Now put the meat and rice in a covered casserole dish and bake at 375 F for 20 minutes. Remove, uncover, spread the carrots and raisins over the top of the dish.

Variant: a counsel of perfection is to caramelize the sugar first—melt it, add water to keep it from burning, producing a golden syrup. This is difficult to do.

Qabli pilau in Kabul is very sweet and very fat, with a lamb tail fat flavor that devotees adore.¹⁵

Pickled vegetables—*torshi*, as in Iran, with the same recipes—are often served with pilaus. Dupree notes a hot chile sauce, "*chutney-morch*," from Jalalabad and Kabul.¹⁶ Orange juice can get into pilau, and the Malta blood orange "may be eaten after the meal."¹⁷

Stewed vegetables—*qorma*, an Arabo-Farsi word—can be served also. *Qormas* often include meat, as in India, where *qorma* becomes a general word for stew. Vegetables are very often sauteed or deep-fried.

A good variety exists. New World ones are recent additions. Carrots are *zardak*. Vavilov and many after him have thought that the familiar orange carrot originated in Afghanistan. Many other colors occur there and (at least today) in Europe: white, purple, yellow, and red. The Afghanistani origin is possible, but not proven. It has been alleged that orange carrots were not known until Medieval times, but there is a perfectly modern-looking orange carrot beautifully portrayed in the Juliana Anicia edition of Dioscorides from around 512-515 CE (see online "Images from Juliana Anicia codex").¹⁸ An Anatolian origin has been proposed. Tomatoes are called *bonjan-i-rumi*, "Rumi eggplants." *Rumi* comes from "Rome," but presumably refers here to Turkey, the successor to the Eastern Roman Empire and (later) a great popularizer of tomatoes throughout the east. Squash is another recent immigrant.

15 Adapted from Said Hofiani, 32, with additions from Saberi, *Noshe Djan*, 88-89; Amiri, *Classic Afghan Cookbook*, 70-71; and author Anderson's experience in Afghanistan.

16 Dupree, *Afghanistan*, 229.

17 Dupree, *Afghanistan*, 229.

18 <https://search.yahoo.com/search?ei=utf-8&fr=tightropetb&p=Images+from+Juliana+Anicia+codex&type=59101_070817>.

Other common Afghanistan food words are also Farsi: *mast* for yogurt, *korma* and *qurma* for fried foods (originally Turkic, *qavurma*) in sauce, *mahi* for fish, *shalgham* for turnip, *sabzi* for greens, *palak* for spinach. Readers who frequent modern Indian restaurants will find many of these words familiar, for international Indian restaurant food derives largely from the Persian- and Afghanistan-based Mughal cooking of the last Indian emperors. It was popularized by the Moti Mahal Restaurant of Old Delhi in the mid-twentieth century. The food was wonderful, and it now has thousands of imitators.

The usual stuffed vegetables of the Middle East have made their way into Afghan cooking, probably recently and certainly as a borrowing from the Turkish world. They are, after all, called *dolma* (Turkish from Greek for “stuffed”), as elsewhere.¹⁹

Eggplant with sour cream is *burani*. This name is general for eggplant dishes all over the Middle East and Europe, commemorating Princess Buran, the wife of Caliph Al-Ma'mun in 8th-century Arabia. “... but there is no particular reason to think this reflects her love of eggplant. In fact, in her day eggplant had a bad reputation—it was considered to cause sore throat, cancer, freckles, and madness. (It is closely related to deadly nightshade, which does cause many disorders, hence the confusion. The reputation accompanied it to Europe, which is why *badinjan* ended up as *melanzane* in Italian, via the folk etymology *mala insana*, ‘mad apple.’) The certain connection is that a dish of fried eggplant associated with her name emerged from her wedding party, which was a byword for lavishness.”²⁰ However, modern folklore has explained the name by a myth that she loved eggplants so much that her name became attached to them forever.²¹ There is even an eggplant dish called “borania” in Mexican cuisine, thanks to the heavy immigration of converted Moors to early colonial Mexico.

Meat stewed with fruit is another Persian touch. Often these are sour cherries. The meat is cooked as usual for fried dishes: onion is chopped and fried first; then the meat is added, with garlic, coriander powder, pepper and salt; and then once the meat is tender, fresh, pitted cherries are added.²² The cherries can even be fried without meat. Apricots and quinces are treated similarly with or without meat.²³ Dried sour green grape powder is a local Iranian spice

19 Hofiani, *Afghanistan Cuisine*, 141-143

20 Charles Perry, email of July 20, 2016.

21 Nasrallah (2003), *Delights from the Garden of Eden: A Cookbook and a History of the Iraqi Cuisine*, 30.

22 Amiri, *Classic Afghan Cookbook* p 51; Hofiani, *Afghanistan Cuisine*, 27, uses red pepper and cardamom seeds instead of coriander.

23 Amiri, *Classic Afghan Cookbook*, 50-54.

that has become popular to some extent in Afghanistan. At least one book calls it “sumac.”²⁴ Indeed it does taste rather like the dried sumac berries of Levantine cuisine. Another Afghan dish, *qorma-i-sayb*, made up of lamb, onions, and apples, with spices, may be related to a Medieval Arab dish *tuffāḥīyyah*.²⁵ Nonetheless, the cooking methods are different, and the term *qorma* indicates a more recent and possibly Turkic origin. Recall that apples originated in Kazakhstan.

Qorma-i-Sayb

2 lb. lamb or beef, cubed
 ¼ cup oil
 ½ cup onions, sliced
 2 tsp salt
 1/8 tsp black pepper
 1 cup water
 ¼ cup or more yellow split peas
 4 apples, peeled, cored, chopped

Brown the onions in the oil. Add the meat and pepper, brown, add water and peas. Cook till meat is almost tender.

Add apples and finish quickly²⁶.

A more elaborate meat-and-fruit dish is the thoroughly Iranian *nauring palow* (from Arabic *naranj*, orange).

1 chicken, cut up
 2 cups oil (to deep-fry) or less (to sautee)
 1 large onion, sliced
 Salt to taste
 6 cups water
 ½ cup orange peel (outer orange part without white inner membranes), cut fine; bitter orange is best if you can find it
 2 cups sugar
 ½ cup almonds, cut thin
 ½ cup pistachios

²⁴ Hofiani, *Afghanistan Cuisine*, 68.

²⁵ Apple-y; for which there are many recipes in Rodinson et al., *Medieval Arab Cookery*.

²⁶ Adapted from Hofioni, *Afghanistan Cuisine*, 19.

½ tsp saffron
 1 tsp cardamom seeds
 1 oz rose water
 2 cups basmati rice
 2 quarts more water

In a pot, fry the chicken. Add onion, salt, and 4 cups water. Cook. Remove chicken when tender. Meanwhile, make a syrup with the orange peel, sugar, almonds, and pistachios. Drain to separate the nuts. Add saffron, cardamom, and rose water to the syrup.

Boil the rice in the stock from the chicken (adding more water if necessary). When not quite done drain and rinse the rice. Add in the nut and peel mix, saving some for garnish. Pour syrup over rice. In a casserole dish, put half the rice, then the chicken, then the remaining rice. Bake at 350²⁷ F for 20-30 minutes. Garnish with retained nuts and peel.

The basic meat dish in the whole area is *kabab*; being the most basic of meat dishes. This is yet another Arabic word that has gone international. “*Kabāb* is an Arabic word, recognized as such by Persian lexicographers. Originally it meant ground meat; in the Medieval Arab cookbooks it often meant meatballs, like its alternative form, *kubba*, from which the modern Arab meat product *kibbi* descends. It was well into the Middle Ages that *kabab* (how we have not been able to trace) came to mean a dish of chunks of meat, such as the Turkish *tas kebabi*, which is essentially pot roast, and then *shish kebab*. This change took place in a Turkish context; the Arabs still refer to roasted meat by forms of the Medieval word *shiwa/mashwi*. The Turkmens still distinguish *chishlik* (*shashlik*, that is, “suitable for the skewer”), made with chunks of meat, from *kebab*, which is made with ground meat. Such a dish would be called *kofta kebab* or *luleh kebab* elsewhere. Another mystery is why the word *tikka* (Turkish *tike*, “piece”) is often prefixed to the word kebab in Afghanistan and India. (*Kebab* does mean *shish kebab* in most of Central Asia.)”²⁸

Usually, kababs in Afghanistan are very small bits of mutton alternating with bits of the tail fat of the fat-tailed sheep; the connective tissue keeps the latter from melting off the skewer. Larger pieces, marinated in yogurt for a day, are alternated with chunks of onion on the skewer, and sometimes with pieces of tomato. Meatballs (*kufta*, *qima*, or with egg and potato *shami*) are also used. Sometimes tomato and onion slices are interspersed. “A *salad* [same word as English] of chopped fresh onions and tomatoes”²⁹ is served, and kababs can

27 Adapted from Hofiani, *Afghanistan Cuisine*, 36, and Saberi, *Noshe Djan*, 98.

28 Charles Perry, email of July 20, 2016.

29 Dupree, *Afghanistan*, p. 231.

be dipped in spicing—crushed grape seeds, ground red pepper, black pepper, and/or similar condiments. Dupree lists several other types of kabab, including *pashti*, *qabr-ghayi*, and *dari* with some bone in. Visitors to Kabul in his time will remember the Haftrang Kabab vendors' area where all these could be found; *haft rang* is Dari for "seven colors," and idiomatically means "all sorts."

Soups, *shorwa*, are eaten with *nan*. *Du-payazah*, "two onions," to Dupree, was simply raw and cooked onions eaten on bread, not the complex double-onion stew it is in India, but in fact the Indian-style dish is also found:

Dopiaza

Cut up a white onion into slices. Marinate in white vinegar (to cover).

While it marinates, cook 2 lb. lamb (with bones; cut up; ideally including a piece of tail fat), 2 red onions (finely chopped), and a good handful—anywhere from 2 oz. to a pound—of yellow split peas, in a pint of water. Cook till all is tender.

Remove this boiled mix from soup (save it for stock), put on *nan*, and cover with the marinated onion slices. Add a good deal of freshly ground black pepper. Another *nan* can be put on top to make a sandwich³⁰

Dairy products include *panir*; cheese, which is usually cottage-cheese style. Baghlan Province produces a good cheddar-type product. The Turkic word *qaymaq* has entered the language for clotted cream. *Dugh* or *daug* is yogurt, often with chopped cucumber, garlic, mint, or similar items added (like Greek *tzatziki*, Lebanese *karun*, and other Middle Eastern and Indian items). *Qrut* is the familiar dried whey, made here into solid dry balls as in Turkic areas such as Kazakhstan (*qruti*, mentioned above, is slightly different). These can be ground up for adding to food, rehydrated, or simply munched.

Boiling shaved *qrut* in fat and then dipping it up with bread is a greasy winter dish.³¹ Nuristanis live heavily on dairy foods and made a great deal of wine before Islamicization.³²

Chickens, ducks, and game birds are eaten, and a few guinea fowl and turkeys occur. Eggs are very popular. Game and fish are rare now; war has led to shooting out the countryside.

Flavorings are "tamarind, coriander, cilantro, fennel, mint, bay leaf, saffron, sumac, sour grapes, sour plums, cumin, dill, garlic, onion, turmeric, cardamom,

30 Adapted from Saberi, *Noshe Djan*, 80, and Amiri, *Classic Afghan Cookbook*, 63.

31 Dupree, *Afghanistan*, 233.

32 Dupree, *Afghanistan*, 236.

black cardamom, sweet basil, cinnamon, ginger, cloves, nutmeg, mace, chili peppers, tomato, potato,” with souring by “white vinegar, lemons, sour grapes, cider vinegar, oranges.”³³ Of these, bay leaf and basil are unusual; saffron rare because expensive; turmeric, tamarind, ginger, nutmeg, mace mostly found near India.

Sweets are very popular and range from raw sugar cane to *jelabi*, soft dough fried and put into syrup. There is also *zulabiya*, batter dribbled into oil like a funnel cake, with Indianized pronunciation, also translated as fritters. The wonderful Persian and Indian *firni* is found: rice flour or cornstarch slowly cooked down with milk and sugar until it becomes a thick cream. It usually includes cardamom and often almonds or pistachios, is often flavored with rosewater, and it can be decorated with silver foil (a Mughal custom). Cookies (*kolcha*) and local fruit are common. Minor snacks include walnuts, dried mulberries, almonds, and the like. Walnuts grow in Nuristan and are a common food; walnut oil was used there, at least in the past. Mulberries are made into cakes, *talkhun*. These were formerly a very common food, but scorched-earth policies in wars have led to loss of mulberry trees. Baklava, a Turkic dish of Inner Asian origins (it was once apparently a Mongol court food), exists as *baqlauwa*.³⁴

Drinks run heavily to water, sour milk, and soup, but tea is universal as a hospitality and sociability food. Its caffeine content makes it a social lubricant there as elsewhere.³⁵ Both black and green varieties are found; the green is sometimes served with cardamom. *Qaymaq* or milk can be added, but less often than in India. Tea is usually heavily sugared, with *qand*, lump sugar. This Farsi word is the source of our word “candy” (Farsi *qandi*, “made of qand”). The Iranian custom of nibbles—raisins, toasted chickpeas, pistachio nuts, almonds, peach kernels (*noql-khashtah*), and the like, served with tea has spread to Afghanistan. Traditionally a guest must drink at least three cups of tea: one for thirst, one for friendship, and more as generosity affords.

Another drink of universal importance is *sharbat*, an Arabic word. It is one of the countless derivatives of the Arabic root *sh-r-b* “drink,” seen in English “syrup” and “shrub” (the rum drink, not the bush), as well as in our *sharbat* derivatives, “sherbet” and “sorbet.” *Sharbat* is basically any sweet drink. It can be simply fruit juice or fruit mashed, or, today, made into a smoothie, in a blender. When food blenders were introduced to Iran and Afghanistan, they were immediately adopted by the *sharbat* sellers on every busy block. (The

33 Kelley (2009), *the Silk Road Gourmet. Volume One*, 165/

34 With the usual sound shifts; Hofiani, *Afghanistan Cuisine*, 94.

35 Anderson (2003), “Caffeine and Culture,” 159-176.

same thing occurred in Mexico, where converted Moors introduced the idea centuries ago; *licuado*—the Spanish translation—is as universal in Mexico as *sharbat* in Iran and is another proof of the long reach of Medieval Islamic culture.)

Sharbat can be more elaborate, involving sugar, milk, and flavorings. It evolved into our “sherbet” in Italy. In the *YSZY* and in the Medieval Islamic world, *sharbat* can also be the word for grape wine (*sharap*, also, in Kazakh), but such wine can be made from many other fruit and berry preparations. All can ferment if allowed to stand. Below is an example from the *YSZY* (2, 8A):

Red Currant *Sharba*[t]

Fresh northern red currants (ten *jin*: remove the seed. Immerse in water and take the juice), white granulated sugar (eight *jin*; refine).

Boil ingredients together and make a concentrate.

Festivals include the Persian *nawruz*, the spring equinox, a pre-Islamic New Year festival that still survives in the Iranian world. (Spring equinox would seem to be a more sensible time for New Year than our Jan. 1, or China’s mid-winter New Year) “*Samanak*, a mushy dessert made of wheat and sugar which takes two and a half days to prepare,”³⁶ is eaten with mixed fruit-nut compote, once symbolic of fertility and abundance for the coming year. Charles Perry reports: “I am not familiar with the spelling *samanak*, but this is clearly the Farsi *samanu* and the Uzbek *sumalaq*, a semi-liquid sweet made by boiling flour all night until it browns. It is one of the *haft sin*, the traditional seven items beginning with the letter ‘s,’ which appear on the Nawruz table. (Under the Soviets, it was a serious crime to make it in Uzbekistan.)”³⁷

Weddings are as inseparably coupled with sweet foods as they are everywhere else. In a traditional, reasonably well-off family, informal approaches and introductions begin it. Next:

Several respected ladies (usually elderly) of the boy’s family go to the girl’s house for tea and sweets. They accept a tray of sweets and a special, conical, sugarloaf (*qand*), varying from 12 inches to 2 ½ feet in height and 6 inches or more at the base and an embroidered kerchief.... The sugarloaf and kerchief play important roles in later ceremonies.... The next ceremony, (*shirin-i-griftan*, Dari; *khwalish-khwari*, Pashto—‘taking or

36 Dupree, *Afghanistan*, 236.

37 Email of July 20, 2016.

eating sweets') involves, among many other things, breaking the sugarloaf over (not on!) the bride's head (to make her disposition sweet?) with a ceremonial sugar axe... If the sugarloaf breaks into many fragments, it is a good sign and indicates a long and happy marriage. The bride's family keeps the bottom section of the cone to make the *sharbat*...and *malida* (a sweet wheat pudding) served at the actual wedding. The wedding *sharbat*, thick, colorless, and flavored with rosewater, is full of seeds (fertility symbols again?) traditionally called *tokm-i-riyan* or *tokm-i-biryān*. A sweet omelette, *wiskel*, may also be served."³⁸

The usual enormous exchange of goods—brideprice and dowry—takes place. Long religious services occur. "Guests throw sugared almonds and walnuts at the groom (planting the seed of life in his groin?)." ³⁹ Single men may chase after these almonds. Finally, just after the official mutual acceptance (the "I do" part of the marriage): "The groom then tastes the *sharbat* and *malida* and spoonfeeds some to the bride. Sugared almonds again rain on the newlyweds."⁴⁰ Veils given to the bride include one with saffron, rock sugar, cloves, and a coin tied up in the four corners, to symbolize happiness, prosperity, purity, and security. These are removed and presumably given to her as she is veiled.⁴¹

A word about Afghanistan's markets (compare the information here with what has already been said about Istanbul, Tashkent, and Almaty elsewhere in this book). Some 40 and more years ago, they were living museums—insights into what marketing had been on the old Silk Route.⁴² All manner of food was sold in stalls, but more important were the foods on the hoof: live sheep and other animals. Stalls and vendors sold kababs and other snacks for the marketers, as well as bread directly from *tandur* ovens. These ranged from large pots with burning charcoal at the bottom, to vast subterranean ovens as big as rooms in a house. C. J. Charpentier's wonderful account of the market of Tashkurgan (in central Afghanistan), traditional even by the standards of its time, is particularly valuable; he mapped every stall and photographed many of the stalls themselves.

Equally well worth seeking out are Hans Wulff's *The Traditional Crafts of Persia* (Cambridge, MA, 1966) and Rudolf Hommel's *China at Work* (Cambridge,

38 Dupree, *Afghanistan*, 200-201.

39 Dupree, *Afghanistan*, 202.

40 Dupree, *Afghanistan*, 203.

41 Dupree, *Afghanistan*, 203.

42 Charpentier (1072), *Bazaar-e Tashqurghan: Ethnographical Studies in an Afghan Traditional Bazaar*; Sjoberg (1958), *The Preindustrial City*; personal observation by Anderson, 1974

MA, 1937). The crafts illustrated in these classics were largely shared with the oasis cultures and cities of the Eurasian heartland. They give unique photographs of old bread ovens, flour mills, and other now-vanished human-scale technology. Wulff also provided a superb ethnobotany of Persian trees used for wood⁴³ and gives traditional Persian terms for everything he mentions, including agricultural technology ranging from threshing sledges to *qanat* repair. Most of these terms were used widely elsewhere in the larger region, especially in Afghanistan.

Tragically, very few other works like these exist. Almost no one thought it worthwhile to record the technologies that kept the world alive before modern machinery. The current state of Afghan markets has been studied by Noah Coburn.⁴⁴

Afghanistan's food, in summary, is heavily influenced by Iran, somewhat less so by India—the more Indian influence as one goes south. Crafts and music show similar cultural influences. Conversely, Afghanistan was the direct source of much of the Central Asian conquest, raiding, and war activity that constantly troubled India. The Mughals stemmed from the cities of what is now Uzbekistan, but conquered India via Afghanistan in the 16th century, thereafter Persianizing north India's food. The commonest variety of Indian restaurant in North America now serves Mughal-type food, tracing back to Imperial times via the Moti Mahal restaurant in Old Delhi, which saved Mughal recipes and made them popular. Anderson managed to eat at the old Moti Mahal in 1978. It was a great barnlike structure with simple furniture and superb food, including the tanduri chicken, rogan josh, lamb sag, butter chicken, and other classics so familiar to Indian restaurant-goers in the Americas. Many of the cooks are now Punjabi, from a part of India famed for light spicing and fine preparations of greens. Persianization of Indian food thus was largely indirect: Persian influences on the court cuisine of Uzbekistan and Afghanistan lie behind the great culinary tradition of northern India.

2 Eastern Iran's Food

At this point it is necessary to add at least a quick note on Iran, especially its Central Asian provinces Khorasan and Sistan. Iran is largely desert, with linear oases created by rivers, as in neighboring Central Asia. It thus suffers from chronic lack of water, a problem rapidly worsening; the formerly vast Lake

43 Wulff, *The Traditional Crafts of Persia*, 75-78.

44 Coburn (2011), *Bazaar Politics: Power and Pottery in an Afghan Market Town*.

Urmia in the northwest is following the Aral Sea into tragic death. Iran's only well-watered and forested lands are the coasts and mountains around the southern rim of the Caspian Sea; these produce lush subtropical fruits and other foods.

In general, food is similar to Afghanistan's, but far more complex and diverse. Wheat is the definitive grain and *nan* the standard staple food. Other types of bread exist. Beans and lentils are important and used in varied and spicy recipes. In addition to the Afghan standard dishes, Iran has a great diversity of fish and other aquatic foods from its many coastlines, including sturgeon and thus caviare from the Caspian Sea; sturgeon are now on the verge of extinction, however, because of rampant overfishing. Sheep and goat are the common meats. There is a wealth of vegetables and fruits from river valleys and mountains. Dates, for instance, abound in south and west Iran and remain important, and olives occur in the north and northwest. A huge country with a vast range of ecological situations, Iran remains largely desert. The country is thus broken into regions centered on oases separated by desert wastes, and thus having their own histories and foodways.

Several particularly important foodways have not reached Central Asia. One is highly flavored rices: rice preparations flavored with dill and lima beans, with orange peel and sugar, with saffron, with barberries, and with combinations of these and other spices. Another set of dishes are the *kuku* omelets, solid egg cakes similar to (and almost certainly the ancestors of) Spanish egg tortas. They can be made with potatoes, tomatoes, and other vegetables, and are often solid enough to eat out of hand like cake. Stews often involve fruit as well as meat and vegetables, and did so even more in medieval times, as old Arab and Persian cookbooks attest.

The province most involved with Central Asia is Khorasan, which in ancient times included Turkmenistan, Uzbekistan, and nearby territory depending on conquests of the moment. Its main cities, Mashhad and Nishapur, are closer to Turkmenistan than to other Iranian cities. Khorasan is high desert, much like the central Mohave in California, with high mountain ranges bringing down enough water to feed sizable rivers thoroughly harnessed for irrigation. Searching satellite photos also reveal the telltale dotted lines marking qanats. Khorasan produces most of the world's saffron. This most valuable of all plant materials consists of the stamens of the saffron crocus (*Crocus sativus*), intensely flavorful and producing an orange-yellow dye. It is widely used in the local food. The other great specialty is barberries (*Berberis vulgaris*). These small, tart, red berries, produced on large bushes, are used very widely in Iranian food, but have never been widely popular in areas at all distant from Iran. Khorasan spice mixes include ginger, red and black pepper, turmeric, cinammon, sumac, nigella, and a local seed called *golpar* (*Heracleum persicum*). Khorasan

recipes in Najmieh Batmanglij's encyclopedic work *Cooking in Iran* naturally run heavily to saffron and barberries. Otherwise they are not far from Afghan food, though the stews get more complex.⁴⁵

In Sistan the Helmand River is miraculously reborn after a long spell seeping through underground sediments. It feeds a final oasis, one of the most isolated urban areas on earth, and then is lost in sands. Even the indefatigable Batmanglij did not get there (her "Sistan and Baluchistan" section covers only Baluchistan). The region is all extreme desert, with almost no agriculture outside of the Helmand terminus, and presumably has foodways similar to Afghanistan's.

3 Uzbekistan's Food

Uzbekistan was formed by Russia from what were once the local khanates of Bukhara, Kokand and other connected cities. It is, and was, a colonial creation, with an artificial economy and arbitrary boundaries. The Uzbeks even lacked a national language until the Russians created Radio Tashkent, which broadcasts in the local dialect, and insisted that the written literature of what became a republic adhere to the Tashkent standard. Before then, most of the "Uzbeks" spoke a vowel-harmony language. (Most Turkic languages harmonize vowels between a word and its suffixes, but modern "official"—but not all the spoken—language has lost its vowel harmony.) Old Uzbek was more akin in this regard to Kazakh than to the modern Tashkent standard.

Uzbekistan is named after the Uzbek Turks, who in turn take their name from Khan Uzbek (or Özbek), one of the khans of the Golden Horde in the 14th century. By now, only very few of them are identifiably descended from Uzbek's tribe; many more descend from other Turkic groups, e.g., Kazakhs, or from Turkicized Tajiks and others. The Tajik influence is particularly strong and accounts for the strong Iranicization of standard Uzbek language and food. The country today is claimed to be about 80% Uzbek.

Khan Uzbek himself ruled the area from South Russia and ate horse meat and mutton. In his time, what is now Uzbekistan was still Khorezm (Khwarazm, Khwarizm), and the food was much better than the Khan's. The capital was at Kunya Urgench, hard by the modern Urgench. Ibn Battuta in the mid-14th century was regaled there with "roasted fowls, cranes, young pigeons, bread baked with butter ...biscuits and sweetmeats. After these were brought other tables with fruit, seeded pomegranates, grapes and wonderful melons."⁴⁶ Later the

45 Batmanglij (2018), *Cooking in Iran: Regional Recipes and Kitchen Secrets*.

46 Ibn Battuta, *the Travels*, volume 3, 545.

governor sent “rice, flour, sheep, butter, spices, and loads of firewood.”⁴⁷ “The melons of Khwārizm have no equal in any country of the world, except it may be the melons of Bukhārā.... Their rind is green, and the flesh is red, of extreme sweetness and firm texture...they are cut into strips, dried in the sun, and packed in reed baskets.”⁴⁸ Many were exported, usually in a dry state. The descriptions sound like watermelons but were probably orange-fleshed Persian melons.

Turning to the culture of modern Uzbekistan: the staple food is bread, *nan* or *non*, as elsewhere. The *tandur* is usually a pot about two feet across and three or four deep, but at least sometimes a beehive oven as in the Mediterranean world, rather than the pit or deep-pot *tandur* of Afghanistan and India. It may be decorated with pricked or stamped patterns. Filled breads of various sorts are common.⁴⁹ A spectacular photoessay on these flat breads and their many local patterns and shapes was created by Eric Hansen.⁵⁰

Rice is important, with many varieties available. Many of them are local since the agriculture of the area is highly irrigated. Lamb is the meat of choice, as it is throughout Central Asia. Hospitality is a major value, as elsewhere in Central Asia. The institution of the *chaikhana*, teahouse, is well established. There are three or four meals a day, and for the well-to-do these are lavish, with salads, soup, or meat, along with dumplings and fruit being common.⁵¹ Carrots, which may be native to the region, are common, as in Afghanistan.

Meat is usually mutton, with beef common and goat rather rare. Fat-tailed sheep are the animal of choice. The huge Tashkent market has many stands selling every imaginable cut and body part. Above all, the fat rumps and tails are skinned and revealed for buyers to appreciate. The fat is left on the animal when possible, but excess is trimmed off, and sold separately. Livers, pre-sawn marrow bones, and other specialty cuts are notably available. The market area is a mutton-lover's dream and a vegetarian's nightmare. Not only the butcher area but the whole market is redolent of the rump-and-tail fat.

The major dairy products are *qatiq* (yogurt), *suzma* (drained yogurt, the *lebni* of the Levant), *qurt* or *qurtab* (dried *suzma* or yogurt, using the universal Turkic word *qrut* or *qurt*), *qaymaq* (thick topping of cream or skins of boiled milk), *qumys* (that is, *kumiz*), and *ayran* (salty yogurt drink, the *lassi* of India).

47 Ibn Battuta, *the Travels*, volume 3, 545.

48 Ibn Battuta, *the Travels*, volume 3, 547.

49 Visson (1999), *the Art of Uzbek Cooking*, 10.

50 Eric Hansen, “the Fabled Flatbreads of Uzbekistan,” *Aramco World*, July/August (2015), <http://www.aramcoworld.com/en-US/Articles/July-2015/The-Fabled-Flatbreads-of-Uzbekistan#.Vss6y_vLazA.facebook>.

51 Visson, *the Art of Uzbek Cooking*, 6.

Cheese bureks similar to simple Turkish ones are *binjek*. Fruit is common, including apricots, which are dried (*uriuk*) and whose pits are “cooked in ash until they turn white” for a popular snack.⁵² The ash-cooking eliminates the poisonous hydrocyanates in the pits. Ibn Battuta mentions the small sourish plums, *alu*, that Persians and Central Asians love and often use in dried form.⁵³ Spicing including “red and black pepper, cumin seeds, barberries, black and white sesame seeds, nigella, garlic and herbs such as parsley, coriander, mint, dill, and basil.”⁵⁴ This is a typical mix for the Persian world. Cumin, coriander, parsley, garlic, and black pepper are the commonest of these. Dill appears largely in Russian-influenced cooking, but is a Persian herb as well.

Dishes include a vast array of salads,⁵⁵ some including lamb, beef, or chicken and many including radish or carrot. Many are clearly Russian in background. The less obviously Russian ones tend to include the spices and herbs mentioned above. More Turkic is radishes and herbs in a yogurt-lemon or simple yogurt dressing.

Universal in Uzbekistan cities is a sign reading “*Millii taomlar*.” One wonders how Millie got control of all the small cafés in the country until one learns that the phrase means “local dishes,” normally understood to mean plov (pilaf), somsa, noodle dishes, tabaka, and kababs. Food is good and portions generous. Marketplaces have stalls specializing in noodles with meat, tabaka, kalya pochka (the head-and-foot stew of the Iranian world), kababs, *somsa*, and soups. Salad is normally served with these, usually the ever-present cucumber and tomato chunks. The *somsa* range from wonderfully flaky and rich to heavy, stodgy creations much like the low-end meat pies of English and New Zealand fast-food.

Soups can be quite spicy with chile pepper; they almost always include meat, in either tomato or yogurt broth, and often with dumplings (filled or not). *Yumura* are egg dumplings. Black-eyed peas add to other dried legumes in mixed stews.

The usual fruits and nuts are popular, with walnuts being especially valued, and pistachios a luxury flavoring. Late spring and summer see incredible amounts of fresh fruit sold in the markets, along with the permanent fixtures of dried items. *Khashtak*—dried apricots stuffed with walnuts and raisins—are probably the most popular sweet.

52 Visson, *the Art of Uzbek Cooking*, 11.

53 Ibn Battuta, *the Travels*, volume 3, 550.

54 Visson, *the Art of Uzbek Cooking*, 12.

55 Visson, *the Art of Uzbek Cooking*, 49.

The curse of Uzbekistan is its commitment to cotton. This was a product of Russian colonialism in the 19th century; the Russians imported high-quality cotton seeds from the United States and made Uzbekistan into a giant cotton farm. This policy was pushed to extremes by the Soviets, who also forced collectivization on the people with the usual ruthlessness.⁵⁶ The cotton was for manufacturing and export—not for use in Uzbekistan. Since cotton demands huge amounts of agrochemicals—fully a third of the agricultural chemicals in the world are used on it—Uzbekistan has become one of the most polluted countries on earth, with little or no economic progress to show for it. Whether things will change in future remains to be seen.

Cotton is enormously water-demanding and irrigating it has led to drying up of the Aral Sea, as noted above. The area is doubly disadvantaged: it is a minority area, largely Karakalpak (a different Turkic language), and it is very far from the capital and economic center.

Nancy Rosenberger⁵⁷ spent several months in Uzbekistan in 2005 and studied food partly because it was one of the few safe topics; the government did not want Americans snooping around. Even food turned out to be a revealing thing to study: poverty, inequality, and repression were all too obvious. Rosenberger's book details a society with a fearful president, widespread poverty, and overall lack of food security except among the small upper and middle classes. Rosenberger's book is (as of 2019) by far the best available English-language work on the social and economic contexts of food and eating in Central Asia; it defies summary here, but is well worth seeking out. Conditions have, however, improved since she wrote. Tashkent is a beautiful, thoroughly modernized city, with excellent restaurants of all types. Eating is more cosmopolitan. Some remote areas of the country remain poor and isolated.

After independence, one early act of the President, Karimov, was to convert “almost 40% of cultivated land into wheat” from cotton,⁵⁸ a very wise act. He also held down the price of bread. Some rice is also grown. People have taken advantage of relative freedom to grow more fruit.⁵⁹ Unfortunately, Uzbekistan is trapped: they need foreign currency and have little way to get it except through cotton. At least cottonseed makes good oil, if it is properly detoxified. It is the staple oil. The presscake is good animal feed. Individuals can sell other crops, although cotton remains a government monopoly.⁶⁰

56 Visson, *The Art of Uzbek Cooking*, 3.

57 Rosenberger, “Patriotic Appetites and Gnawing Hungers: Food and the Paradox of Nation-Building in Uzbekistan,” *Ethnos* 72 (2007), 339–360; Rosenberger, *Seeking Food Rights*.

58 Rosenberger, *Seeking Food Rights*, 9.

59 Rosenberger, *Seeking Food Rights*, 64.

60 Rosenberger, *Seeking Food Rights*, 68.

Meanwhile, the cities—which were naturally located in good land near water—are sprawling over the best farmland in the country (data from satellite photographs on Google Maps). And while Kazakhstan, which has oil income, as well as income from other exports, has improved water management, and has partially refilled its part of the Aral Sea, Uzbekistan remains trapped.

As in other ex-Soviet areas, the small private plots, which are essentially intensely-cultivated gardens, supply a disproportionate share of the food. Being held at 0.17 ha per plot, they make up 11% of the land and produce 60% of the agricultural output.⁶¹ They are even more critical than that figure suggests, because they produce the vitamin-rich and protein-rich foods: vegetables, fruits, and animals. They supply “95% of the milk; 94% of the cattle and poultry; 90% of the potatoes; 71% of the vegetables; 63% of the fruits; and 54% of the eggs.”⁶² The continued existence and productivity of such plots is a hold-over from the Soviet period. During that era they were the “private plots” allowed individuals beyond participation in the the state realm, but the tradition of intense cultivation in small plots near residences pre-dates the Soviet period.

As of Rosenberger's visit, the government was trying to eliminate small farmers and invest in middle- and large-scale ones. This carries on the policies of the Soviet Union, and of many other countries.⁶³ Small farmers are the backbone of agricultural productivity all over the world,⁶⁴ and eliminating them has led to food shortage, or unbalanced production everywhere it has been tried, especially of the vitamin- and mineral-rich foods.

Partly because of such disruptions, and partly from discrimination against particular areas (especially those whose traditional Islam makes them suspect for terrorism), food insecurity is high. Results have included food poverty of 31.8% and real poverty of 9.15% in Andijan, a rich province and major cotton source; rates for Tashkent (the capital) are only 9.2% and 2.9% respectively.⁶⁵ Anemia is fairly common in Uzbekistan, and especially in Andijan⁶⁶ and other marginal rural areas. Women suffer from poorer access to food in this patriarchal culture.

61 Rosenberger, *Seeking Food Rights*, 64.

62 Rosenberger, *Seeking Food Rights*, 78.

63 Netting (1993), *Smallholders, Householders: Farm Families and the Ecology of Intensive, Sustainable Agriculture* (Stanford, 1993).

64 Anderson, *Everyone Eats*

65 Rosenberger, *Seeking Food Rights*, 133.

66 Rosenberger, *Seeking Food Rights*, 137.

In Uzbekistan, Rosenberger first encountered an assimilated dish called *laghmon* (or *laghman*). It was said to come from the Uighurs in China,⁶⁷ and consisted of “mutton, potatoes, tomatoes, and turnips.”⁶⁸ Potatoes, tomatoes, and other New World foods naturally came with the Russians, and older people could still remember a time when those foods were not normally available.⁶⁹ The various Russian cabbage dishes also came with colonialism. Dill also seems to have come with the Russians, though it is traditional in Iran and Afghanistan.

Rosenberger soon found that *palov* (or *plov*) was the most popular dish, though unavailable to ordinary people till the 1930s. It consisted of mutton fried in fat with carrots, onions, and rice, and often with garbanzos and raisins.⁷⁰ Of course the fat is ideally the *qurdiuq*, the fat of the fat-tailed sheep's hind end. The blend of carrots (cut thin) and onions, fried up, is *zirvak*,⁷¹ a term comparable to the *soffrito* of European cuisines. Often the meat is fried with the vegetables in the *zirvak*.⁷² Plov can also be made with almost anything else available, from quails to stuffed grape leaves, and much improvisation goes into it.⁷³ It is made by men, and this has become a highly negotiated area in the gender universe; the Soviets liberated women by allowing them to make *plov*,⁷⁴ but Rosenberger found that the pendulum was swinging back, if it had ever swung very far.

Plov or *palov* in Uzbekistan is also varied in preparation style. The meat may be fried or boiled. If it is boiled, the onions are generally fried separately, and sometimes the carrots. The rice is usually soaked and then put on top of the fried meat and cooked above it, so that it basically steams. It may be cooked separately, or it may be first fried and then put over the meat and steamed.⁷⁵ The common method of frying the rice, and then adding the meat, vegetables, and spices, and cooking everything in water, is not the regional custom. *Pilau* is made this way in much of the world, but is apparently a late introduction everywhere. It was perhaps first introduced in Mongol times or a little before.

Here are some typical Uzbek recipes:

-
- 67 Rosenberger, *Seeking Food Rights*, 1.
 68 Rosenberger, *Seeking Food Rights*, 2; presumably with noodles.
 69 Rosenberger, *Seeking Food Rights*, 35.
 70 Rosenberger, *Seeking Food Rights*, 6.
 71 Visson, *the Art of Uzbek Cooking*, 7.
 72 Mahmudov (2013), *Uzbek Cuisine*.
 73 Mahmudov, *Uzbek Cuisine*; Visson, *The Art of Uzbek Cooking*.
 74 Visson, *The Art of Uzbek Cooking*.
 75 Mahmudov, *Uzbek Cuisine*, 117.

1. *Qâwurma Palâw*, Samarkand style (Charles Perry)

Central Asian pilaf differs from the Indian, Iranian, and Turkish styles. First you make a stew (the *zirwaq*) of meat and onions—for *qâwurma palâw*, they are fried good and brown—and then cook the rice on top of the stew. In Uzbekistan (as pretty much everywhere in Asia) the water is not measured by volume but by height; the water should be one finger joint deep. Central Asian pilaf nearly always includes carrots and a handful of tart dried barberries (*zirk*), which is considered a spice. If you can't get barberries (called *zereshk* in Persian markets), substitute dried cranberries. All sorts of changes can be rung on this basic idea—adding raisins, chickpeas, stuffed grape or cabbage leaves, sour unripe apricots, *etc.*

What makes this Samarkand style is that the meat is fried in butter, rather than lamb fat, and the ingredients are layered when the pilaf is served. Elsewhere the rice is usually mounded in the middle of the plate with the meat and carrots arrayed around it.

2 cups rice

Water

¼ cup oil

6 onions, sliced and separated into rings

1 pound stew meat, lamb or beef, cut in 1-inch chunks

¼-⅓ cup barberries or dried cranberries

1 pound carrots plus 1 carrot, peeled and cut into ¼-inch julienne sticks 2 inches long

1 teaspoon cumin

Salt and black or red pepper to taste

Rinse the rice in several changes of cold water until the water remains fairly clear, 5 or 6 changes of water, in order to remove the surface starch. Drain.

Put the oil in a 4-quart casserole and fry 5 of the onions until golden. Remove and drain of butter.

Fry the meat until the pieces are stiffened and quite brown. Remove from the casserole, and drain. Wipe the casserole clean and remove any burnt bits with a spoon.

Add ½ cup of water to the casserole and stir over medium heat to deglaze. Return the meat and onions to the casserole along with the barberries and 1 pound of the carrots. Add water to cover and the cumin, salt

and pepper. Bring to the boil, reduce heat and simmer, covered, for at 1 ½ hours.

Sprinkle the rinsed rice over the stew and add 4 cups water. Bring to a boil over high heat, reduce the heat, flatten with a spatula, and simmer, covered, until the rice is done and nearly all the water is absorbed, about 15 minutes. Uzbek cooks test for this by lightly slapping the surface with a spatula or skimmer; when it sounds hollow, the rice is done.

Take a pair of ladles and scoop the rice into a mound in the center of the casserole. Poke 2-3 vent holes in the rice down to the bottom of the pot, using the handle of a wooden spoon. Place a dish towel over the top of the pot, set the lid on top of that and simmer 30 minutes. (Remember to fold the ends of the towel over the lid so they do not accidentally catch fire.)

Meanwhile, fry the remaining carrot and onion until soft and golden brown.

Scoop the rice onto a serving dish and arrange carrots and meat on top. Garnish with the fried onion and carrot.

Serves 6-8.

2. Another recipe, for raviolis

Kok Chuchwara

“Green ravioli” are traditionally served on Nawroz, the Persian (and Central Asian) New Year, which falls on the spring equinox. The filling is basically any spring greens; clover is surprisingly good. The same filling is also used for a *samosa* (*kok samsa*).

1 ½ cups (3 sticks) butter

2 cups diced onions

1 bunch green onions, white part and 1 inches of green, minced

2 pounds mixed spring greens such as clover, mint, cilantro, sorrel and shepherd’s purse, all finely chopped

2 teaspoons salt

2 teaspoons ground red pepper

24 wonton wrappers

1 egg, lightly beaten with 1 tablespoon water

3-4 quarts water, lightly salted

Melt 1 cup (2 sticks) butter in a large frying pan, and add the diced onions. Fry at medium heat, stirring often, until they soften, and their raw aroma goes away.

Add the green onions and spring greens and cook, stirring, often, until the greens are tender. Remove the greens, boil the pan juices down by half and mix return the juices to the greens. Stir in the salt and 1 teaspoon pepper.

Use this to fill each square, folding over into a triangle, sealing the edges with a little beaten egg, then folding the opposite corners over each other.

Bring the water to the boil and cook the *chuchwaras* until they float and the pasta tastes done, about 4 minutes. Melt the remaining ½ cup (1 stick) butter. When the *chuchwaras* are done, drain and serve with the melted butter.

Makes 24 *chuchwaras*, 4-6 servings.

Rosenburger soon encountered *qatiq* (thick yogurt) and *qurt*, and *somsa*.⁷⁶ This latter local version of *samsa* consists of “dough wrapped around mutton, mutton fat, onions, and potatoes” and baked in “small clay ovens set on a board with wheels.”⁷⁷ Chopped beef and onions are now more typical. range from delicate and flaky to heavy and stodgy, depending on the skill of the cook. They are stuck to the walls of the tandur and peeled off when done to a rich brown color. She soon discovered *tandur* (Uz. *tandir*) bread⁷⁸ and its low cost, and high cultural value. It is still the staple. Nancy Rosenberger soon learned to serve tea. At a marriage party, she met “*chukchuk*—a long string of dough dipped in honey and wrapped up in a circular pattern,” and *norin*, “homemade noodles, cut very thin, and mixed with horse meat.”⁷⁹ *Chakchak* (the more general Central Asian pronunciation, with vowels less backed) remains popular, and can be anything from lumps of dough fried hard to long thin sheets; honey or sugar syrup is used to prepare a sticky, rather bland dessert.

Other foods include *dimlama*, stew. *Halvatar*, a local *halwa*, is made by “frying flour in oil and adding sugar.”⁸⁰ Another halwa is made of boiled-down milk and sugar, sometimes flavored with pistachio nuts, and even chocolate. The usual kababs are at least in the capital often called *sashlik*, from the Russian or Kazakh term. *Shipildok* is green pulse (*mosh*, from *māsh*, the Indian mung beans) with onion and cumin; it can have horse meat added. *Atala* is milk with oil and onions. Fried pasta is *shavla*. All these are less than expensive

76 Rosenberger, *Seeking Food Rights*, 8.

77 Rosenberger, *Seeking Food Rights*, 8.

78 Rosenberger, *Seeking Food Rights*, 8-9.

79 Rosenberger, *Seeking Food Rights*, 11.

80 Rosenberger, *Seeking Food Rights*, 14.

foods. The Uzbek allegedly have or had a cattle-blood soup, with tomatoes,⁸¹ but this would be forbidden by Islam, so may be a myth. They also eat horse meat sausages, as do many Central Asian Turkic groups.

Rosenberger visited better-off homes, where palov still reigned. Other more luxurious foods also existed, from borscht to *kavardak* (meat fried with vegetables), and a recooked palov of stew-like texture, *shavlar osh*.⁸² *Manpar* is a soup with meat and noodles, seasoned with dill.

Gender structures food, as elsewhere. Women are the cooks, though men are supposed to do the *palov*-making. Almost everywhere in the world, large-scale public meat cooking seems to be a man's job, even in cultures where women do the rest. Women find their special role in preparing *sumalak*, the Uzbek version of the sprouted wheat pudding served since ancient times for Nauruz, the spring equinox and the classical Persian new year celebrated throughout much of Central Asia, and more widely throughout the Mediterranean world for related reasons; it is served for the dead in Greece, to symbolize rebirth and eternal life, and thus affirm life in a dark time. In Uzbekistan, the wheat is ground and mixed with oil, flour, and sugar, and cooked all night.⁸³ It is a symbol of fertility and new life.

Marriage, as in Afghanistan, is arranged through transactions that involve tea and sweets, and gifts of food.⁸⁴ Early on the wedding day, the groom and male friends and relatives gather for palov, which "represent men's virility, generosity, and strength;" women do not attend.⁸⁵ Customs are broadly similar to Afghanistan's, though traditions are changing, and Westernization is widespread.

Russian and Korean food are well established. Thousands of Koreans were resettled to Turkistan from the Korean borderlands of Manchuria and Siberia to Uzbekistan under Imperial Russia and later under the Soviets, for various reasons including suspicion of disloyalty during the Russo-Japanese War. They have acculturated linguistically but retain many food traditions, including rice cakes and kimchee. Korean restaurants are popular in the cities. Rosenberger provides fascinating details on this minority group. Not just in Uzbekistan is Korean food popular.

Another minority group, the Jews, once centered on Bukhara, which was then a major center of Jewish life and culture. Harassment under the Soviets and since caused them to leave, many settling in New York or Israel. Their food

81 Rosenberger, *Seeking Food Rights*, 233.

82 Rosenberger, *Seeking Food Rights*, 46.

83 Rosenberger, *Seeking Food Rights*, 85.

84 Rosenberger, *Seeking Food Rights*, 89ff.

85 Rosenberger, *Seeking Food Rights*, 91.

includes “chopped liver, fried fish, chicken soup, boiled chicken, nut desserts, and Passover recipes using matzo.”⁸⁶ Feasts and celebrations were once accompanied by their unique and extremely sophisticated music, a tradition now acutely endangered. The Smithsonian Institution salvaged some in the nick of time from master musicians turned taxi drivers in New York (see CD recording, “Shashmaqam”). There is little chance for extremely demanding, long-learning traditions, be they palov or music, in the world of New York taxis.

We can fill in details from two available cookbooks, Lynn Visson’s *The Art of Uzbek Cooking* (New York, 1999) and Karim Mahmudov’s *Uzbek Cuisine* (San Bernardino CA, 2013).⁸⁷ Visson’s *laghman* recipes⁸⁸ are complex and sophisticated, involving most of the spices and herbs noted above. *Dimlama*, general term for stew, includes a *dimlama lagman*⁸⁹ that is even more complex and interesting. There is also a fried *lagman*.⁹⁰ She gives recipes for dairy soups with milk and yogurt,⁹¹ as well as the usual soups and stews common to Central Asia, Afghanistan and Iran. She notes stuffed grape leaves,⁹² cabbage,⁹³ and other items.⁹⁴

Uzbekistan shares with Afghanistan the stew with cherries⁹⁵ and with quinces,⁹⁶ and various other meat and fruit dishes.⁹⁷ *Plovs* occupy fully 20 pages in Visson;⁹⁸ practically anything found in the country goes into them. Chinese chives are used for stuffings, as in Afghanistan, but apparently less frequently.⁹⁹ Turkish-style baklava is found¹⁰⁰ but far more interesting is a local variety, *paklama*,¹⁰¹ which involves a rich pancake dough, a walnut and sugar filling, and butter and honey to pour over. Eight pancakes are made, then

86 Visson, *the Art of Uzbek Cooking*, 11.

87 Mamuhdov’s book is a republication of an old book whose original publisher cannot be traced; the author is long deceased now; see also Şavkay (2006), “Turkish Cuisine—From Nomadism to Republicanism,” 267-285. Şavkay 2006 on Turkic cooking.

88 Visson, *the Art of Uzbek Cooking*, 67-70.

89 Visson, *the Art of Uzbek Cooking*, 201-2.

90 This is *kovurma lagman*, see Visson, *The Art of Uzbek Cooking*, 203-204.

91 Visson, *The Art of Uzbek Cooking*, 84-87.

92 Visson, *The Art of Uzbek Cooking*, 107.

93 Visson, *The Art of Uzbek Cooking*, 109, apparently a Russian recipe.

94 Visson, *The Art of Uzbek Cooking*, 228.

95 Visson, *the Art of Uzbek Cooking*, 119.

96 Visson, *the Art of Uzbek Cooking*, 105, 123.

97 Ibn Battuta had mentioned quinces as well as grapes back in the 1300s; Ibn Battuta, *The Travels*, volume 3, 570.

98 Visson, *The Art of Uzbek Cooking*, 139-159.

99 Visson, *The Art of Uzbek Cooking*, 208.

100 Visson, *The Art of Uzbek Cooking*, 248.

101 Visson, *The Art of Uzbek Cooking*, 250-252.

stacked with the walnut filling between each pancake. Today an egg glaze holds the stack together. The butter is poured over, and the whole baked for 10 minutes; then the honey is poured and the whole baked for another 30-40 minutes.

How old this recipe is in Uzbekistan is unclear. We have noted above a virtually identical recipe from the 14th century, in the Chinese household encyclopedia *Jujiabiyongshilei* (though that one seems a little more primitive). *Paklama* is likely a linguistic variant of some ancestral form from Turkic *baklava* or *baklava*.

Visson admits leaving out: recipes for *khasyp*, a sausage with lungs and heart; horse meat recipes; and other items of dubious interest to the English-language cook.¹⁰² Kumiz gets barely a mention (it may not be common in Uzbekistan).

A very different and richer view is presented by Karim Mahmudov. He does not spare us the horse meat; he begins his book (after a flock of Russian-style salad recipes) with recipes for horse meat, inner parts, and sausages. First comes *kazy*, ‘horse meat sausage,’ made of horse meat and fat, chopped and seasoned, and stuffed into cleaned horse intestines. There are also several recipes for lamb and lamb-offal sausages. Then comes *karta*, marinated horse breast meat. This is followed by *avurda*, meat preserved by being covered with melted sheep tail fat. This fat-sealing technique is worldwide, having been independently invented from Maori New Zealand to the American Arctic.

Kalya pochka is boiled lamb’s head, shins, heart, kidneys, lung, and tripe (or any subset of these). Another recipe for tripe calls for barberries, bay leaves, cilantro, and other seasonings. *Kalla shurpa* is a soup with lamb’s head and shins, similar to a *YSZY* recipe. *Zhagir bugir* is liver fried in sheep tail fat with kidneys and heart. *Ichak shavlya* is a soup of intestines and rice. *Sutli upka* is lung filled with a milk-flour-sour cream mix and boiled; this reminds us of the Tangut Lungs recipe in the *YSZY*, and later listed among the “Muslim” recipes of the *Jujiabiyongshilei*. Many recipes involve *postdumba*, the fat tail of the sheep, or just its skin as a container.

Here is a *YSZY* recipe for lungs, in the same tradition (1, 42B):

“Tangut Lungs” (“West of the River Lungs”)

Sheep’s lung (one [set]), leeks (six *jin*; take the juice), flour (two *jin*; make into a paste), butter (half a *jin*), black pepper (two *liang*), juice of sprouting ginger (two *he* 合¹⁰³).

¹⁰² Visson, *The Art of Uzbek Cooking*, 141.

¹⁰³ A *he*, more properly read *ge*, is one-tenth of a *sheng*.

[For] ingredients use salt and adjust flavors evenly. Submerge the lungs in water and cook. When done baste with the juice and eat.

While there are many soup recipes, most are variants on a meat-carrot-potato-tomato-onion theme, with the usual seasonings, and often with pasta. One is a soup of sparrows, presumably slim pickings. Others include millet or sorghum. The various sausages and dumplings can all go into soup. There are many kinds of milk soups, mostly for sour milk, and one for colostrum with rice, sheep tail fat, onions, and spices. There are also *shavlya* porridges, the usual *lagman*,¹⁰⁴ and many types of stews, with a multiplicity of names. Stuffed vegetables extend to stuffed tail skin and stuffed fat netting.¹⁰⁵

The inevitable dozens of *palovs* occupy 25 pages,¹⁰⁶ and include *palovs* with pheasant meat, fat tail skin (*postdumba*; recall Afghan *roghan-i-dumba* for tail fat) of sheep, and anything else available. Bulgur (*bugdoi*) *palov* is known.¹⁰⁷ Kababs—chunks of meat, or small birds, cooked without rice or the like, and usually skewered—are similarly diverse.¹⁰⁸ They are not always skewered and grilled; sometimes they are boiled or steamed, which produces a rather tough, flavorless product that must be an acquired taste. Dumplings and noodle dishes are even more diverse, defying summary;¹⁰⁹ interesting is a “Dungan-style noodles” dish¹¹⁰ that is a more ingredient-rich version of the usual *laghman*; *dungan* is the Chinese term for northwest Chinese Muslims of Han language and origin, and this dish does seem like Dungan noodles except that it calls for bay leaves, and does not mention chili peppers (Dungan people love chiles in soup).

The book continues with a vast range of recipes for breads, and with a more usual list of dairy products, including *suzma*, *qurt*, *sarieg*,¹¹¹ *pishlok*,¹¹² and *kumiz*—with a whole recipe given for making it.¹¹³ There are also full recipes for making jams, syrups, preserves, pickles, salt meats, and so on. One could easily live a full life as a subsistence farmer and herder from this book. Relative to our other sources on Central Asian recipes, it reflects a less Russianized and less Persianized food world.

104 Visson, *The Art of Uzbek Cooking*, 140.

105 Visson, *The Art of Uzbek Cooking*, 171, presumably caul fat.

106 Visson, *The Art of Uzbek Cooking*, 101-26.

107 Visson, *The Art of Uzbek Cooking*, 120.

108 Visson, *The Art of Uzbek Cooking*, 141-54.

109 Visson, *The Art of Uzbek Cooking*, 190-221.

110 Visson, *The Art of Uzbek Cooking*, 204-05.

111 Visson, *The Art of Uzbek Cooking*, 273.

112 Visson, *The Art of Uzbek Cooking*, 273.

113 Visson, *The Art of Uzbek Cooking*, 274-75.

Drinks are the usual dairy items, as well as tea, enthusiastically adopted early on. Alexander Burnes encountered it there in 1829, noting: “Nothing is done in this country without tea, which is handed round at all times and hours.”¹¹⁴ He noted “keimuk chah,” i.e. *qaimaq cha*, tea with the fat skimmed from boiling milk. The Uzbeks chewed the leaves after brewing them.

Another insight into Uzbek and Kyrgyz foodways comes from their medicinal plant use. A recent thorough encyclopedia of medicinal plants of Uzbekistan and Kyrgyzstan¹¹⁵ includes data on medicinal uses of wild onions, sagebrushes, barberries, hawthorns, sea buckthorn, wild plum, gooseberry, licorice species, mountain ash, and rose hips. Wild greens such as cabbage relatives, dock and dandelion are medicinally employed. Cultivated plants with medical uses include caper, caraway, shepherd’s purse, carrot, walnut, mint, and mulberry.

4 Tajik Food

Tajik food in Uzbekistan differs little from Uzbek; the few differences are points of pride. Rosenberger¹¹⁶ describes the attempts to make Uzbekistan a genuinely distinct Uzbek country, resulting in some negativity toward Tajiks (there is no serious discrimination except in teaching the Tajik language in school). “Bread warm from the oven topped with new garden greens and fried, and the whole thing soaked with warm butter”¹¹⁷ seems to be a distinctive specialty. Her friends told her Tajiks tended to boil their meat whereas Uzbeks would fry it.¹¹⁸ Fresh-picked greens also get into a yogurt soup with ground wheat.¹¹⁹ A few other differences exist more in nuance than in major culinary distinctions. Interviews with Daniel Kronenfeld, a friend of Anderson’s who lived in Tajikistan for several years, reveal no significant differences between it and the general Uzbek-Tajik foodways above.

A recent encyclopedic work, *With Our Own Hands: A Celebration of Food and Life in the Pamir Mountains of Afghanistan and Tajikistan* by Frederik van Oudenhoven and Jamila Haider, documents thoroughly the food and cooking of the Tajiks of the Pamirs in Tajikistan and neighboring northeast Afghanistan. The book is one of the most thorough food ethnographies ever written. It

114 Quoted in Mair and Hoh, *The True History of Tea*, 158.

115 Eisenman et al., *Medicinal Plants of Central Asia: Uzbekistan and Kyrgyzstan*.

116 Rosenberger, *Seeking Food Rights*, 118-31.

117 Rosenberger, *Seeking Food Rights*, 125.

118 Rosenberger, *Seeking Food Rights*, 125.

119 Rosenberger, *Seeking Food Rights*, 128.

was published in three languages and scripts: English, Dari (in Persian script, with Arabic letters) and Tajik (in Cyrillic). Many local authors were brought in to help with descriptions. This book deserves special attention, since the Pamirs preserve ancient lifeways that predate urbanization in Central Asia.

The people speak Southeastern Iranian languages such as Shughni (the related Eastern Iranian language Yaghnobi, descended from Sogdian, survives nearby). Dari is the language for dealing with the outside world. The country has some of the most extreme relief in the world, with high steep mountains dropping into deep gorges. In the Pamir core, settlement is possible only along major streams and rivers, where settlements are concentrated at the mouths of tributary canyons where water for irrigation is available. Irrigation goes back thousands of years in the area. Water from high springs is “female,” glacial meltwater “male.”¹²⁰ Formerly, houses were often built on rocks to avoid taking up cultivable land,¹²¹ an idea that should have been carried forward. Fuel—wood and animal dung—is scarce. Fires are economically used, with just enough for baking to be a major way of cooking. Collective baking by several families is used to maximize use of a fired-up oven. (In Chinese Central Asia and Tibet, fuel is so scarce that cooking is usually by boiling, steaming, and parching. Baking uses too much fuel.)

Settlements are shaded by dense tree cover, including walnuts, apricots, and mulberries. Fields are small and subject to drought and flood. The high country is used for grazing, where it is not too steep and barren. Staple foods are the usual wheat and barley, with rye, millet, peas, lentils, chickpeas, and fava beans all grown. Rye is grown as a mixed crop with peas or beans, and indeed crop mixtures are usual, presumably as a risk-avoidance strategy.¹²² Even in the 21st century, hand labor is the norm (from scythe harvesting to milling), and traditional varieties are grown. Bread is the usual *non*, with some richer forms such as *fatir* (cf. Arabic *fatayir*).

As in montane parts of Afghanistan, white and black mulberries are important, sometimes a staple food in lower valleys. They can provide up to 70% of calories.¹²³ Several varieties exist. They are even made into brandy.¹²⁴ Dried mulberry meal is a staple, often mixed with other ground foods¹²⁵ or mixed with oil for storage.¹²⁶ Apricots are also important, coming in over 300

120 Van Oudenhouven and Haider, *With Our Own Hands*, 69.

121 Van Oudenhouven and Haider, *With Our Own Hands*, 67.

122 Van Oudenhouven and Haider, *With Our Own Hands*, 70-71.

123 Van Oudenhouven and Haider, *With Our Own Hands*, 208.

124 Van Oudenhouven and Haider, *With Our Own Hands*, 220.

125 Van Oudenhouven and Haider, *With Our Own Hands*, 223.

126 Van Oudenhouven and Haider, *With Our Own Hands*, 556.

varieties;¹²⁷ the kernels are eaten, with many varieties being low in hydrocyanide content though still a bit dangerous.¹²⁸ Apples are also grown in great variety. Walnuts are vitally important, as in eastern Afghanistan and northern Pakistan. Vegetables include New World potatoes, chiles, pumpkins, and tomatoes. Wild foods and medicines are still vitally important. They are described and identified with full detail. Tea is a recent introduction; older people remember its coming. It is drunk with milk and salt as in much of eastern Central Asia.¹²⁹ Rice though rare, has always been known; it is now used in *plov* (Tajik) or *pulao* (Afghan).¹³⁰

Some words are familiar: *qurut* (from Turkic) for dried curds; *non* for bread; *tandur* for the large oven; *osh* for noodle soup, *bekmez* for mulberry syrup (*pekmez* is concentrated grape juice in Turkish and Armenian); *dumba* for sheep tail fat, and so on. Other words are local. *Pikht* is ground dried mulberries. *Kaburthe* is used for herbs (cognate with Farsi *sabza*), defined as “anything green that you can find: dill, parsley, coriander, basil, nettle, green onion, leek, celery leaves.”¹³¹ *Khamirmo* is a sourdough starter.

Dairy foods as the main protein staple are predictably important. Butter is churned and sometimes made into *zirdrughan* (ghee).¹³² Fresh and cured cheeses are made. *Qurut* is supplemented by *chakka* (drained buttermilk or yogurt, like lebni) and *tukhp* (dried yogurt, more sour than *qurut*). *Ara-lash* is a mix of fresh cream, chakka, sugar and yogurt.¹³³ Transhumance, still locally practiced, is diminishing, and pastures are eroding. *Qurut* is salted and made from milks including yak; *tukhp* is the same thing, unsalted, and made from goat and sheep milk or cow milk, which is less prized. Dairy foods are valuable; a kilo of butter is traded for 7 kilos of mulberries.¹³⁴ Preservation technology once involved cooking cherries or other fruit with milk and barley flour, then topping with a layer of butter to seal before burying the pot.¹³⁵ This recalls fat-sealed storage in many other parts of the world, from Siberia to Maori New Zealand.

127 Van Oudenhoven and Haider, *With Our Own Hands*, 240.

128 Van Oudenhoven and Haider, *With Our Own Hands*, 241.

129 Van Oudenhoven and Haider, *With Our Own Hands*, 599.

130 The Afghan word is used south of the Panj River; see Van Oudenhoven and Haider, *With Our Own Hands*, p. 608-609; the recipes differ as the words do, with Indian spices making their way into *pulao*.

131 Van Oudenhoven and Haider, *With Our Own Hands*, 45.

132 Ghee; Van Oudenhoven and Haider, *With Our Own Hands*, 433.

133 Van Oudenhoven and Haider, *With Our Own Hands*, 431.

134 Van Oudenhoven and Haider, *With Our Own Hands*, 434.

135 Van Oudenhoven and Haider, *With Our Own Hands*, 651.

Meat is special, since slaughtering a dairy animal is costly. Some game still exists, with the ibex being considered very pure, even saving the consumer from sin,¹³⁶ but game is now largely exterminated by overhunting. Conservation beliefs still exist. One man carefully took only three cartridges with him when hunting, shot enough for the family and left it at that. His uncle killed seventeen ibexes and was found dead—the protective spirits had killed him.¹³⁷ Meat is used in soups, stews, and kababs, as elsewhere in Central Asia. The familiar *kala pochka* (head and feet) of Iranian cooking is found here too.¹³⁸

Festival foods include bread sculptures of eagles and mountain sheep, and *kamoch-tarit*, ‘butterbread.’¹³⁹ Bread is made with sourdough starter from wheat, barley, rye, millet, peas, and grass peas. Flour is hard to produce and expensive to buy. All the above may potentially be mixed in flour, especially for noodles (*hazorza*), for which largely-rye dough is least popular. Small dumplings are also used. Porridges are common. As elsewhere in the Iranic world, sprouted wheat porridge is used to celebrate Nauruz—the spring equinox in Iran but in the Pamirs it can be eaten at any time the snow melts.¹⁴⁰ A general festival food is *baht*, a porridge of cream, milk, wheat flour, and dried mulberry meal.¹⁴¹ Poetry and song celebrate food.¹⁴² A sheep is sacrificed on the festival commemorating Abraham’s near-sacrifice of his son.¹⁴³ Goats are less sacred and are not considered appropriate for “weddings, funerals, or mothers who have just given birth.”¹⁴⁴ This kind of low valuation of goats is very widespread from the Mediterranean to China.

Old ways are changing, not always for the better. People are migrating out of their home areas. This destroys webs of mutual dependence, leading to declines in all rural activities, especially pasturing.¹⁴⁵ Violence and crime spill over from Afghanistan or come from the lowlands. Accompanying the wide use of poppy seeds, is opium production, with addiction a major problem.¹⁴⁶ Down-country foods—Russian and urban Tajik—are moving in fast.¹⁴⁷

136 Van Oudenhoven and Haider, *With Our Own Hands*, 471.

137 Van Oudenhoven and Haider, *With Our Own Hands*, 472; similar stories are common in Siberia and among Native Americans.

138 Van Oudenhoven and Haider, *With Our Own Hands*, 493.

139 Van Oudenhoven and Haider, *With Our Own Hands*, 69.

140 Van Oudenhoven and Haider, *With Our Own Hands*, 182.

141 Or sugar, or salt; Van Oudenhoven and Haider, *With Our Own Hands*, 459.

142 Van Oudenhoven and Haider, *With Our Own Hands*, 382-88.

143 Van Oudenhoven and Haider, *With Our Own Hands*, 477-479.

144 Van Oudenhoven and Haider, *With Our Own Hands*, 480.

145 Van Oudenhoven and Haider, *With Our Own Hands*, 462-463.

146 Van Oudenhoven and Haider, *With Our Own Hands*, 369-372.

147 Van Oudenhoven and Haider, *With Our Own Hands*, 548-549.

5 Kyrgyz Food

Kyrgyz food is rarely noted. The Kyrgyz speak a language virtually identical to that of the Kazakhs and their culture is otherwise highly similar. Martha Weeks self-published a small book, *Kyrgyz Cooking*.¹⁴⁸ From it we learn that pilafs are as elsewhere, with carrots, and sometimes apricots and raisins. It is simple food. Noodle dishes have incorporated New World vegetables. *Mantu* are as elsewhere in the region. The food is very similar to Uzbekistan's, with similar *chuchpara*, *lagman*, kababs, *samsa*, and so on; *plov* becomes *paloo*. Several Dongan dishes have entered from West China. Vinegars flavored with vegetables and fruits are an interesting touch.

The intrepid Frederik van Oudenhoven and Jamila Haider added the Tajikistan Kyrgyz to their ethnography, finding the food almost entirely dairy. In spite of a local saying that the Kyrgyz are more carnivorous than the wolves, Kyrgyz eat meat as rarely as other groups in the area, and rarely get bread. They live largely on yogurt and tea.¹⁴⁹ The usual *mantu*, noodles, pancakes, and other foods are relative luxuries.

The Kyrgyz manage their mountain forests for fruit and nuts, at least as intensively and subtly as the Kazakhs and Nuristanis do. They grow semiwild or domesticated walnut, apple, apricot, pear, almond, and cherry in open stands, crop hay from under them, and exploit them for honey and mushrooms, in a highly successful, sustainable, integrated system. It is not highly productive, but probably the best way to make sustainable use of the mountain slopes.¹⁵⁰

For lack of more information on the food, we may use this space to note the use of animal parts for storage vessels in high Central Asia, including Kyrgyzstan. Smoked hides make huge storage bags; smaller ones can come from the skin of a horse's shank, conveniently shaped for the purpose. Pails are made from the udders of cows and deer. Small bags for tea and salt are made from ram or bull scrota.¹⁵¹ Stomachs and intestines are also made into hold-alls, and of course sausages are made from stuffed intestines.

148 Weeks (2005), *Kyrgyz Cooking*.

149 Van Oudenhoven and Haider, *With Our Own Hands*, 532.

150 Uzakbaeva, "Traditional Kyrgyz Walnut-Apple Forests Provide Map for Sustainable Future." Mongabay (27 Sept., 2018), <https://news.mongabay.com/2018/09/traditional-kyrgyz-walnut-apple-forests-provide-map-for-sustainable-future/?fbclid=IwARowhs_pymOdpbAlb53hKtmEATjoVUBKHQamTILXkmdkR7rFvDxKDBruk3E>.

151 Basilov, D'yakonova, D'yachenko, and Kurylev (18988), "Household Furnishings and Utensils," 127-136.

6 Kazakh Food¹⁵²

“We are men of the desert, and here there is nothing in the way of riches or formalities. Our most costly possessions are our horses, our favourite food their flesh, our most enjoyable drink their milk, and the products of it,” thus spake Qan Qasim to the local historian Haydar Dughlât in the early 16th century.¹⁵³ Things have changed surprisingly little since then.

Kazakh food is like that of the Uzbeks, except that even more meat is eaten. Formerly, most of this was the preferred horse meat. It dominates meat sales in the Almaty public market. There is also beef, steadily increasing in use, but relatively little mutton and goat compared with the rest of the region. Russians sell pork there for Russians. Author Buell, asked in English by an older Russian lady selling meat in the market, if he understood what was going on, to her great amusement, he pointed to the left, and replied in Kazakh, *zhilqy-eti*, “horse meat,” to the right at her, and said *shoshqa*, “pork,” and pointing behind him, where there were Koreans, replied kimchi. And each sales area was neatly segregated from the other.

The festive board is called in Kazakhstan by the Persian term *dastarkhan*; the place of honor is the *tör*. At a recent family feast, the family and their guests, authors Buell and de Pablo, enjoyed the best the family had to offer: horse tripe sausage, or *kazy*, and loose fatty horse meat, prepared as *kauap* (Russian *shaslyq*). This was washed down with kumiz—pronounced *qymyz* in Kazakh—and followed up by *büldirgen*, tasty Kazakh wild strawberries (see the song which begins this book). The Kazakhs also make a salted, smoked horsemeat called *suri et*.¹⁵⁴

Other meat foods include *goldama*, fat meat with dumplings, and *besbar-mak*, a stew that can involve both lamb and *kazy* as well as cut-up vegetables. All parts of the animal are eaten. *Zhaya* (Russian *konina*) is horse meat steak. Various sausages of horse meat beside the usual *kazy* are made. The Kazakhs also consume large numbers of *manty*. These can be mutton-based, beef-based, or vegetarian). They drink *shubat*, a kind of camel *qymyz*, as well as the horse-milk *qymyz*. They also love dried yogurt, cheese, and thick clotted cream. A favourite dish of the southern Kazakhs is *turniyaz*, consists of milk cooked with butter, *qurt*, flour, and roasted millet.

¹⁵² We will omit Turkmenistan food here. There is simply little information readily available. A similarity to Kazakh food is the rule.

¹⁵³ Baipakov and Kumakov (2003), “The Kazakhs,” 89-108 (100).

¹⁵⁴ On *sur et* see Azarovym, et al (1981), *Kazakhskaiia Kukhnia*, 95; On the passages see also Perry (2011), “Dried, Frozen and Rotted: Food Preservation in Central Asia and Siberia,” 243-44.

The universal Arabic soup word *shorba* appears as *sorpa*, meat broth, usually clear. Many soups exist, including *balaza*, with dried chickpeas and other beans. The similarly widespread Arabic *samusa* for stuffed and baked or fried dumplings appears as *samsa*. Noodle soups, *kespe közhe*, are perhaps a bit less important than in other Central Asian countries. *Lagman*, the familiar flat noodles, are variously sauced. Fried dough is *shelppek*, fried meat is *quyrdaq*. Bread is called by the widespread Persian word, *nan*. The universal tea bread of western Eurasia appears here as *bauyrsak*, made like Afghan festive bread but then typically cut into pieces and fried.¹⁵⁵ The result looks exactly like a hush-puppy but tastes of rich wheat dough, not maize.

Chyburek are small pies stuffed with cut-up egg and garlic chives, a delicious combination. Many wild berries and greens are popular. Kazakhs and Russians make jam of any wild fruits, and these jams are deservedly popular. They are notably more flavorful and fruit-rich than most jams worldwide. *Chakchak* is a standard dessert, as in Uzbekistan.

Some further Kazakh dairy foods (shared with the Kyrgyz) are noted by Charles Perry:

Koirtpak: Cow's milk or water is added to yogurt, *ayran* or kumyss in a leather bag (*torsuk*). Eventually, it is said, the sour taste is lost and the result is a beverage.

Irkit: A mixture of raw (unboiled) milk and yogurt is aged in the small leather barrel called *saba*. It is churned to obtain butter, then the curd is removed and converted into *kurt* (as the Kazakhs call *qurut*) by boiling it down until solid and then drying it on a board. The whey, *irkit*, is served as a beverage.

Irimchik or *irimshik*: A sort of dried cheese, made from milk curdled with rennet. The curd is boiled and then dried quite hard in leather sacks; it turns a tawny color and keeps well. Sometimes meat broth is added during the boiling stage to improve the flavor. *Irimshik* is eaten by itself, added to other dishes or made into a sort of porridge (*talkan*) by pounding in a mortar and adding milk or sour cream.

Ak irimshik (white *irimshik*): This is made by boiling milk with yogurt or the sour buttermilk left after churning butter from yogurt.

Ejegei or *ezhegei*: Yogurt is added to boiling milk and cooked for 30-60 seconds so that it curdles. The curd is filtered out with a cloth strainer

¹⁵⁵ Much useful information here derives from Batayeva (2013), *Kazakh: The Complete Course for Beginners*. Ms. Batayeva relishes her home cuisine enough to feature it in course dialogues.

and mixed with sweet butter. Exceptionally (for culinary borrowings nearly always went from Turk to Mongol), this is a Mongolian word for curds, *ezegei* (the modern Khalkha Mongol pronunciation is *eezgii*).

Akalak: Whole cow's milk and sheep-milk yogurt are boiled together. When the mixture curdles, the whey is removed and the curd is mixed with sheep milk, boiled cow's milk, or butter.

Milk soup is *akirim*; "*zhau büirek* is mutton stuffed into its own tripe and thrown on the coals. *Sirbaz* is lamb wrapped in its own plucked skin and boiled."¹⁵⁶

Separately, as snacks, large amounts of *qurt* are eaten. Rice-based foods are not common, but some noodles including noodle-like flour strips are eaten. Restaurant food is a little more formal and more likely to consist of "made" foods than home cooking. This was clearly true in Almaty. Buell, de Pablo, guided by Moldir Oskenbay, ate at a restaurant specializing in "traditional foods;" many had more in common with the Iranian world than the Kazakh steppe. The Kazakhs are even trying to establish an international market for their *qurt*, involving large-scale commercial production. Most *qurt* today is home-made.

Turniyaz, mentioned above, is a popular dish made with *qurt*. It is a delicious millet porridge, served with chopped *qurt*. To cook *turniyaz* you need to rinse millet in cold water until clear. Fry flour in melted butter until golden brown, then add 2 tablespoons of water, stir until smooth. Boil milk and the rest of the water then add the flour paste. Once the liquids are boiled, add the washed millet and salt. Reduce the heat and cook for 20-25 minutes. Stir every 5 minutes. Before serving add chopped *qurt*.

Ingredients:

140 gr millet
 1 l milk (3.5% fat and above)
 300 ml water
 2 tablespoon flour
 1 tablespoon butter
 salt to taste
 qurt 3 pieces (per serving)¹⁵⁷

Traditional Kazkah *qurt* is made from cow, sheep, and goat's milk in the summer months.

¹⁵⁶ Perry, "the Horseback Kitchen of Central Asia," 244.

¹⁵⁷ Vakulova, *Turniyaz*, <<https://povar.ru/recipes/turniyaz-50556.html>>.

There are several types of how to make *qurt*, but typical production method is the following:

After clarification, raw milk is heated to 90–100 °C for about 15–20 minutes, and then cooled again to 40–45 °C. Fermentation is induced in the fresh milk by the addition of a carefully preserved yogurt from an earlier preparation (2–3%) or by adding rennet (*mayek* in Kazakh). After the production of yogurt, the milk is churned into butter and *ayran*. The *ayran* is then boiled to 90–100 °C for about 10 min until a white coagulum floats on the surface. When this coagulum is boiling in the pot, the bottom of the pot must be stirred with a wooden stick to prevent burning. When the boiling process is complete, the white coagulum is transferred into a *qurt* cloth. It is pressed in the cloth until the desired level of solidity is attained. The *qurt* is then salted up to 2–3% by weight with dry salt and transferred to cotton bags. The bags are hung from a platform in a warm room for 2–3 days. The bags are occasionally turned over to achieve a homogeneous dryness. *Qurt* with up to 60 to 70% total solids content can be maintained. The *qurt* is shaped into a round or oval form, each with a weight of 30–40 g, and dried in the sun for 10–15 days. At the end of this period, the product obtained is the *qurt* as such and can be stored at ambient temperature for more than a year. It is used for soup production in winter and as a beverage, after reconstitution with lukewarm water, or as a starter culture for yogurt manufacture.

Ingredients:

10 liter whole milk (cow, goat, sheep)

½ rennet tablet (dissolved in ¼ cup water or ½ teaspoon liquid rennet)

½ kg salt (Oskenbay, 2016)

Russian and Korean foods have had their influence. In Almaty, across from the booth selling *kimchi* and other Korean foods, a large booth sold *qurt* and other Kazakh cheese specialties in quantity. Grocery stores, hotels, and other modern outlets tend to feature Russian or Russian-style foods.

A key part of the foodways of the Kazakhs are the many songs and proverbs dealing with food production and consumption. In addition to the songs contributed by Moldir Oskenbay, including the one of Wild Strawberries, opening this book, a new article by Jennifer Post reports on over 15 years studying Kazakh songs in Mongolia. She finds that a great deal of environmental teaching is done through song. Factual knowledge is important, but at least as important are the moral and aesthetic dimensions. The songs teach love and valuing of the environment. Post's recent article on the subject provides a large



PHOTO 38



PHOTO 39



PHOTO 40

PHOTOS 38-42 The feast at Moldir Oskenbay's house in Almaty

number of exquisitely beautiful translations.¹⁵⁸ Many foods are highlighted, including honey, wild onions, berries such as currants and gooseberries, game such as geese, and of course the livestock.

As to proverbs: At any feast, the senior guest is responsible for producing proverbs appropriate to the situation, not just ones on food. Author Buell who, it turned out, was the oldest person present by two weeks at Moldir Oskenbay's house, managed to produce two. One was appropriate to the small children

¹⁵⁸ Post, "Songs, Setings, Sociality: Human and Ecological swell-being in Western Mongolia," *Journal of Ethnobiology* 39 (2019), 371-392.



PHOTO 41



PHOTO 42

present: *balaly ui bazaar, balasyz ui mazar*, “A house with children is a bazaar, a house without children a grave yard.” This was followed with one about the functions in society and food: *ala qargha azanchi, qara qargha kazanchi*, “The white-headed crow gives the benediction, the all-black crow cooks the dinner.” (These are two color phases of the same bird. The more varied-looking one looks, by implication, like a proper Muslim preacher, the duller one looks more like a servant; the ironic social commentary is clear enough.)

Here is another selection of Kazakh food proverbs from Dosymbek Qatran, *Qazaqtyng дәsturlі as-tağham madenietі*, and Paul D. Buell and Moldir Oskenbay, *A Kazakh-English Dictionary*, forthcoming:

A little food with a great purpose;
 If one yurt is hungry in one village, all the yurts are hungry;
 Eating one’s fill means one’s relatives are eating;
 One leg is [for] your *kumiz* but there are two legs [left] for the *jeli* [tying up the horses for milking];
 Giving [only] when you are asked is assaulting [another];
 Eat the mouth [i.e., the livestock] that has eaten [that you have supported];

Nephew or niece are [whole] people, if there is space [for them]. Food is
 in the wind if it is butter [the right kind of food];
 Sheep tied together towards you, a hearth for the cooking pot;
 There is no sickness at a place where there is food;
 No reputation is better than that of being humane, no food is better than
 bread:
 Treat prime cut as wood, make jerky out of a leg of meat (be in vain, do
 something uselessly, be in great difficulty);
 Eat fervidly and kick off the shoes;
 A fish rots from the head down [said of the corrupt];
 God provides the origin, but human energy has to provide the cattle;
 It is good when a guest stays one day, *zhut* [famine] when he stays two;
 If you are generous, you will never be in want;
 We must draw the milk from the land, we have no right to destroy it;
 The guest turns up his nose at the mutton, and eats only when given but-
 ter [simple food];
 One [dung] pellet spoils all the fat of a stomach;
 A horse has no gall, and a bird no milk;
 If your work is good, your food will be nutritious;
 Every Kazakh has a milch cow to sell;
 Cheap soup does not taste good;
 Even if boiled three times, the broth is not formed [useless endeavor];
 If one extra lamb is born, a little bit more grass will grow.
 Not all meat is *kazy* [horsemeat sausage], not all dogs are *tazy* [fine hunt-
 ing hounds].

To end, here is a set of Kazakh recipes to make breads, jams, jellies and syrups, courtesy of Moldir Oskenbay (email of January 3, 2019):

Traditional food is a part of Kazakh culture. National identity can be seen not only from the food, but its technology. Kazakhs make food using traditional methods, which help to preserve food for a long time.

The qara qazan (black pot) has an important place in Kazakh life.

All dishes on a Kazakh table come from this pot (except *kymyz*). People call it not just pot, but value it as a “black pot”. In this case the word “black” means sacred, holy, grace.

The pot is a confirmation of abundance and prosperity, benefit and wellness. It is sacred, holy cookware. Breaking a pot means destruction of family, overturning a pot means “may you be hungry,” an insult.



PHOTO 43

Kazakh *qara qazan* (black pot)

Photo: Moldir Oskenbay

Kazakh people divide food into three groups: white (dairy products), red (meat) and green (vegetable and fruits). Bread is a king of all food. That is why it is not included in these three food divisions.

Bread is considered as the main gift of wealth, prosperity and health. Kazakhs always say “Where will be a bread, there will be a song”. Bread is a common word for all dishes made from dough: *bauyrdaq* (fried puffed dough), *taba nan* (butter flatbreads), *qattama* (puff pastry bread), *et nan* (finely rolled dough cooked in broth), *tandyr nan* (bread baked in a special clay oven), *shelpek* (thin flat bread fried in oil, usually prepared as a treat or alms with a godly purpose).

Bauyrdaq (fried puffed dough)—is served along with tea, qymyz, or shubat. *Bauyrdaq* is made from first-grade wheat flour. You can cook them with or without yeast.

To make *bauyrdaq* using yeast is better to mix yeast, sugar and a spoonful of wheat flour in a lukewarm water and let it rise. When the yeast is ready add salt, butter, eggs, flour and knead it softly. When the dough is ready thinly roll it (2 cm) and cut them evenly, and let them rest for 10-15 minutes. Start frying when they are raised. One also can add animal oil and cut in a different shapes, circle is most popular and fry them in an animal oil. Reddish-yellow color is ideal for fried *bauyrdaqs*.

Ingredients:

4-5 cups wheat flour,

1 tablespoon yeast,



PHOTO 44
Bread, from now-closed Zheti Kazyna
restaurant. Photo: Moldir Oskenbay

2 tablespoons sugar,
1 teaspoon salt,
1 cup unsalted butter,
0.5 cup milk,
0.5 cup water,
2 eggs,
1 cup vegetable or sunflower oil.

Small *baurysaq* (without yeast)—is the best dish to serve with tea. Its dough is made with flour, butter, sugar and eggs. When dough is ready it should be cut in a small pieces or finger size and fried in animal (or sunflower) oil. Small *baurysaq* made with no yeast can last longer compared to yeast ones. To make *baurysaq* without yeast you can add *ayran* by taste. Knead the dough till it does not stick to the hand. Then roll the dough, cut them into small square balls 1.5-2 cm. It is better to cover the dough to prevent drying. Put some animal (or sunflower) oil into a deep pot and let it heat. When oil is ready, you can start



PHOTO 45
Bauyrsaq. Photo: Moldir Oskenbay

putting prepared dough squares. It is better to stir constantly to fry them evenly. If oil is heated too much *bauyrsaqs* will be raw inside and burnt outside. That is why it is important to fry in a medium heat.

Taba nan (Pan-baked bread) is cooked with flour, butter and milk. Dough is placed in a pan and covered with another pan, and baked covered with active coals. You should turn over the bread after some time if it is baked over coals. You also can bake in an oven. Bread in a pan also can be made with yeast or without it. Fermented (with yeast) dough should be kneaded softly, unfermented (without yeast) dough should be kneaded firmly. Yeast dough should be covered and let rest in a warm place. Dough without yeast should be covered with a wet cloth and put for 20 minutes in a refrigerator. Then dough is rolled in 1-1.5 cm thickness. Diameter is dependent on pan size. To get a good dough, it is better to press it 2-3 times while it is raising.

Ingredients:
1 kg wheat flour,
1 tablespoon yeast,
1 teaspoon salt,
2 eggs,
200 gr butter.

Taba nan with rump fat is dough kneaded with butter, then baked with a thickness of 1 cm in a greased and heated pan. Make holes with finger and put rump fat (tail fat) in the holes. Cover the pan. *Taba nan* with rump fat can be baked on hot coals or in an oven. Bread in a pan with rump fat will be delicious.

Shelpek—thin flat bread fried in oil, usually prepared as a treat or as alms with a religious purpose. To make the dough, in lukewarm milk mix salt, sugar, vegetable oil. Mix well, add baking soda. Add flour till the dough is stiff. Put in a warm place for half an hour. Knead the dough well. It should be elastic and soft. Leave the finished dough for 10 minutes. Divide the dough into 7 parts, and roll out each part into a thin circle, approximately 3-4 mm thick. Fry each *shelpek* on medium heat in heated sunflower oil on both sides, while constantly rotating the *shelpek* in a circle. *Shelpeks* fry very fast—only 15 seconds on each side. They should not have a ruddy crust. The main thing is not to overcook the *shelpeks*, since after cooling they will become hard.

Qattama (puff pastry bread)—delicious type of bread made with oil, eggs, flour and milk. When the dough is ready put oil on the surface and roll until it is 1-2 cm, wrap it around the rolling pin, cut it into 5-6 piece and roll the small pieces again. Give them round shape and fry each side in a pan.

Ingredients:

1 kg flour,
1 teaspoon salt,
150 gr butter,
250 ml milk,
2 eggs.

These are basic recipes Kazakhs use for most berries (strawberries, blackberries, grapes, cherries) and fruits:

1. Raspberry Jam

1 kg of raspberry, 1-1.5 kg of sugar, but many sugars in US are sweeter, which may alter the desired amount.

Cooking: Grind the berries with the wooden masher. The longer the berries are ground, the more smooth the jam is, and the less it will become stratified during storage. It is advisable not to use a blender, or meat grinder.

Cover the raspberries with sugar and refrigerate overnight. The next morning, put them on stove, when it starts to boil reduce the heat. Boil for 15 minutes. Remove foam. Spread the prepared jam in sterilized jars, not reaching a neck by 1.5-2 cm. Put sugar on top about 1 cm thick over the jam.



PHOTO 46

Qattama. Photo: Moldir Oskenbay

2. Watermelon Jam

Watermelon 1 kg

Sugar 1 kg

Lemon 1

Cooking: Cut watermelon into pieces, peel and remove seeds. Cut into small, cubes 2-3 cm. Add sugar and lemon zest with juice to the watermelon mass. Cook the jam on low heat until the syrup thickens (30-40 minutes).

3. Melon Jam

Melon 1 kg

Sugar 1 kg

Lemon juice, 1/4 c, optional

Water 200 ml

Cooking: Cut melon into pieces, peel and remove seeds. Cut into small, cubes 1-2 cm. Add lemon juice and sugar to the water and stir thoroughly. Add to the liquids to the melon mass and refrigerate overnight. Cook the jam on low heat until the syrup thickens (30-40 minutes).

7 Azerbaijan Food, and Central Asian Food in Turkey

Though not part of Central Asia by our definition, Azerbaijan is just across the Caspian and shares the Iranian and Turkic culinary roots of the rest of the area,

so its cuisine deserves attention for comparative purposes. In fact, its cuisine is extremely similar to Uzbekistan's, though the differences are interesting and significant. The food of the eastern Caucasus region is fairly uniform. We rely here largely on Akhmed-Djabir Akhmedov's multilingual *Azerbaijan Cookery* (Baku, 1986).

The majority language of Azerbaijan is Azeri, also the name of the dominant ethnic group. It is very close to Turkish but lacks many of the European-language loanwords. Azerbaijan is on the edge of the Caucasus, one of the most linguistically diverse regions in the world. Thus, the country has speakers of many languages; some of them are extremely obscure tongues spoken in one or two remote mountain valleys, and unrelated or only distantly related to any others.

The basic structure of the cuisine is familiar: a vast variety of *plovs* (pilafs), kababs, lamb stews, stuffed vegetables, noodle dishes and dumplings. Some of the *plovs* are rice and fruit, without meat.¹⁵⁹ As elsewhere, the dumplings include a dizzying variety of small stuffed boiled forms, each with its own name. Fried ones, elsewhere *samosa*, or a form of that word, are *kutab* here. They can be stuffed with anything available. The usual array of jams and syrups reminds us of Turkey and the Levant, but also of the Mongol court cookbook from 1330, the *YSZY*, which is heavily Inner and West Asian in inspiration.

Azerbaijan cuisine includes items similar to the foods in the *YSZY*, including *pyty*,¹⁶⁰ a dish very similar to Iraqi *harisa* and thus to the first few recipes in the Mongol book. *Parcha bozbash* adds quinces (common in the *YSZY*) and chestnuts to a lamb-chickpea mush; other recipes use sour plums. Chestnuts do not occur in Central Asia east of the Caucasus and northern Iran. The sour plums are a staple of Caucasus and Iranian cooking.

Central Asian food expert Laura Kelley writes that the main spices and flavorings are "coriander, cilantro, mint, saffron, savory, sumac, fenugreek, sour grapes, sour cherries, sour plums, cumin, marigold, dill, garlic, onion, cardamom, sweet basil, cinnamon, cloves, nutmeg, mace, chili peppers, tomato, potato" and souring agents are "lemons, pomegranates, limes, red wine inegar, white vinegar."¹⁶¹ The marigold is the European pot marigold, *Calendula* sp., not the familiar garden flower. It has a distinctive spicy taste. The use of many sour fruits is a solidly Persian trait. Kelley gives a large number of excellent recipes using these.¹⁶²

159 Akhmedov (1986), *Azerbaijan Cookery*, 95, 104.

160 Akhmedov, *Azerbaijan Cookery*, 34.

161 Kelley, *the Silk Road Gourmet*, 95.

162 Kelley, *the Silk Road Gourmet*, 95-125.

Azeri Food Proverbs:

When you're young, carry stones; when you retire, enjoy pilaf.
 He is the sort of ingrate who would step on bread.
 How can a donkey understand what saffron is?
 Rather go hungry than beg for food.
 Act boldly, if you don't get yogurt, at least you'll get buttermilk.

Some *YSZY* recipes are close to Azerbaijan foods:

1. [2, 7B] Cherry [*Prunus pseudocerasus*] Concentrate
 Cherries (50 *jin*; take the juice), white granulated sugar (24 *jin*; refine)
 Boil ingredients together and make concentrate.
2. [2, 8A] Pomegranate Syrup
 Pomegranate seeds (10 *jin*; take the juice), white sugar (10 *jin*; refine).
 Boil ingredients together and make a concentrate
3. [1, 26B-27A] Barley Soup [*Harisa*]
 It warms the center and brings down *qi*. It strengthens spleen and stomach, controls polydipsia, and destroys chill *qi*. It gets rid of abdominal distension.
 Mutton (leg; leg, bone and cut up), tsaoko cardamoms (five), hulled barley (two *sheng*; scour wash in boiling water; parboil the grains.)
 Boil ingredients to make a soup. Strain [broth. Cut up meat and put aside]. Add [the] hulled barley and boil until cooked. Evenly adjust flavors with a little salt. Add [the] cut up meat.

One difference from the Turkistanian states is that Azerbaijan lies on the Caspian Sea, so the cuisine runs heavily to fish dishes. Unfortunately, the sturgeons that used to throng the sea in millions and weigh up to a ton or more are now gone. The lure of caviar at hundreds of dollars an ounce has destroyed all attempts at sustainable harvest. In fact, sturgeons are facing extinction throughout Eurasia. Sturgeon has a unique texture and taste, slightly reminiscent of veal. Its loss as a food is sorely felt. Fortunately, other fish still occur. The usual array of salads include fish salads, and the usual stews and roasts include many involving fish.

Azerbaijan cuisine has adopted the Iranian *kuku*, baked egg dishes similar to omelets. These may include sorrel and other herbs. Sorrel (*Rumex acetosella*), a very sour form of dock, is rare as a Central Asian food, but is apparently

common in Azerbaijan, in *kuku*, in soup, and in other foods. Another Iranian standard not common in Central Asia proper is *fesenjan*, a stew with pomegranate juice or concentrate. In Iran it is usually chicken, but in Azerbaijan items such as beets and beans are cooked this way. Another Iranian touch commoner here than in Central Asia proper is saffron—still an important export of Iran, and now grown virtually nowhere else because of high labor costs, though Spain still produces a tiny amount. Sour milk soups and yogurt dips are shared more widely, being common throughout Inner Asia.

Another Iranian touch is *djyz-byz*. This is an Azeri version of the *khawsh* of Armenia, and the *kale poche* of Iran and of the Uzbek *kalya pochka*. It is forthrightly described as made of “guts”—intestines—in our source cookbook,¹⁶³ along with heart, liver, kidney, testicles, and sheep fat, as well as onions, potatoes, herbs, sumac, and sometimes tomatoes. The sumac—ground fruit of the sumac shrub—is a solidly Near Eastern touch, common in Iran although rare eastward. (The word is an Arabic loanword into English; Americans used to poison sumac and staghorn sumac are often surprised to find the fruit of the Middle Eastern species, *Rhus coriaria*, as a wonderfully flavorful sour seasoning to food.)

A particularly distinctive soup, though broadly similar to Iranian green soups, involves mallows (greens of *Malva* spp.), sour cherry-plum fruit leather, spinach, green onions, and rice, with an egg, butter, coriander, and pepper and salt.¹⁶⁴ A couscous-like dish, *umach*, is flavored with saffron and mint. A version of same dish is found in the *YSZY* (1, 39B):

[U]*mach* (a kind of hand-twisted noodle. It can be sticky rice flour or Euryale flour.)

It supplements the center and increases *qi*.

White flour (six *jin*); make [*u*]*mach*), mutton (two legs; cook. Cut into *qima* [and stuff [*u*]*mach*])

Use a good meat soup for ingredients and roast [cook dry]. Adjust flavors of everything together with onions, vinegar, and salt.

The range of desserts is much greater than in most of the towns and oases of the Eurasian heartland. Halvas are found.¹⁶⁵ *Firni* is made from rice powder, as in most of the Iranian world.¹⁶⁶ Various sweet rolls are made,¹⁶⁷ including one

163 Akhmedov, *Azerbaijan Cookery*, 61.

164 Akhmedov, *Azerbaijan Cookery*, 49.

165 Akhmedov, *Azerbaijan Cookery*, 172-74.

166 Akhmedov, *Azerbaijan Cookery*, 144.

167 Akhmedov, *Azerbaijan Cookery*, 157-60.

with poppy seeds that is very similar to the *YSZY* version already given above.¹⁶⁸ *Sheki ovma*¹⁶⁹ is a sweet bread somewhat similar to European Easter bread. It is more similar to Afghan *rot*. Baklava is rather typically a Turkish variety.¹⁷⁰ A sweet dumpling, *shor*,¹⁷¹ is highly interesting because the name is similar to a dumpling called *shilaier* in a Ming Dynasty food handbook by Gao Lian:

Recipe for oily shilaier (*youshilaier fang* 油 [食夾] 兒方: Use flour to make paste.

Stuff it and make it into shilaier [食夾] 兒. Deep fry in oil. The stuffing is the same as that for the meat pie.¹⁷²

“*Shilaier*” is an impossible Chinese word and is clearly a transcription, almost certainly of a Turkic term, and *shor* is as close as we can come.

Finally, a truly unique touch in our Azerbaijan cookbook is a recipe for feijoa jam.¹⁷³ The feijoa is a Brazilian fruit, superb and versatile but extremely obscure outside of Brazil, and almost totally unknown in the Old World; we do not recall ever seeing a recipe for it in any other old-world cookbook. The Russians, inveterate experimenters with fruit and seeds, must have introduced it experimentally.

Turkish food is heavily influenced by Iran, Syria, European countries, and in the last 5 centuries even the New World, and thus is well outside our scope here. However, Priscilla Mary Işin’s authoritative new work *Bountiful Empire*¹⁷⁴ usefully lists major foods brought by the Turks from their Central Asian home: manti, *yufka* (flat thin bread, the *lavash* of Armenia), *qaymaq*, *kavurma*, *kavut* (parched and ground millet), *qrut* (*kurut* in Turkey), *tutmaj* (noodles in or with yogurt), and other items. She notes that horsemeat and kumiz were dropped. This may have been strict Muslim influence or simple accommodation to Anatolian tastes. Baklava came, presumably in its early stacked-small-pancake form (as the authors have had it in Kazakhstan), developing into the fantastic array of puff-pastry goodies that delight modern eaters.

168 Akhmedov, *Azerbaijan Cookery*, 159.

169 Akhmedov, *Azerbaijan Cookery*, 166.

170 Akhmedov, *Azerbaijan Cookery*, 153.

171 Akhmedov, *Azerbaijan Cookery*, 155.

172 Gao Lian, “Essays on Drinks and Delicacies for Medicinal Eating,” trans. Yi Sumei, ed. E. N. Anderson, 2011, online at <<http://www.krazykioti.com/articles/gao-lian-and-ming-dynasty-nutraceuticals/>> p. 89.

173 Akhmedov, *Azerbaijan Cookery*, 209.

174 Işin (2018), *Bountiful Empire: A History of Ottoman Cuisine*, 13.

8 Uighur Food

Jacqueline Newman, who has set herself to document the food of all the minorities of China, visited the Uighur in 2014, and reports back: “Wheat, rice, and corn are staple foods there. *Nang* is their baked food made with flours from ground wheat and corn, and mixed with sugar, eggs, and cream.”¹⁷⁵ *Nang* is, of course, the local pronunciation of *nan*.

Pilau becomes *polo* or *pulao* and is “made with rice, mutton, sugar, fat from sheep, carrots, raisins, and onions... Both *polo* and *pulao* are seasoned with chili peppers, Sichuan pepper, and star anise. Sometimes they are served without, or on noodles, and are often eaten with the hands and not chopsticks.”¹⁷⁶ Drinks are largely tea, Mongol- or Tibetan-style milk tea, i.e., a buttered or oiled tea. A good deal of fruit is eaten.

We also have benefited from accounts of Gulbahar Mammut, a Uighur student in Los Angeles, and from lore gained at Dolan’s Uighur Restaurant nearby. We learn that *manti* become *manta* or *mamanta*, which can be yeast-raised. The latter form resembles one in the Mahmud al-Kāshgharī dictionary of Turkic forms. These foods are stuffed with meat and onions. Manta stuffed with sweet squash paste are also popular. Another form is *goldama*. Smaller, thin-skinned versions are *chüchür*. Filled pastries are *samsa* or *sambusa*, from Arabic *samusa* or *sambusak*.

Nang is also pronounced *nan*, including *pitr nan*—the first word apparently cognate with *pita*. There is *qatlama nan* (layered, with onions, cheese, and such) and *güsh nan* (layered with minced meat, *güsh*), or *goshnan*, a large, flat meat pie. There is a small bread called *toqash* and a strudel-like pastry filled with yogurt called *holuq nan*. The tandur oven is *tunur* or *tanur*. Red pepper is *laza*, from Chinese *la jiao* 辣椒, and is abundantly used, an extension of the west Chinese chile region that centers on Sichuan.

Foods resemble Uzbek ones rather closely, and most of the Uzbek “*milli taomlar*” are found: Big plate chicken similar to chicken *tabaka*, *samsa* virtually identical to *somsa*, polo, noodles, and lamb kababs, and the accompanying salads of cut-up tomatoes, cucumbers, onions, and other seasonal vegetables. Sugared tomatoes are another option. The standard west Chinese salad of sliced cucumbers with sesame oil and chile adds to the Central Asian classics.

The most important noodle dish is the famous *lang men* or *laghman*, again related to Chinese *lamian* 拉麵, pulled or stretched noodles. Hand-stretching

¹⁷⁵ Newman, “Uyghur: China’s Fifth Largest Minority Group,” *Flavor and Fortune* 21:4 (2014), 7, 33 (7).

¹⁷⁶ Ibid.

noodles can be done by swinging them like jumpropes, a very difficult art because the noodles will neck down and break unless the dough is kneaded for a long time and the swinging done with an expert hand. The noodles are boiled in a rich stock with grain vinegar and a great deal of chile powder, then topped with stir-fried beef, tomatoes, green and red sweet peppers, onions, and other items such as celery or carrots or wood-ear fungus as desired. Noodles can also be fried.

The Farsi (and Turkic) word *ash* covers soup. Boiled white rice is *gang pen*, Chinese *ganfen* 乾粉, “rice cooked dry.” Fish is rare and is locally tabooed. Yogurt is *qitaq*; dried, it has the usual Turkic name, *qurut*. The Uighurs, oasis farmers for centuries and largely descended from even earlier local farming groups, are less dependent on dairy products than more nomadic groups.

Sheep is the food of choice. Whole roast lamb is the great luxury dish. In ordinary cooking, all parts of the sheep are used, including lungs, stomach, and brain, the latter in the inevitable local form of *kale pache* (without the feet). Dough is mixed with water and spices, and poured into the lungs, with care to fill the alveoli thoroughly. This is boiled for an hour and eaten with spicy dip. Intestines are made into a sort of instant sausage: they are stuffed with minced vegetables, rice, and water, and boiled. Kababs are popular. Islam forbids eating blood, which was once consumed. Skin and feet are also avoided.

Chinese influences are visible here, more than to the west. Bean curd is used, including an appetizer of small bean curd cubes in soy sauce. Bean starch cubes are also found. Stir-fried cabbage with chiles is a west Chinese standard. Dolan’s Restaurant makes a range of Sichuan-style Chinese dishes for its many Han Chinese customers. Chinese names for the Uighur dishes are often descriptive rather than transcribed; *samsa* becomes “baked baozi,” squash manta are “squash baozi,” chicken kababs are “roast chicken meat skewers,” lamb kabab “Xinjiang roast meat,” and so on. Chiles and star anise are among the spices used with lamb and also with chicken.

Melons are at their best in Uighur Xinjiang. The blistering hot days and cool nights of the low valleys provide perfect conditions for developing maximum sweetness and flavor. Hami melons are famous throughout China. According to the *Wu dai shi* 五代史, “History of the Five Dynasties,” the watermelons of the area were introduced into China during the Liao period when the Khitan got them from the Uighurs. The watermelon is still known in Mandarin as *xi gua* 西瓜, “Western melon,” recalling its external history as a Western, i.e., Turkistanian fruit.¹⁷⁷

¹⁷⁷ See Laufer, *Sino-Iranica*, 438-445.

The ubiquitous peaches, apricots, and grapes of the area are also famed. *Halva* is made of lamb oil, flour, and sugar, and often served as a first course at a feast. *Pichina* are cookies, possibly of Russian origin.

As in Afghanistan, carrots get into the polo. Potatoes are now popular too.¹⁷⁸

The Dongan or Dong'an, a Muslim group in northwest China, speak Chinese. Their food is classic Inner Asian—pilau, apricots, mutton, and the rest—with many Chinese additions, including bean threads, chicken with ginseng, various vegetables of all sorts, cold appetizers, and Chinese dumpling and noodle styles.¹⁷⁹

A strange, now vanished, group was the Loptuq: Turkic fishers and foragers of the Lop Nor area. Lop Nor was a lake that often changed location as the Tarim River changed course. The Loptuq or Loplik lived mainly by fishing in the river and lake, but also gathered the few available plant foods and practiced some agriculture and herding. They disappeared as a group as the lake dried up due to diversion of the river for agriculture.¹⁸⁰

9 Mongol Food

Most of Mongolia is steppe grading into *gobi* (desert steppe, now usually pronounced *govi*; *b* tends to change to *v*, as *k* does to *kh*, in modern Mongolian) with some areas of *els*, true desert almost totally lacking vegetation. Long, narrow ranges of high, barren mountains cut it. Grasslands range from lush in the far northeast (mostly now in Inner Mongolia) to thin desert grass. Forests cover the northern mountains. They are mostly open, sometimes mere scattered larches or pines among thick grass, but there are a few forests—again largely in the northeast—that are, as the Mongols said, “so impenetrable a glutted snake could not creep in.” There were more when the *Secret History of the Mongols* (from which this passage comes) was written.¹⁸¹

The landscape is sacred. The sky is a divine Blue Heaven. The mountains are spirits or gods, “lords” of the areas they dominate. Water is sacrosanct. Animals and plants are spirit beings, to be revered like human elders. At critical

178 See also Alford and Duguid (2008), *Beyond the Great Wall: Recipes and Travels in the Other China*.

179 Weeks, “Cuisine of Dungan (Hui) People,” *Flavor and Fortune* 11: 2 (2004), 9–11, 28.

180 Hällzon, Ståhlberg, and Svanberg, “Glimpses of Loptuq Folk Botany: Phytonyms and Folk Knowledge in Sven Hedin’s Herbarium Notes from the Lower Tarim River Area as a Source for Ethnobiological Research,” *Studia Electronica Orientalia* 7 (2019), 96–119.

181 De Rachewiltz (2004–2013), *The Secret History of the Mongols: A Mongolian Epic Chronicle of the Thirteenth Century*, volume 1, 32.

transport and other points, such as canyon entrances, passes, and main road nodes, there are *ovoo*: large ceremonial cairns decorated with wild sheep horns, horse skulls, fragments of colored cloth, and other power objects, and above wall with the sacred sky-blue *khatag* scarfs that bring bits of Heaven into daily life.

Mongol subsistence is typical nomadic fare: dairy products and bought grain, when and where it is available above all, with meat, nearly always boiled as a special dish. The dairy products are available primarily in summer, fresh, after the animals have given birth—usually in spring—and nursed their young a while. Milk, *süü*, is also made into *tarag* (yogurt), *airag* (kumiz), *aaruul* (dried curd, also *aarvui*, the same dish as Turkic *qurut*) and *aarts* (dried yogurt). *Byasag* (*byaslag*) is fresh cheese, or it can be yogurt boiled with *qaymaq* to produce a sour, concentrated cream layer. Butter is *tos*. A word *shar tos* for butter oil or ghee is reported; it can be made from *byaslag*.¹⁸² Mongol dairying arose in the early Bronze Age, probably encouraged by the sharp climatic deterioration in 2200-2000 BCE.¹⁸³

Süü edakh, milk alcohol, is an Inner Mongolian name for distilled *airag*. In Outer Mongolia it is *araq* or *arakhi*, which word has spread to distilled alcohol in general. The Chinese for distilled kumiz is *ma nai jiu* 馬奶酒, “horse milk liquor.” Luo Feng has studied the distillation of kumiz for *arakhi* in the Yuan Dynasty, finding it similar to what is done at present.¹⁸⁴ Distinctive Mongol types of stills continue to exist. (See above for an illustration. It shows another type of still from the Volga Kalmucks.)¹⁸⁵

Dairy foods are most available in summer, once the female animals are in full lactation but the young necessary to replenish the flock can be weaned. Then the milk is fully available for humans. Thus, foods like *aaruul* and drinks like kumiz are summer foods. The tough conditions of steppe life do not support the modern Western-world luxury of specially bred animals that give milk all year in enormous quantities. Animals are carefully treated. They are talked to, sung to, and gently handled, all to make them more amenable to milking. Like old-time American cowboys, Mongol herders sing to their animals in the field.

182 Newman, “Mongolia and Its Foods,” *Flavor and Fortune* 21:4 (2014), 16-19; Kindstedt and Ser-Od, “Survival in a Climate of Change: The Origins and Evolution of Nomadic Dairying in Mongolia,” *Gastronomica* 3 (2019), 20-28. This article provides a thorough introduction to Mongol dairying and its terminology.

183 Kindstedt and Ser-Od, *ibid.*

184 Feng, “Liquor Still and Milk-Wine Distilling Technology in the Mongol-Yuan period,” 487-518

185 See Buell and de Pablo, “Distilling of the Volga Kalmucks and Mongols.”

Charles Perry adds: “A Khalkha Mongol specialty is *horhoi aaruul* (‘worm *aaruul*’), cheese rolled into spaghetti-like strands. They also make butter (*tos*) and clotted cream (*tsötsгүй, зөөхий, өрөм*), which they store for months at a time in tightly sewn lamb gut.”¹⁸⁶

Süütei chai, “milk tea,” “tea with milk,” is milk with tea, and sometimes added is butter and salt (Tibetan style) or even nutmeg; it is the common drink (along with water) and the necessary hospitable item to offer a guest. It was made in the old days by chopping bits off a pressed-tea brick, boiling this quickly (perhaps with some soda), and adding milk boiled with salt. Sometimes the entire brick was boiled for days in a thick milk, as author Buell has witnessed.

The milk tea could be kept in a teapot, often a very beautiful antique one or just a rough-and-ready object.¹⁸⁷ This may have been learned from the Tibetans; certainly learned from them, as the name shows, is *zamba*, the Tibetan *tsamba*: ground barley or wild-seed meal that can be mixed into the tea to produce a thick porridge. Cured butter can be mixed into this, as it usually is in Tibet. Contrary to knee-jerk Western reactions, the result is very good: the tea moistens and gives a tang to the toasted seed meal, the butter adds a cheese-like taste, and the result—if made with good ingredients—is like eating very good oatmeal with some feta on it. Real milk tea, properly prepared, is an excellent repast as well, the milk cutting the strong bitterness of the tea.

An absolute requirement in Mongolian life is the *tsatsal* ritual: scattering at least a few drops of milk at every important juncture or ritual place: going out in the morning, starting on a journey (the drops being scattered on the traveler or the horse), family events and anything ritual. Sometimes *arakhi* is used instead, if the event is truly special. Buell and de Pablo saw this done when stallions were being gelded. Milk and water are both sacred drinks, and they sanctify what they touch, if used correctly.

Buddhist temples burn butter and offer milk. The milk-sprinkling ceremony is so important that it has been the subject of at least two monographs. One is a major original paper by Sharon Hudgins¹⁸⁸ with beautiful illustrations of the special carved wooden spoons used to scatter the milk. These are among the finest and most beautiful objects a family owns. Many are valued antiques. The other monograph, shorter but exceedingly rich in detail, is by Dr. M. Ganbold of Khovd State University, Mongolia (2014).¹⁸⁹ It also describes the *tsatsal*, and

186 Perry, “The Horseback Kitchen of Central Asia,” 247.

187 See Mair and Hoh, *the True History of Tea*. On Tibetan milk tea, see Heiss and Heiss (2007), *The Story of Tea: A Cultural History and Drinking Guide*, 343-47

188 Hudgins, “Tsatsal: The Symbolism and Significance of Mongolian Ceremonial Milk Spoons,” *Mongolian Studies*, xxxvi (2014), 41-81

189 Ganbold (2014), “The Milk-Sprinkling Ceremony,” 245-57.



PHOTO 47



PHOTO 48



PHOTO 49



PHOTO 50

PHOTOS 47-53 A still and the making of cow's milk vodka

the various variants among different Mongol groups. Dr. Ganbold gives long, beautiful prayers and invocations used during the sprinkling. (Scots-Irish Anderson is reminded of the old Gaelic charms used in Scotland for every task.) The Kalmucks (the Mongols of south Russia) have a practice of allowing the first fumes to escape when there is distillation to make sure the mares are productive. This is described above.

If no milk is at hand, tea was traditionally made as described by the eccentric Scots missionary James Gilmour in the 1880s: "a handful of pounded brick tea being thrown on the surface. After ten or fifteen minutes' hard



PHOTO 51



PHOTO 52



PHOTO 53

boiling, kept in check by occasional use of the ladle, the tea was poured into a pail, the pot swept out with a wisp of the hairs of a horse's tail, a little fat melted in the pot, the cracklings carefully removed, enough meal added to make the compound into a kind of porridge, after a time more meal added and well stirred till the mass seemed brown and dryish, then the tea, cleared from the sediment, poured in and boiled up, and the 'meal-tea' was pronounced ready."¹⁹⁰

¹⁹⁰ James Gilmour (1970), *Among the Mongols*, 1.

Meat was the highly esteemed food, and was easily stored during the winter. Gilmour reports: "Outside the tent was a strong dog-proof kind of cage, into which had been put the whole winter's stock of beef, mutton and tripe.... The frost kept it perfectly fresh, and so hard that the portions used for each meal had to be hewn off with a hatchet." This was boiled, then millet cooked in the stock. The servants ate tripe.¹⁹¹ Rump and tail were the most prestigious part of a sheep to offer a guest.¹⁹² Eating meat could look frightening to an outsider: "He takes a piece of meat in his left hand, seizes it with his teeth, then cuts it off close to his lips. The knife flashes past so quickly...that a spectator...has his doubts about the safety of the operator's nose."¹⁹³

Charles Perry adds (personal communication to author Anderson): "[There is a] Mongol technique of disemboweling a whole lamb carcass, filling it with water (or in winter, ice), and setting it on a hot hearthstone while still in its skin. The meat is said to fry on the outside and bake on the inside."

Technically it does not actually fry. Although the Mongols are great connoisseurs of fat, and may derive the largest proportion of their caloric intake from animal fat of any people in the world, frying is not part of their culinary tradition. They boil meat, roast it on the fire, or set a pan of meat on the coals to be covered that with another pan and hot coals. In the dish *horhog*, they preserve the Stone Age technique of placing meat and water in a skin or rumen sac before adding heated stones to cook it.

Like most of the peoples in the area, the Mongols make sausage, especially blood sausage (*shavai*) and a sausage of blood and tripe that is frozen for winter use (*hiaram*). Their primary way of preserving the winter slaughter is by slicing the meat into ribbons and drying them in the wind. This product, *borts*, may be eaten as is or boiled in kumys, making a dish called *bolhörük*. Much use is made of offal. Like the Turks, the Mongols enjoy boiled or roasted gut by itself, without any stuffing.¹⁹⁴

Perry notes:

Jerky is very characteristic of the Mongols, whose method is to cut the meat in thin strips and hang them on frameworks to dry in the wind. Their name for this product— Classical Mongol *borcha*, Khalkha *bortse*, Buriat *borso*—has spread to the lower Amur: Negidal *barcha*, Nanai *bortsi*, and Manchu *borchilaha*. Since jerky is frequently pounded to bits for

191 James Gilmour, *Among the Mongols*, 20–21.

192 James Gilmour, *Among the Mongols*, 114.

193 James Gilmour, *Among the Mongols*, 245.

194 Perry, "Dried, Frozen and Rotted."

cooking in soup, the Khanty, Mansi, Khakas, and Tungus often keep it in ready-pounded form (the Evenk word for this is *timre*).¹⁹⁵

The usual dumplings appear, ranging from *bansh* (small) to *buudz* (larger than Chinese *baozi* 包子). James Gilmour in the 19th century noted “*banch*. This is made by mincing mutton very small, mixing it with salt and chopped vegetables, and making it up in small nuts covered with casing of dough.”¹⁹⁶ These are boiled. There are still larger fried dumplings, like large heavy *samusas*, called *khuushuur*. These are very popular; they are a street food all over Ulaanbaatar. The word *mantuu* covers filled and unfilled dumplings. Noodles are *goimon*. Several kinds exist, and noodle soups are generally known by the word for the main added ingredient. The commonest, of course, is “soup with mutton.” *Shuan yangrov* is a boiled mutton dish; *bantan* and *budaatai khuuva* are thicker soups with flour and other ingredients.¹⁹⁷ Chinese-style fried rice is *budaatai khurga*, as opposed to *plov*, which is, of course, Turkish style. An exact equivalent of Native American “frybread” is *gambir*; a slightly more elegant filled form is *boov*. Many other terms for various flour and meat dishes are found.

Perry notes:

The Khalkha Mongols use the Turkic word *talh* (<*talqan*) as their name for any kind of bread. Among them *budaa* (<Turkic *botqa*) means porridge, but the Ordos Mongols of Inner Mongolia use *buda* as their word for noodles. The Khalkha Mongols also make *zaram* (<*yarma*), *hoimogh* (<*quymaq*) and *boorsogh* (<*bawirsaq*). In recent centuries, they have adopted a number of Chinese pastries such as *baozi* and *bianshi*.¹⁹⁸

Modernization has come. Russian dishes, especially salads, are now integral to Mongolian cuisine, and Russian bread, jams, and snacks are everywhere. Some recipes for Mongol food are found in Marc Cramer’s *Imperial Mongol Cooking* (New York, 2001). The book is a creative endeavor to adapt many Mongol, North Chinese, and Central Asian dishes to Western kitchens. It is not an ethnography of Mongol food; the recipes range from authentic Mongolian to recipes only distantly inspired by authentic Mongolian recipes. Indeed, Mongolian food is internationalizing—including the French fries added to a former imperial food, a *shülen* banquet soup sampled by Buell and de Pablo. Anderson

195 Perry, “Dried, Frozen and Rotted,” 243.

196 James Gilmour, *Among the Mongols*, 244.

197 Newman, “Mongolia and Its Foods.”

198 Perry, “The Horseback Kitchen of Central Asia,” 244.

has eaten Mongolian dumplings accompanied by excellent Russian-style pickles and salads.

Fruit and vegetables are uncommon, although someone is buying the fruits, particularly the dried fruits and vegetables sold in Ulaanbaatar public markets. Most are probably imported from China. Orchards and kitchen gardens do not do well when thousands of hungry livestock are milling around. Small plots are carefully fenced, but nomadizing makes this hard to maintain, so such plots are rare.

Livestock are known as the Five Snouts or Five Muzzles, *tavan xoshuu*. The more spirited ones, camels and goats, are “cold-snouted stock.” The more tractable horses, cattle (including yaks), and sheep are “warm-snouted stock.” Cattle survive in warmer parts of the region. Yaks bring good beef to all the montane areas. Pigs and pork are very rare. Reindeer reach their southern limit in the Altai and northernmost Mongolia, and are eaten there.¹⁹⁹ Game included mountain sheep, gazelle, wild horses, camels, marmots, ground, and tree squirrels, wild birds of dozens of species from swans and grouse to sparrows and sandpipers, and various other animals; many most have been hunted to extinction, even though the Mongols do not overhunt as much as many Asian peoples now do. Game is now no longer important as food.

Mongolian herders, like many others worldwide (including old-time American cowboys), sing to their stock to calm them. These songs have been the subject of an important study by K. C. Hutchins that reveals a great deal about the caring, close, affectionate relations that herders have with their stock.²⁰⁰ Such cherishing is necessary for survival in the harsh conditions of the Mongolian steppe.

As noted for other Central Asian cultures, all parts of the animal are eaten. This shows respect (Mongol *shuteekh*) for the animal. As in much of northern Eurasia and North America, animals must be shown this respect. It involves killing or slaughter only for genuine need, and with no waste of body parts.²⁰¹ Mongol belief in the souls or spirits of all natural beings has persisted. It constitutes an ontology characterized by the ability to take the perspectives of

199 Information is from field research, supplemented from Sanders and Bat-Ireedüi (1999), *Colloquial Mongolian* (London 1999), a very valuable textbook, and Marissa Smith, personal communication to Anderson by emails, July 10-20, 2013.

200 Hutchins, “Like a Lullaby: Song as Herding Tool in Rural Mongolia,” *Journal of Ethnobiology* 39 (2019), 444-459 (2019).

201 See Humphrey, “Chiefly and Shamanist Landscapes in Mongolia,” 135-162; Metzko, “Articulating a Baikal Environmental Ethic,” 39-54, on the Mongols; also Kenin-Lopsan (1997), *Shamanic Songs and Myths of Tuva*, for the nearby Tuvans; farther afield Atleo (2004), *Tsawalk: A Nuu-Chah-Nulth Worldview*, Willerslev (2007), *Soul Hunters: Hunting, Animism, and Personhood among the Siberian Yukaghirs*.

animal, plant, and mineral beings as well as human ones.²⁰² One does not want to kill wantonly those neighbors with whom one can socially and psychologically relate as persons. This ancient belief was early compromised by royal hunts as described by Allsen (2006), and much more seriously by Westernization recently. Nonetheless, the hunts had strict limitations and did not slaughter the game to extinction.

Respect, however, does not prevent all hard use. The Mongol form of “a bird in the hand is worth two in the bush” is “better today’s lungs than tomorrow’s fat”²⁰³—i.e., better the worst part of the animal today than a promise of the best-liked part at some time in the future.

The mountains are rich in fungi, berries and herbs. Hunting and gathering remain important in Mongolia. Mushrooms used include *Agaricus*, *Boletus*, *Tricholoma* and lesser-known genera. Anderson has observed, and sampled, the bitter and acrid *tsagaan goyoo*, *Cynomorium songaricum*, a flowering plant that is a parasite on the roots of desert shrubs. It is used medicinally as well as being a food for humans and camels—causing it to decline locally. Its relative *C. coccineum*, ‘desert thumb,’ is in Avicenna’s herbal, noted as being a cure for diarrhea and weak stomach muscles, evidently because of its acrid, bitter, constricting properties.²⁰⁴ The Chinese equivalent of Mongolian *tsagaan goyoo* is recommended for replenishing yin essence, moistening, and treating debility including impotence. The plant looks phallic.²⁰⁵

Rose hips come from wild roses, known as “dog muzzle bushes” (*noxoin xoshuu*, cf. English “dog rose”; *Rosa laxa*, *R. acicularis*). Common sea-buckthorn, *Hippophae rhamnoides*, is a widely distributed bush. It bears a wonderfully-flavored yellow fruit, eaten fresh or made into an exquisite fruit drink. It is one of the few plants sometimes grown as a garden or small orchard shrub even in remote nomadic areas. Jujubes (*Zizyphus* spp.) occur in the hills of Inner Mongolia and grow wild in the scrub around the Great Wall. *Z. sinensis* is a major cultivated crop in China. Roots, rhubarb, and other herbs, and pine nuts from *Pinus sibirica* (very similar to American whitebark pine) are collected.

Wild almonds (*Prunus* [= *Amygdalus*] *pedunculata* and *P. mongolica*) provide small almonds, used medicinally; they are currently in serious trouble from camel browsing. Other wild fruits include local species of cherry, currant,

202 Pedersen, “Totemism, Animism and North Asian Indigenous Ontologies,” *Journal of the Royal Anthropological Institute* n.s. 7 (2001), 411-427; Pedersen (2011), *Not Quite Shamans: Spirit Worlds and Political Lives in Northern Mongolia*; Roux, *Faune et flore sacrées dans les sociétés altaïques*; Roux, *Religion des Turcs et des Mongoles*

203 Sanders and Bat-Ireedüi, *Colloquial Mongolian*, 78

204 Avicenna, *The Canon of Medicine*, volume 3, 356-58

205 Li (2003), *Compendium of Materia Medica (Bencao Gangmu)*, 1296-97

crabapple, hawthorn, juniper, barberry, apricot, dogwood, elderberry, blackberry, crowberry, and huckleberries and relatives.²⁰⁶

As noted above, Cinggis-qan and his mother had to flee from enemies in his childhood, and lived then on cinquefoil (*Potentilla* spp.) roots and on wild herbs, as well as wild fruit such as crabapple (*Malus pallasiana* and/or *M. baccata*), wild cherries (*Prunus padus*), wild pears (*Pyrus betulaefolia*), and the other fruits noted. Such repasts may not have been as uncommon as the *Secret History* suggests. See the passage translated in full above.

A study in Inner Mongolia by Kodama and Konagaya²⁰⁷ found 57 useful plants (not all identified). These included most of the above, as well as many wild greens, especially of the chenopod family. Seeds of the latter and of rye-grass were ground and used as meal. *Jigd*, *Eleagnus angustifolia*, produces a commonly eaten small red fruit. (It is the “Russian olive” that is now a local pest in cold, dry parts of North America. The related *E. Moorcroftii* is used medicinally in Mongolia.) Wild onions, sagebrush, reeds, licorice, wild salsify, willow, poplar, and other plants were used for food, medicine, or forage. Licorice, and *tsagaan goyoo*, were used by Chinese in medicine. (Licorice is well known as a Chinese medicine.)

Used for firewood and forage was *zag*, *Haloxylon ammodendron*, the famous *saksaul* of Turkic Central Asia. This plant grows very slowly to large tree size on 2-3” of rain, taking advantage of water that accumulates in porous sand dunes; over time, dunes build up around *saksaul* and tamarisk thickets, making them self-irrigating (so to speak). At times, the dunes grows 20-30’ or more high around tamarisk, which must grow fast to keep ahead of—and keep accumulating—the sand, which gives it life yet threatens to bury it. Kodama and Konagaya record the tragic changes under Chinese Communism in Inner Mongolia: the riparian forests of willow and cottonwood along the Yellow River are almost entirely gone, and vegetation has been seriously degraded everywhere. As elsewhere, *saksaul* is particularly vulnerable. Independent Mongolia still has its willows and cottonwoods, but *saksaul* is now confined to very remote areas.

Medical foodways are important.²⁰⁸ Foods are color-coded in Mongol. The eater sometimes color-coordinates his foods with the appropriate colors for the season. Spring is black and yellow, calling for hard liquors—long consid-

206 See the wonderful, thorough guidebook by Tungalag and Jamsran, *A Field Guild to the Trees and Shrubs of Mongolia*.

207 Kanako and Yuki (2014), “Oirat Oral Histories of Natural and Social Changes in Ejene Banner, Inner Mongolia,” 259-275.

208 Bold (2009), *History and Development of Traditional Mongolian Medicine*, 2nd edn.; Boldsaikhan, *Encyclopedia of Mongolian Medicinal Plants*.

ered “black” in Mongolia—as well as yellow butter, cream, and barley flour. Summer is the time for white foods (other dairy foods). Fall offers green vegetables, herbs, and fruits. Winter is time for slaughtering animals—not all can overwinter—and thus its food is red. Marmot is recommended in winter as a strengthening food.²⁰⁹

In a longer view, a great deal of shamanic and even pre-shamanic belief survives, including the *tsatsal* rite. The hearth is the literal and ritual center of the *ger* (yurt). Milk and butter may be offered to it or to the fire. Wedding customs, notably of the Buryat Mongols, involve complex ceremonies connected with the hearth, the fire, and the bride’s new role as cook for her husband and the family.²¹⁰ Being childless, a terrible situation in the kin-based Mongol world, was treated by offering a sheep and some *arkhi* to the fire deity, with an elder officiating.²¹¹ A red goat was offered to the fire deity by the Oyrats, to the sun by the Buryats.²¹² Cauldrons were also ritually important. “A full cauldron symbolizes the satiety and well-being of a family. It also suggests an impregnated womb, and these two images together connote fertility and wealth;” thus (to move from the Mongols a bit) the Kazakhs cook meat in a cauldron while a woman is giving birth, to ease the delivery.²¹³

Mongol traditional medicine draws on shamanism, Chinese medicine, the Hippocratic-Galenic West, and—above all—the Buddhist medicine of India, Tibet, and Central Asia. Due to the spread of Tantric Buddhism from Tibet to Mongolia, the Tibetan form is particularly important in Mongolia. Mongolia is heir to the most elaborate, sophisticated, and detailed medical tradition ever developed by such a small, marginal world as Tibet has been.²¹⁴ Tibet not only absorbed Indian medicine but benefited from the West to the point that a Western physician who called himself Galen was court physician in the 8th century!²¹⁵

209 See Allsen (1997), *Commodity and Exchange in the Mongol Empire*; Bold, *History and Development of Traditional Mongolian Medicine*, 121-25; also the Kalmyk section (following page).

210 Sodnompilova (2014) “Socium Division Markers: Instruments of Kinship Relations as Expressed in Oirat and Buryat Traditions,” 145-154.

211 Sodnompilova, “Socium Division Markers,” 149.

212 Sodnompilova, “Socium Division Markers,” 150.

213 Sodnompilova, “Socium Division Markers,” 152.

214 See Garrett, “Critical Methods in Tibetan Medical Histories,” *Journal of Asian Studies* 66 (2007), 363-387; Garrett, “Tapping the Body’s Nectar: Gastronomy and Incorporation in Tibetan Literature,” *History of Religions* 49 (2010), 300-326; Glover (2005), “Up from the Roots: Contextualizing Medicinal Plant Classifications of Tibetan Doctors in Rgyalthing, PRC,” Rechung (1976), *Tibetan Medicine*.

215 Garrett, “Critical Methods in Tibetan Medical Histories.”

10 Kalmyk Food

Among the other Mongol groups, the Kalmyks are descended from the Oyrat Mongols, with the usual vicissitudes and interactions since Oyrat days. They currently live in Russia, in the dry steppe southwest of Astrakhan, an area once rich, but now seriously overgrazed, partly because of the introduction of inappropriate sheep breeds with sharp hooves, and less dispersed foraging habits.²¹⁶ (Our examination of satellite photographs makes it appear that extensive, poorly-managed farming has been more of a problem than grazing.) In earlier centuries, they lived along the Volga and in neighboring steppe areas, where they frequently had to deal with the Cossacks. In 1771 a huge number fled Russia for China (what is now Xinjiang). Most died en route. The rest found China even less hospitable than Russia. Only a few survive in China.²¹⁷ Another group ended up in Kyrgyzstan. They now largely speak Kyrgyz, although they have preserved some distinctive features.²¹⁸ In WWII, some Kalmyks collaborated with Germany, which led Stalin to exile the whole nationality to Siberia, again with great loss of life. Many have returned to the Kalmyk domain, while others have emigrated. The language and culture are seriously endangered as they assimilate wherever they survive. Where the old religious culture survives, they are Buddhist.

Traditionally, they were herders. Their herding economy is probably typical of Mongol and Turkic herding peoples, so is worth reporting in some detail.

They calculate that on the steppe, land needs are five to seven hectares per sheep, twenty per horse.²¹⁹ Of course that would vary enormously according to the quality of the range. American herders speak of AUM's, which is not a Buddhist mantra, but an acronym for "animal unit month," the amount of forage it takes to support a 1000-lb cow and calf for a month: about 800 lb. of ordinary dry forage. (High quality forage requires less poundage.) This is about the production of an acre of reasonably good range. Steppe animals need much more than an acre because of their need to wander from good patch to good patch. Confining them destroys the range in short order, partly because of the excessive trampling. This is one reason why fencing the range has been so devastating in Central Asia.

In snow, the Kalmyks would drive out the horses first, to paw the snow from the grass; then the cattle, which eat only top parts of grass; then the sheep (the

216 Guchinova (2006), *The Kalmyks: a Handbook*, 83

217 Guchinova, the *Kalmyks*, 14-17.

218 Guchinova, the *Kalmyks*, 54-5.

219 Guchinova, the *Kalmyks*, 77.

Kalmyk are not goat-herders), which eat to the roots.²²⁰ “An average Kalmyk family owned 60-150 sheep, 10-50 horses, 10-30 cattle, and 10-15 camels” in the good old days.²²¹ A third or less of that total meant serious want. In early times, the ratio was around 70% sheep/ 20% horses. Most of the sheep were fat-tailed.²²² A sheep would dress out around 70-90 kg or more, of which 11-22 kg was fat.²²³ The Kalmyk cattle are also good meat animals.²²⁴ Camels are also important—they are the two-humped Bactrian species—and dress out at 160-190 kg meat and 60-100 kg fat. They yield 4-8 kg of hair, and a female can produce 40-80 buckets of milk per lactation (a bit over a year). They can drink 100 lt of water at a time.²²⁵

Bad winters and animal epidemics were a constant threat. They terribly impacted the herds in the old days.²²⁶

Agriculture was taken up in the 19th century, and now flourishes. Wheat, barley, mustard, oats, and millet were sown in spring, as well as tobacco; rye was sown in fall.²²⁷ Flax was sometimes grown. By the mid-nineteenth century, they added watermelons, regular sweet melons and cabbage. “Pears, apples, cherries and plums,” and sometimes vines, were grown.²²⁸ Fishing was important, and even aquaculture, as early as 1909.²²⁹

As elsewhere in the Mongol world, the *ger* was carefully organized, with space allocated according to gender, status, and efficiency.²³⁰ This worked out for distillation, as well as ordinary life, as recounted above.

The most important feast food was boiled mutton, sometimes with dough as squares, and eaten with a sauce of broth, salt, pepper, and finely chopped onion. This was about as William of Rubruck described it 700 years earlier, leaving out the onions. “The most prestigious dish is *dotur*, the boiled and shredded viscera of a ram. The ingredients include liver, heart, kidneys, intestines, stomach, inner fat, and blood. All is boiled, finely chopped and served together with shredded onion, pepper, and salt” in the broth; recently potatoes and noodles have been added.²³¹ The *dotur* is eaten in cups. Meat could be

220 Guchinova, the *Kalmyks*, 80.

221 Guchinova, the *Kalmyks*, 80.

222 Guchinova, the *Kalmyks*, 82.

223 Guchinova, the *Kalmyks*, 83.

224 Guchinova, the *Kalmyks*, 83-4.

225 Guchinova, the *Kalmyks*, 85.

226 Guchinova, the *Kalmyks*, 86.

227 Guchinova, the *Kalmyks*, 86-87.

228 Guchinova, the *Kalmyks*, 87.

229 Guchinova, the *Kalmyks*, 88.

230 Guchinova, the *Kalmyks*, 90-91.

231 Guchinova, the *Kalmyks*, 134.

dried in summer, smoked in winter, and “slices of meat were mixed with garlic, salt, bay leaves and cloves, and then placed inside a sheep’s entrails, the end of which was tied up.”²³² The end product is a form of sausage. *Kyur* was a pit barbecue. It involved spiced slices of meat in a sheep’s stomach, placed in a pit where a fire had been burned. It was covered, and left 12 hours or so.²³³ Presumably there were hot rocks in the pit. This is like the willow-steamed lamb of the *YSZY*.

The inevitable dumplings are known by the Turkic name of *bōrig*. Fish go into soup, as elsewhere in Russia, or are salted or dried.²³⁴ Grain foods were acquired by trade in the old days but are now grown by Kalmyk farmers. Fried wheat-flour cakes called *bortsog* or *bortsig*, in various shapes, were made for lunar New Year’s (*tsagaan sar*) and other occasions.²³⁵ Offerings of these with tea and sweets were appropriate for temples and ceremonies.

The Kalmyk shared the general Mongol color symbolism of food: white foods were milk and dairy; butter was yellow; red was meat and blood; green was fruit and vegetables; and black food was tea without milk, water and Russian vodka.²³⁶ Cow’s milk yielded *chigyan*, *bozo*, *airan*, *shyurmek*, *khermek*, and *khursun*. Airan is sour milk, *bozo* is the dregs of producing *ār’kă*, milk vodka. *Ār’kă* (from *‘araq*) is distilled fermented milk, only 17-18% alcohol; *arza* is a stronger sort, multiple-distilled rather than single, reaching 20% to 50% depending on amount of distilling.²³⁷ This is described in detail above.

Tea, as elsewhere in the Mongol and Tibetan world, is brewed with milk, butter and salt, and sometimes mixed with parched grain. It may even contain toasted animal skin (crackling), or spices such as clove and nutmeg. Tea comes from Georgia rather than China.²³⁸ Russian-style tea, with sugar instead of milk and butter, is now common. In dire straits, tea could be made from local herbs.²³⁹

Food rules for life course situations were as numerous as they are in many other Siberian societies. The head of a sheep is the most honorable portion. It should be served with the lower jaw separated and the snout pointing toward the person honored. Next most honored was the shoulder. Elder men got the shinbone, pelvis, and arm; older women the femur; and young women the

232 Guchinova, the *Kalmyks*, 135.

233 Guchinova, the *Kalmyks*, 136.

234 Guchinova, the *Kalmyks*, 136.

235 Guchinova, the *Kalmyks*, 175.

236 Guchinova, the *Kalmyks*, 132.

237 Guchinova, the *Kalmyks*, 134.

238 Guchinova, the *Kalmyks*, 132.

239 Guchinova, the *Kalmyks*, 133.

breastbone. The kidneys and ears went to boys, the heart to girls. The shoulder-blade was prepared and used for telling fortunes, as in Siberia.²⁴⁰

Ancestors are commemorated through the *tsatsal* ritual. This involves sprinkling tea or vodka to the four directions with upward flicks of the third finger. It is much like the Mongol milk ceremony described above.

Pregnant women were “forbidden to eat camel meat, so that [they] would not, like a camel, carry the foetus for twelve lunar months.” Horse meat and sheep shoulder, shin, and stomach were taboo.²⁴¹ Weddings involved a great deal of feasting, and consumption of plenty of *är’kä*—the more of it, the better the wedding. Rams, not ewes, were appropriate feast food. Descriptions of the traditional weddings focus strongly when *är’kä* was drunk, with all the usual toasts, but nothing more about the food.²⁴² Apparently alcohol was key.

Guchinova cites a study from the 1920s that showed the rich eating 134.9 grams of protein a day, 100.6 of fat, and 845.5 of carbohydrate; the poor got 45.8-48.2 grams protein, 38.4-89.3 grams fat (a large range), and 331-424.7 of carbohydrates. This would give the rich 4903 calories/day, while the middling ate 2949 and the poor 1882-2729. This makes it clear that the rich were sharing some of their food, since 4903 is a totally unrealistic consumption figure (unless the rich had been participating in extremely hard physical labor).²⁴³

The range of modern Kalmyk food has expanded. It now includes not only the usual Russian items, but also pilau.²⁴⁴

11 Chinese Food, the Central Asian Connections in Ming and Today

Interest in Central Asian cooking barely survived the Mongol Empire, although in Ming we do have one important source. Given the historical importance of the material, and a total lack of reference to it in the western literature, we provide a partial translation of this text by health writer Gao Lian below.

Gao Lian’s focus is on *Halwa*, which, by that name, is found all the way to China. It appears as *hailuo* 海羅 in several recipes in his 16th-century food book... Gao Lian provides a perfectly recognizable Central Asian recipe in his *Yin zhuan Fu shi Jian* 飲饌服食箋, “Commentary for Consuming Delicacies.”²⁴⁵

240 Guchinova, the *Kalmyks*, 135.

241 Guchinova, the *Kalmyks*, 118.

242 Guchinova, the *Kalmyks*, 120-126.

243 Guchinova, the *Kalmyks*, 132.

244 Guchinova, the *Kalmyks*, 137.

245 Thanks to Sumei Yi for basic translation; we have edited it.

The Central Asian influence does not stop there. Sweets such as those given by Gao Lian are, of course, a traditional area of West Asian influence:

Gao Lian's Sweets Recipes

1. Recipe for making sugar syrup (*qi tanglu fa* 起糖鹵法)

Whenever one makes sweets, the cook should prepare sugar syrup first. This is a secret recipe coming from the Imperial inner palace (*neifu* 內府).

Use ten *jin* of white sugar (or one can use any amount of sugar. I now use ten *jin* as a standard). Use a movable stove or hearth (*xingzao* 行竈) to set up a large boiler. First, use two and a half scoops of cold water. If the scoop is small, and the sugar is too much, add the proper amount of water. Stir it, and break the sugar into pieces. Boil it with mild fire. Pour (*dian* 點)²⁴⁶ two scoops of water that has been mixed with milk into it. If there is no milk, water mixed with egg white is also fine. When it is boiled, add the milk liquid (or egg white liquid) to it. Remove the firewood, and quench the fire. Cover the boiler with a lid for enough time to eat a meal. Remove the lid, and then set up the fire in the stove. When it is boiled, pour [the liquid] into it. After it is boiled for several times, one should have poured [the liquid] like this. If the foam in the sugar floats, use a skimmer to take it off. Be careful, and do not let it burn. Use a brush to dip in the previously prepared liquid, and brush [the boiler]. For the second time that the foam gathers, use the skimmer to get it out. For the third time, use high fire, and pour pure water to the foam. The milk will be boiled, and separated [from the foam]. When [the foam] gathers for the time that one meal takes, all the foam should be picked out. When the black foam is removed, and white flower-like stuff can be seen, it is good. Use clean cotton cloth to sift it, and contain it in a bottle. The utensils should be clean, and avoid grease and pollution. Whenever one makes sweets and uses black granulated sugar (*heishatang* 黑砂糖), he should boil it—no matter how much of it—thoroughly. Then use fine ramee cloth (*xixiabu* 細夏布) to sift it. Otherwise, it is not good for making sweets. If one uses white granulated sugar, the cook should first dry it in the sunlight.

[Note: The milk and/or egg are used to clarify the sugar—to get out any protein, and other materials other than pure sucrose. They clump with it and can be skimmed off.]

2. Recipe for roasted flour (*chaomian fang* 炒麵方)

²⁴⁶ The liquid should be made to flow in a small stream, like one coming out from the mouth of a tea pot, and with strength.

Sift white flour for three times. Place it in a large wok. Use a wood rake (mupa 木耙) to stir it till it is fully browned. Place it on the table, and grind it into fine powder. Then sift it again. Thus it can be used to make sweets.

3. [Ghee]

Whenever one uses ghee, the ghee should be fresh. If it is old, it cannot be used.

4. Recipe for pine-nut cookies (*songzibing* 松子餅)

For one serving of pine-nut cookies, use six *liang* of ghee, six *liang* of white sugar syrup, and one *jin* of white flour. First, melt the ghee, and put it in a porcelain container when it is still warm. Pour the white sugar into it, and rub it evenly. Then add white flour into it and blend them. Knead and rub it till it is even. Place it on the table, and mould the dough (*ganmian* 擀面) into a flat shape. Use bronze circle molds to print on it, and make it into round pastes. Spread pine-nuts on them, and then place them in a tray, which is used to bake them.

[This is strikingly resembles New Mexico's "pine-nut shortbread." That too must be from the Near East.]

5. Recipe for oil-harmonized-with-flour [candies] (*mianheyoufang* 面和油方)

Use any amount of [flour]. Use a small pan, two scoops of sugar sauce, and any amount of ghee. Fry the sugar sauce in shallow ghee in the small pan. Sift it with thin cloth. Add uncooked flour (*shengmian* 生面) to it with one's hand till it is neither thin nor thick. Use a small rake to stir it till the flour is fully cooked. First, cook the sugar syrup over slow fire till one can draw threads of sugar from it. Use a stick to dip in it and test it. Add proper amount of the flour that has been fried in ghee. Stir it and then remove it from the pan. Spread it on the board when it is still hot. Mould it [with a rolling pin], and cut it into 'elephant' eye-shaped [or eye-sized] pieces (*xiangyankuai* 象眼塊).

[This and several following recipes are the Near Eastern *halwa* recipes.]

6. Recipe for pine-nut *hailuo* (*songzi hailuo* [*kou gan*] *fang*) 松子海羅 [口幹] 方 [*hai luo*, literally "sea radish," clearly a transliteration of *halwa*]

One can also use both walnut kernels and gourd seeds (*guaren* 瓜仁)

Put sugar syrup in a small wok. Cook over slow fire for one meal's time. Stir it till it is cooled down. Add fried flour to it with one's hand. Then add chopped pine-nut kernels, and stir them till it is even. Spread ghee on the board, and place [the dough] on the board. Mould it with a rolling pin, and cut it into eye-shaped pieces. When one cuts the dough into pieces,

the cook should do it when the dough is still warm. If the dough is cold, it is hard. It would be difficult to cut, and one would be afraid of breaking it into crumbs.

7. Recipe for white and moist [candy] (*bairunfang* 白閩方)
Add a small amount of ghee to the sugar syrup, and cook over slow fire. Add fried flour to it conveniently (*suishou* 隨手), and stir it evenly. Place it on the board, and flatten it with a rolling pin. Cut it into eye-shaped pieces. If one uses bronze circles as molds, it will be called Sweet-Dew Gluten (*ganlujin* 甘露筋).
8. Recipe for snow-flake shortbread (*xuehuasu* 雪花酥)
Melt ghee in a small pan, and sift it. Add heated flour to it with the hand. Stir it till it is even, neither thin nor thick. Then remove the pan from the fire. Spread white sugar powder on the mix, and stir it. When they are mixed together, place it on the board, and mould it with a rolling pin. Cut it into ‘elephant’ eye-shaped pieces.
9. Recipe for Manchu candied fritter (*shanshima fang* 芡什麻方)²⁴⁷, called “poured-and-cut” in the South
Cook sugar syrup in a small pan over slow fire till one can draw threads of sugar from it. First, peel sesame seeds, and dry them in the sun light. Or bake them briefly and grind them into powder. Add them into the sugar conveniently. Stir, and make it mix together. It should be neither thin nor thick. Spread sesame powder on the board in advance, and let it not be sticky. Place [the dough] on the board when it is still warm. Spread sesame powder on the dough, which will keep it from being sticky. Mould it with a rolling pin, and cut it into eye-like pieces.²⁴⁸
10. Recipe for yellow and moisturized halwa (*huangrunfang* 黃閩方)
[It is] the same as the homemade (*jiachang* 家常) ones. Sift black [dark brown] granulated sugar. Cook it along with sugar syrup over slow fire. Add a small amount of honey. Then let it cool down. Add toasted flour conveniently. Still spread ghee on the board. Mould it with a rolling pin, and cut it into ‘elephant’ eyelike pieces.

²⁴⁷ *Saqima* is a Manchu word, and this Manchu—ultimately Near Eastern—sweet was and is popular in the north. In a later variant, it is made into puffy noodle-like strands, pressed, and cut into cubes. Charles Perry informs *ENA* that it is made by cutting dough into tiny bits, frying these, and binding them with honey or syrup. He sees no relationship between “*shanshima*” and “*saqima*”—the latter is a noun from the verb “*sachimbi*,” “to chop.” Charles Perry, email of Feb. 4, 2015. See also above.

²⁴⁸ This is a sesame halwa! Similar Manchu recipes survive today. For general cooking techniques see above.

11. Recipe for slices with mint (*boheqiefang* 薄荷切方)
 Dry mints in the sunlight and grind them into fine powder. Put sugar syrup in a small pan and cook over slow fire till one can draw threads of sugar from it. Add a small amount of toasted flour in advance. Then add mint powder and mix them together. Spread mint powder on the board in advance and place [the dough] on the board when it is still warm. Spread more mint powder on the dough. Mould it with a rolling pin and cut it into eyelike pieces.
12. Recipe for a nest of threads [taffy] (*yiwosi fang* 一窩絲方)
 [Author's note:] prepare a piece of fine stone as a board and spread cooked sesame oil on it. Sift toasted flour until it is pure. Prepare them in advance.
 Fully cook sugar syrup over slow fire till one can draw threads of sugar from it, and it is slightly burned (*aocheng laosi* 熬成老絲). Pour it on the stone board. Use two chopping knives to scrape it up alternatively (*zhuan-zao lueqi* 轉遭掠起). When it is cooled down and gets thicker, pull (*ba* 拔) it with hands till it is elongated. Fold it in half [and pull it again]. When it is pulled for more times, it becomes whiter. If it is cold and hard, bake it on fire. Stretch it for dozens of times, and make it into a double-circle shape (*shuangquan* 雙圈), and place it on the board. Spread toasted flour on it. Then it requires two persons, face to face, to pull it in opposite directions, and turn it around clockwise (*erren duiche shunzhuang* 二人對扯順轉). Pour toasted flour on it at the cook's convenience. Pull it for dozens of times till it turns into thin threads. Sever them with knife, separate, and make them into small nests. When one pulls the sugar, and place it on the board, the cook should fold it in half, and make it into a circle. Then pull it, fold it, and make it into a circle. Repeat this for dozens of times, and it will become thin threads.
13. Recipe for comb-print crisps (*su'eryin fang* 酥兒印方)
 Use uncooked flour and add soybean powder (*doufen* 豆粉) to it. [Add water to them, and blend them.] (*tonghe* 同和). Knead it into bars (*tiao* 條) as large as the tip of a chopstick (*jintouda* 筋頭大). Cut it into pieces as long as two *fen* 分. Use a small comb to print patterns on them separately. Contain them and deep fry them with ghee, till they are fully cooked. Pick them up with a sifter. Then spread white granulated sugar over and mix.
14. Recipe for puffed buckwheat (*qiaomaihua fang* 蕎麥花方)
 First, bake buckwheat till it is puffed into flower-like [popped] kernels. Measure it. Add a small amount of honey to sugar syrup, and put in a

wok. Do not move them. Cook them till one can draw threads from it. Then [let the fire] higher (*luedaxie* 略大些). Add the puffed buckwheat into it at one's convenience, and stir it evenly. Do not let it become thin. Spread puffed buckwheat on a board, which will prevent stickiness. Move the puffed buckwheat with sugar from the wok to the board and spread it. Mould it with a rolling pin, and cut it into 'elephant' eye-like pieces. [This is similar to Mexican *alegría*—a rather striking parallel. *Alegría* is pre-Columbian, except for the sugar. Gao Lian's recipe surely has some Near Eastern influence.]

15. Recipe for goat marrows (*yangsui fang* 羊髓方)
Use half a bottle of goat/sheep milk (*yangruzi* 羊乳子), or cow milk (*niuruzi* 牛乳子), and add half a cup of water to it. Add three pinches of white flour to it. Sift it, and place it in a wok. Cook over slow fire. When it is boiled, add white granulated sugar or sugar syrup at one's convenience. Then use high fire [to cook it]. Beat it with a wood rake. When it is fully cooked, sift it, and place it in a bottle. Pour it out in a bowl and serve it.
16. Recipe for black and moist [candy] (*heirun fang* 黑潤方)
Cook black [very dark brown] granulated sugar with slow fire and sift it till it is pure. Add the same amount of sugar syrup and mix them. Place them in a wok. Cook them for one-meal's time, add half a bottle of ghee to it. Cook, and add fried flour and Chinese pepper powder to them at one's convenience. Blend them into one piece. Then place it on the board, and knead it till it is flattened. Cut it into 'elephant' eye-like pieces.
17. Recipe for *saboni* (灑孛你方)
Cook material that has been used to cook mushrooms (*aomoguliao* 熬磨古料) with slow fire. Do not use walnuts. Scoop it out and spread it on a board. Circle and fix it with sweet rice (*jiangmi* 江米). Print it with bronze circles. This is *saboni* 灑餠你. When one cuts it into eye-like pieces, it is called white sugar squares (*baitangkuai* 白糖塊).²⁴⁹
18. Recipe for pepper-and-salt cookies (*jiaoyanbing fang* 椒鹽餅方)
Use two *jin* of white flour, a half *jin* of sesame oil, a half *liang* of salt, and one *liang* of good pepper peels [*sic*, probably a miswriting], a half *liang* of aniseeds (*huixiang* 茴香). Divide [the flour] into three equal portions. For each one of them, use only oil, pepper, salt, and aniseeds to mix with the flour. Then make them into the stuffing (*rang* 穰). If one adds some coarse

249 The *aomoguliao* here makes no sense and is probably a transcription. This is clearly the same with *saboni*, apparently from Arabic *sabun*, "soap." Perry (personal communication) connects this with the Medieval Spanish sweetmeat *sabuniyyah* which had something of the crumbly texture and faintly sinister luster of soap and was probably cut into pieces resembling bars of soap. Mushroom water is unlikely to produce anything like this.

sesame crumbs to it, it would be even better. For each cookie, insert one piece of the stuffing. Knead the cookie till it become thinner. Then place them in the oven. Another recipe: mix the same amount of boiled water and oil. For the stuffing, use sugar and sesame crumbs and the oil [mixed with boiled water].

[This is a thoroughly Near Eastern recipe; cf. *kourabiyeh*. The lack of sugar in the dough is evidently a mistake; probably the “good pepper peels” were sugar until a bad copyist got at this recipe.]

19. Recipe for crisp cookies (*subingfang* 酥餅方)
Use four *liang* of ghee, one *liang* of honey, and one *jin* of white flour. Blend them into pastes. Place it into molds and make it into cookies. Then bake them in an oven. Otherwise, one can also use lard. If he uses two *liang* of honey, it will be even better.
20. Recipe for wind-dissolved cakes (*fengxiaobingfang* 風消餅方)
Use two *sheng* of sweet rice and mash it into very fine powder. Divide them into four portions. One portion is used to make a dough (*mibo* 米粿). Another portion is mixed with water, made into cakes and fully cooked. Blend the remaining two portions [of sweet rice powder]. Use a small half cup of honey, two pieces of fermenting liquor in which the dregs have not been removed (*zhengfa jiupei* 正發酒醅), and white maltose (*baixing* 白錫).²⁵⁰ Melt them, and then mould it with the sweet rice cakes till it is as thin as a spring [roll] wrapper (*chunbing* 春餅). If the wrapper is broken, there will be no problem. Bake it on a tray, and do not let it burn. Then hang it in a windy place. Measure how much [sweet rice] has been used, deep fry it in lard. When one deep fries it, use chopsticks to stir it. At the same time, mix white sugar and fried flour. Then use raw hemp cloth (*shengmabu* 生麻布) to rub the mixed crumb onto the wrappers. [I.e., thin tortilla-like cakes have crumbs shaken over them as topping.]
21. Another recipe:
Use only a small amount of fine and cooked powder and boil it. Then spread it on a sifter and dry it one hundred percent in sunlight. For every *dou* 斗 of sweet rice powder, use twelve *liang* of yam powder (*yumo* 芋末). This recipe is simple and wonderful.²⁵¹

250 White maltose is a kind of sugar made by cooking rice or other grains with wheat sprouts or rice sprouts with slow fire.

251 Translation by Sumei Yi and E. N. Anderson.

By way of comparison, here are more sweets from the Eurasian heartland (these examples provided by Charles Perry, personal communication to author Anderson, Kazakh examples above)

1. Halwāy Tar

“The fluid sweet,” as its Tajik name can be translated, is a paste or thick liquid with the simple appetizing flavors of butter and toasted wheat. It is found as far north as the middle Volga, where the Tatars, famous for dropping their h’s, call it *alba*. In Medieval Arab cookbooks it is *al-‘ajamiyya*, “the Persian sweet.” The proportions are fairly elastic, and lamb fat may substitute for butter. In Uzbekistan cooks throw in vanilla at the end.

1 cup (½ pound) butter
 2 cups flour
 1 cup water
 ½ cup sugar

Melt the butter in a pan, stir in the flour and keep stirring over medium heat, until golden to golden brown.

Meanwhile, boil the water with the sugar and keep hot. When the flour is ready, stir the syrup in, and serve hot or cold, to be eaten with a spoon.

2. *Qovud*

From the Turkish root meaning to fry, the medieval *qawut* was made particularly for women in childbed. The richness and sweetness probably recommended it for this and also the fact that grain symbolizes fertility. It represents the same general culinary idea as *halwāy tar*, but the result was often richer and more complex. One Medieval Arabic recipe, for example, calls for flour, semolina, toasted wheat, butter, sesame oil, lamb fat, saffron-tinted almonds, and toasted hazelnuts (there are also recipes that use toasted rice). It seems to have died out except in Azerbaijan, where it is made in solid round cakes without the fat or nuts.

1 ¾ cups flour
 ¾ cup fine cornmeal
 1 ½ cups water
 1 ½ cups sugar

Put the two kinds of flour in a large, heavy-bottomed pan, and stir over high heat, stirring often, for 10 minutes, then reduce to medium heat and

stir continuously for another 12-15 minutes. The pan will start to smoke, and the flours will start darkening visibly at 15 minutes. Transfer the flours to a mixing bowl.

Boil the water and sugar together until clear, then pour into the bowl, and stir vigorously the mix. Form into cake shapes, and decorate by making parallel lines in the surface with a knife. The sweetmeat will have a smoky quality with a hint of popcorn.

12 Chinese Food Today: The Central Asian Connection

Today, the foods that came through the Eurasian heartland to China have long been integrated into Chinese foodways. By far the most important is wheat, supplying probably over 90% of the total calories supplied by these introduced foods. It dominates the diet in North China, even now that rice is far commoner there than in past years. It is spreading in the South.

It is usually eaten in the form of noodles or dumplings, the latter ranging from the many forms of filled, thin-skinned dumplings to the big unstuffed steamed buns (*mantou*, from *mantu*) and the filled steamed buns of countless types (generically *bao* 包 or *baozi*, 包子 “little *bao*”). Real, leavened and baked bread a specialty of the far Northwest, but the miniature Persian breads known in Chinese as *shaobing* 燒餅, “roasted cakes,” are universal in the North. *Mantou* seems to be an introduction too, although Chinese *mantou* is different than Eurasian heartland, or even Korean equivalents. They were traditionally baked in a big earthenware jar, a miniaturized version of a *tandur*. Many other *bing* 餅 (cakes) are made from wheat, and wheat is used in all manner of prepared fermented sauces and other complex products. Even soy sauce, China’s most characteristic flavor, has wheat flour in its composition, as well as soybeans. China now manufactures a wide range of European-style products too, from spongecake to loaf bread. Wheat remains by far the most versatile grain in China.

The other Western grains—barley, oats, and African millets—are now bit players in the scene. Barley maintains a very important use in medical soups. This is a use derived straight from Hippocrates and Galen, who recommended pearl barley for almost every ailment and condition. It was their general invalids’-food. It still is in China, although medicinal barley never got its own name there. Medicinal barley is known by a name that originally meant the grains of *Coix lachrymae-jobi*, Job’s tears, a native grain that used to be used for the same purpose, and often still is. Sorghum, from Africa via India, reached China at some point in the Medieval period. It spread particularly during Yuan times. It

is now well-known as a source of distilled liquor, *gaoliang*. Sesame, a non-grain “grain,” is another universal and highly important seed from the West, appearing not only as a universal topping (sesame seeds can be sprinkled on almost anything), but also in medicinal preparations, and, above all as the highest-regarded oil in Chinese cooking.

Sheep, goats, cattle, horses, cats, domestic rabbits, and other animals have all come from the West. Only sheep and cattle are significant foodstuffs, and sheep-eating is largely today confined to the North. Goats are a reasonably common food in the far Northwest, and occasionally eaten throughout China. Cattle are probably the most important meat source of the nonnative animals. The pig seems to have been independently domesticated in both China and the West. The domestic honeybee, and the whole science of beekeeping, was a very early Western introduction, but China has a native honeybee (*Apis cerana*). Its honey was evidently used even earlier. Honey is largely eaten medicinally; its throat-soothing qualities make it universally popular for respiratory and throat problems.

Among plant materials used in prepared dishes, the ball onion and garlic are probably the most important; it is hard to imagine Chinese cooking without garlic. Other Western such as kohlrabi, leaf lettuce, spinach, and more recently the other Western leaf crops are discussed above, as are the introductions of carrots, the Western grape, and other Medieval travelers.

Important since the Tang Dynasty are the favorite Near Eastern spices: coriander (fruits and leaves), cumin, and fennel. These routinely enter into mixes like the “five spice” powder so common in Chinese cuisine. Fenugreek, dill, anise, basil, caraway, black caraway, saffron, and others have also appeared but have never caught on. Very important Western flavorings and medicinal herbs like Mediterranean thyme, rosemary, and lavender are ruled out by growing conditions; preferring Mediterranean climates, they have never thrived in China.

Finally, a Chinese crop that led to domesticating a Central Asian relative is the goji berry or wolfberry, *Lycium* sp., Chinese *goujizi*. The native and original Chinese species, *L. chinense*, is widespread, but now most production comes from the semidesert species *L. barbarum*, grown in the dry northwest. This fruit is closely related to tomato and resembles a very small tomato in appearance and taste. It is, however, far more nutritious, being one of the most nutrient-dense foods in the world—rich in all the vitamins and all the commoner minerals. It has been used as a nutritional supplement, *bupin*, “supplementing” or “strengthening thing.” It is literally a vitamin-mineral pill for traditional Chinese, thrown in handfuls into strengthening soups for mothers after childbirth

and others recovering from physical stress. It has recently gone worldwide, a new and exceptionally worthy addition to global food.

By contrast all the west Eurasian crops except wheat have wound up playing lesser roles in modern China than the great New World crops: maize, sweet potatoes, white potatoes, tomatoes, chiles, peanuts, and so on. These came at various times well after 1500. At first they were introduced by the Portuguese through Macau and by the Spanish to the Philippines, whence they were brought to China by returning Chinese businessmen who had traded there.²⁵² They still trickle in. Two Maya-domesticated plants, the cactus known in China as “dragon fruit” (*longguo* 龍果), and the yellow sapote (sometimes called “heavenly peach,” *tiandao* 天桃), are very recent arrivals. Chocolate (cacao), which may also be a Maya domesticate, is being grown in the far South. The Chinese language confusingly labeled most New World foods by applying traditional names with a qualifying adjective meaning “foreign,” producing confusion when the adjective is dropped. Thus, “foreign large-millet” for maize, “foreign jackfruit” for pineapple, “foreign pomegranate” for guava, and other such combinations have lost the “foreign” in ordinary speech, leading some to believe that the New World crop is ancient in China because the name appears in ancient records.

In any case, almost everything Western is now grown somewhere in the Chinese world. Very late comers, so far as we know, include asparagus, parsnips, red beets, and several other European plants. Even fresh milk is now common, in spite of lactase absence. Milk was once, e.g., during the Tuoba 拓拔 Wei 魏 Dynasty, and on through Mongol times, very popular in North China.

Wonderful photographs of food and foodways in eastern Xinjiang have been taken over many decades by Peter Yung, who published a wide selection in his book *Bazaars of Chinese Turkestan* (Hong Kong, 1997). Among the countless historic and valuable photographs of nomad and town life, are photographs of making bread in a *tandur*, eating pilaf, selling vegetables, raising sheep, and many other scenes of daily life.

13 Korea and the Eurasian Heartland

Although seemingly isolated from the zone of the silk roads directly, another East Asian society was greatly influenced, particularly during the Mongol period, by food influences coming from the West, and indirectly from the Far

²⁵² Anderson, *The Food of China*; Ho “The Introduction of American Food Plants into China,” *American Anthropologist* New Series, Vol. 57, No. 2, Part 1 (1955), 191-201.

East: Korea. During the Mongol period, Korea was a “son-in-law” country closely allied by numerous marriage alliances with the Mongol ruling house in China. Its elite, including the Korean king, not only intermarried with the Mongols of China, but Mongol rulers of China claimed elite women as tribute. Such women were further redistributed primarily to the powerful and influential, as wives and concubines. The Mongols and Koreans thus became thoroughly intermarried. There were even settlements of Koreans in China.

In the early 13th century the Korean king Ch’ungson (1308-13) was a grandson of Qubilai-qan. At the end of the dynasty a powerful Korean Empress, Ki (died circa 1370), who began as a tribute woman, dominated completely the court of the last Mongol ruler in China, Toghun-temür (r. 1333-68). Koreans, Mongols, and their allies also had a joint government in China: a “province” in southern Manchuria. They also shared the rule of Korea itself jointly, managing Korea as still another province with the Korean king at its head. The Korean elite, including the heir apparent, also participated in the Mongol imperial bodyguard in China. Such experience was a considerable source of pressures favoring assimilation on the part of the Korean elite, leading to fusion cuisine.²⁵³

Korean merchants participated in Silk Road commerce distantly, but were more active on the seas, with a maritime position within the China Sea and on south. From the 1500s, this included some presence of Western merchants in Korea. Although Korea is physically separated from even the outskirts of what might be considered Central Eurasia by hundreds of miles of forest and steppe, and by non-Korean cultures, the food is of interest as a clearly related phenomenon.

On the surface, there is a clear difference between Central Asia and Korea in that Korea has an enormously long coastline. It, as a consequence, relies heavily on fish and seaweed. Likewise, being well-watered and reaching to warm temperate zones, it can also raise rice and other water-loving crops. Being fertile, and not extremely continental in climate, it can produce a great range of foods. Being a country of extreme poverty (except very recently in the south), it has been a land of grain, and the most easily-grown vegetables, in which meat was a luxury even for relatively rich families. This has included the beef dishes so popular today, most likely first popularized under the Mongols.

Also, Chinese influence on Korean food is obvious in everything from cultivated crops to cooking techniques, though Korean food is stunningly unique and original. Waves of influence from China, Central Asia, and Japan track the relative and absolute political and economic power of those regions. Chinese

253 See Buell, “Korea as Part of the Mongolian World: Patterns and Differences,” *International Journal of Eurasian Research*, 5, 10 (January, 2017), 137-146.

dish names like *chap-chaе* (Hokkienese, for a Hokkienese dish borrowed into Korea) occur, and a new Chinese-Korean fusion has arisen, including things like noodles with black bean sauce;²⁵⁴ fusion restaurants serving such dishes now abound in California's large and gourmet-conscious Korean-American community.

On the other hand, Korea also shares some traits with the vast interior stretching from the Yalu valley and immediate areas. One of them is a reliance on small grains. Rice, *pap*, grows only in the more fertile, level, southerly valleys. Wheat did not grow particularly well anywhere. There was thus widespread reliance on barley, buckwheat, sorghum, and millets. These last included not only broomcorn and foxtail, but also barnyard millet and other obscure East Asian plants. Even so, *pap* is used for food in general, as rice words so often are in eastern Asia. Most interesting has been use of acorns to make flour, which is then usually made into a pale jelly-like product, *tot'orimuk*, similar to sticky rice cake (*muk* means a stiff jelly). Heavy use of acorns is otherwise known largely from neolithic China, pre-Columbian California, and parts of ancient Europe. The acorns must be processed intensively to remove the tannins and other bitter, unhealthful chemicals. Yet, far from being poverty food, acorn products and minor millets are abundantly evident in the very upscale Korean markets of Los Angeles, to say nothing of Korea itself. Chestnuts and pine-nuts are less common but far from rare.

Grains are sometimes just boiled, like regular rice. They are very often made into noodles, which are perhaps, even more abundant in Korea than in other East Asian countries. Congee, *juk*, also abounds. There is a whole tradition of *bonjuk*, healthful congees, made with medicinal herbs, fruits, black sesame seeds, and beans. The imperial court used abalone.²⁵⁵ These are recommended for countless illnesses, and indeed are usually quite nutritious and soothing—strongly to be recommended to invalids, though not usually an adequate cure in themselves.

The other distinctive feature about Korean cuisine is the enormous dependence on pickles. A Korean meal, in fact, is incomplete without a whole selection of pickles, usually in small side dishes arranged around the main course. This has several causes: long, cold winters when fresh foods were unavailable; an extremely rich flora with many options for pickling; many tough vegetables that are made easier to eat by the process; and a lack of any other way to preserve many vegetable foods. Even meat and fish find their way into the pickles. These side dishes are known as *panch'an* (*banchan*), a term that really means

254 Pettid (2008), *Korean Cuisine*, 55, 172.

255 Michael Pettid, *Korean Cuisine*, 183, provides a recipe.

“anything to eat with the starch staple” (cf. Cantonese *sung*, Indonesian *lauk*, frontier US “with-it”). It can thus include the main meat or fish dish, but is usually used to refer only to the side dishes. Michael Pettid, in *Korean Cuisine: An Illustrated History*, provides a list of foods for a royal banquet from late imperial Korea; of 31 dishes, seven are fermented and another seven are identifiably side dishes.²⁵⁶

The famous one, now known worldwide, is kimchi, now familiar in English. It is a very salty mix usually based on Chinese cabbage and garlic. Various kinds of cabbage can be used. Chile peppers are now an inevitable, and major, part of the mix, although of course a new world import. Radishes (including their leaves), bean sprouts, pine-nuts, sesame seeds, cooked beans, various species of chives and onions, and other vegetables find their way in. The great vats of kimchi put down for the winter may include a whole chicken, or a number of small (usually dried) fish. Related types of pickle are made of radishes, chives, and the like without the cabbage.

A different pickling strategy, involving more oil with less salt and water, is used to make a wide variety of single-item pickles: rape-cabbage tops, *Platycodon* (medicinal herb) shoots, fern fronds, bean sprouts, seaweeds, and countless wild plant foods. There seems no limit to the uses of this process. Other processes were used to pickle, dry, ferment, and otherwise preserve the all-important and ever-present bean curd. Perilla leaves, which are so common in Korea that they count as a vegetable, rather than just a flavoring herb (as in China and Japan), also find their way into pickles. Perilla seeds are a source of oil, *tul kirum*. South Korea’s government-sponsored cultural journal *Koreana* devoted a whole issue to kimchi in 2008, including its health values.²⁵⁷

Fermented sauces vital to Korean cuisine are *kanjang*, soy sauce; *toenjang*, hot bean paste; *koch’ujang*, chile paste. The *-jang* is a straight Chinese loanword, for sauce.

In all these, lactic-acid fermentation by *Lactobacillus* species is the major action. A range of fungi and bacteria may add to it all, though kimchi usually involves so much salt that only *Lactobacillus* can survive and flourish in the fermentation environment.²⁵⁸ This must have major beneficial effects on gut flora. These benefits were offset in former times by the high salt content, which was probably responsible for Korea’s very high stroke rate in those times.

²⁵⁶ Michael Pettid, *Korean Cuisine*, 135-136.

²⁵⁷ Young, “Kimchi: Ideal Health Food for a Well-being Lifestyle.” *Koreana*, Winter (2008), 13-15.

²⁵⁸ On all these matters, see Katz’ brilliant and encyclopedic *The Art of Fermentation*.

Although rarely affordable in olden days, meat was also enormously popular. Beef and pork are common; dog meat in chile is a very heating dish, eaten during summer so that heat can drive out heat (naturally, they eat cold dishes in winter, to drive out the cold).²⁵⁹ The Koreans, like the Central Asians, were masters at stretching it by chopping it fine and using it in stuffing for dumplings. These generally resemble north Chinese forms, and most appear to be imports. The familiar Turkic name *mandu*, *mantu* in Korean, is used for one type, showing certainly a Mongol-era derivation. Although only one type is called *mantu*, Korean food is now characterized by a variety of similar dumplings. Part of the introductions of the period were a variety of noodle dishes, in some cases these noodles appear in adapted Korean dishes such as the stews and rich soups for which Korea is famed, along with the practice of seasoning with pepper.²⁶⁰

A conceptual import of the Mongol era was *pulkogi* and related foods. To make them, the meat is cut thin, marinated, and then cooked at the table over a brazier; this is a way of cooking now familiar in the Western world via Korean *pulkogi* and other specialties abundantly found in restaurants—far more abundantly than in premodern Korea. While it is more logical for the Mongols to have introduce mutton dishes to Korea, sheep are not common in Korea even today, whereas cows are common. Korean food historians have developed the hypothesis that dishes like *pulkogi* were Mongol-era stimulus diffusion; Koreans travelling around the Mongol Empire in East Asia, substituted beef for mutton. The popularity of beef rose with the decline of Buddhism in Korea.²⁶¹

Another area in which the Mongols had an impact in Korea was in alcoholic beverages. The standard rice beer, *makkölli*, an excellent drink, is ancient, and other fermented beverages probably are too. However, distillation clearly comes from China or from the Mongols. As we have suggested above, the Mongols did not invent distillation. Instead, they took to distillation and were instrumental in spreading convenient and easily portable distillation technology. This included Korea, where Mongol bases became centers for the production of what has become the national distillate, now called soju (from Chinese *shao jiu*, 'distilled liquor'), made primarily from rice.²⁶² Interestingly, this new drink was first called *arkhi* (Park Hyunhee, personal communication to P. Buell, January 16, 2017). The word was almost universally applied to distilled liquors throughout much of Eurasia during the Mongol period. Pointing up the

259 Pettid, *Korean Cuisine*, 85-86.

260 Pettid, *Korean Cuisine*, 15.

261 Pettid, *Korean Cuisine*, 60.

262 Pettid, *Korean Cuisine*, 118-120.

influence, some forms of Korean distilled liquor are still called *arkhi*, at least regionally (Park Hyunhee).

Soju has been much developed since. Today it can be made from anything starchy, including sweet potatoes (a New World food that has been a major crop in the south since the 16th or 17th century). Soju can be variously flavored with fruit, herbs or savory tastes. It ranges from fairly strong (less often distilled) to *samsu* (Chinese *san shao* 三 燒, “three times distilled”), and even more separate distillations.

Korea’s medical foodways are basically Chinese. More unique was a political influence on food: in the 18th century, after rapidly increasing factionalism had almost destroyed the Chosŏn Dynasty, King Yŏngjo (1724-1776) devised a dish with four colors representing the four main factions, and called it *t’angp’yong-ch’ae*, “vegetable salad of impartiality.”²⁶³ Clearly a dish for our time.

Thus, Korea’s links to Central Asia include: the finely-cut meat cooked on a brazier or in a pan; the many types of stuffed dumplings; the many types of noodles and noodle soups; the widespread use of millets, buckwheat, and barley; the importance and nature of distilling; and as a subordinate issue, the widespread use of drying to preserve meat and other items. Very different by the contrast are the wide variety of plant foods and the incredible focus on pickles.

It seems reasonable to see Korean food as a part of the family tree of East Asian foodways but, like Chinese food, also with clear links to Central Asia. It developed from a similar background to that of East Asian foodways: hunting and gathering in a game-rich environment; then domestication of millet and rice; then the addition of the standard domestic animals and vegetables; then the development of noodles, pickles, and other technologies; and finally the elaboration of a whole complex of dumplings, noodle foods, finely-cut meat dishes and so on. Where nomadic stockraisers elaborated dairy foods and easily-transported grain products, Koreans elaborated storage in less mobile ways. One cannot easily move 10-gallon pottery jars of kimchi. At the same time, the Mongols did rule Korea and have left their mark on Korean foodways as connected to those of East Asia as they might otherwise be.²⁶⁴

263 Pettid, *Korean Cuisine*, 140-141.

264 Pettid, *Korean Cuisine*, 177-199, gives a particularly good selection of favorite recipes, sparing us the need.

The Next Step: Silk Road as Metaphor, Seattle, the Silk Road, and the Pacific Rim

1 The Foodways of Central Asia and Its Sprawling Extensions Have Been Shaped by Several Forces

First, geography and ecology: the vast steppes and deserts, the sky-piercing mountains with pastures and forests, the long narrow riverine oases, the enormous wealth of wild plants and—formerly—wild game and fish, the savage climate. The eastern approaches are strictly summer-rainfall lands, under the monsoon; the western, from the Pamirs and western Altai, have more winter rain. Cool periods force the rainstorms south, which hurts the east—rain is held back in north China—but helps the west, because the Atlantic storm tracks are forced south from northern Europe and Russia to the Mediterranean and Central Asia. Seasonal availability of pasture led to annual movements of nomads that could cover hundreds of miles. Knowledge of resources and routes was thus critical, and necessarily encyclopedic, as anyone knows who has spent time with Central Asian herder. A veteran herder knows when each important forage or veterinary plant is available over an area that can reach thousands of square miles.

Second, the prehistory of settlement: hunter-gatherers, evidently at very low density, rapidly filled in the environment, but population was tiny until agriculture and stockraising expanded after 7000 BCE. It reached all parts of the region in the 2nd millennium BCE. At about that same time, toward the start of the Bronze Age, full-scale nomadism with mixed stock and portable housing emerged, spreading over the region and making much better use of vast tracts of desert and steppe. Nomad or semi-nomad hordes increasingly spread south, invading the Indian subcontinent and settling western China. Genetics influenced foodways as lactose tolerance genes spread from west to east, allowing free use of raw milk in the west. Eastward, milk was so generally soured to preserve it that there was little selection for the gene.

Third, history: conquest came from the settled, heavily populated lands, especially from Iran in the southwest and China to the southeast. Russia, especially after 1500, contributed some important influences. The rise and fall of empires led to expanding or contracting control over Central Asia. Each expansion left a wave of cultural influences. Each contraction left the civilized

cores open to small or massive invasions by steppe people, climaxing in the Mongol takeover of Eurasia and the later Mughal conquest of India. Thus elements of Iranic and Chinese civilization traveled far, but elements of steppe and oasis culture—often transformed from earlier Iranic and Chinese models—became important in the cores. Chinese culture was especially heavily influenced by Central Asian cultures, a story still far from fully told.

With all these came the influence of religion, which powerfully shaped the foodways of Central Asia. The first obvious shaping was the rise of vegetarianism under Buddhist influence, which—since the Buddhists were not vegans—gave a powerful impetus to dairy foods. The second was the spread of Islam, which banned not only pork and (theoretically) alcohol but a whole range of other items, from blood to lizards. Other religions brought their own less obvious influences; Manichaeans favored cucumbers and melons, Christians popularized grape wine, Jews—extremely important and influential in Bukhara—taught new ways with stews.

Institutions of ownership and governance had their effect. The region lived under *qans* (or more accurately *qanlar*), leaders of lineage or clan groups who had king-like status and power but were usually under considerable control by nobles and elders. Management of resources in the oases was as fixed private property, usually owned by the lineages or other descent groups or by private families, but management of resources in the open lands—almost 99% of Central Asia—was by the great descent groups. Land was held in various forms of common hold. Access could be limited to the descent group or open to many, usually with permission. Raiding and fighting over pasture, valley, and stock was a major way of life. War was expected, and welcomed by young men as a source of honor and power. All this shaped foodways, most importantly by forcing leaders to be generous; a leader who did not feast his clients and friends found himself abandoned, in a world where lack of backers meant almost instant destruction.

Above all, the high mobility of the region guaranteed that foodways would spread. From the Xiongnu crossing Eurasia to become the Huns down to modern Koreans settling in Kazakhstan, people have not stood still. Under the circumstances, it is slightly surprising that Chinese food has not traveled farther, but here we circle back to the beginning: geography and ecology forbid the cultivation of many Chinese crops, and the high mobility of most of the population made difficult the enormous processing and fermentation technology necessary to Chinese and Korean food. Iranian food, better adapted to the camp and the open fire, triumphed in most of the region.

Thus the lay of the land gives basic but broad constraints; history, religion, and culture fine-tune the foodways, creating a rich, diverse texture with many determinants.

2 The Rise of Sea Routes

Sea traffic was an important part of the international exchange system implicit in the Silk Road from the beginning.¹ At first voyages were short and little more than coasting, and highly dangerous. Later voyages were attempted across the open sea, when the monsoons were discovered in the Indian Ocean and sailing became easier for long and short range, and as ships got bigger and stronger. By then a system of enterpots, set harbors at strategic locations where goods could be exchanged and transshipped had developed. Still later direct voyages began, from far away China in larger and larger ships, across the Indian Ocean to Iran where the voyages connected to land routes, one leading to Shiraz and from Shiraz to Trebizond.² From there the Europeans, particularly the Genoese, took the shipments.

After the fall of the Mongol state in the Near East, direct contracts from China were interrupted. Yuan soon fell too, removing the Mongol-era incentives for much long-distance trade. The great Ming voyages, on a hitherto unparalleled scale, briefly renewed and even expanded the tradition of grand Indian Ocean sailing from China. Unfortunately, Ming was unable to sustain them. A real maritime age had to wait for the Portuguese. After 1498, they tied the Indian Ocean directly to Europe and beyond the Indian Ocean to China and Japan. It remained for the Spanish to initiate the direct sailings across the Pacific in their Manila Galleon (after 1565), which when hooked into Atlantic traffic began a true global age—one not just confined to the Old World.

Since 1565 many new ports and urban centers with long-distance ocean contacts have arisen, including many in the New World—great ports such as New York, Seattle, San Francisco and Acapulco, terminal of the Manila Galleon. The world is interconnected in ways unimagined before 1565, and this interconnection is growing. Today a new land-based Silk Road runs across Xinjiang, with a planned rail line uniting Kazakhstan and China as major trading partners. Air traffic too has attained unparalleled levels. The hubs are often places once connected by traditional land and water routes. The old routes are revived; connections are enhanced.

1 Cunliffe, *By Steppe, Desert, and Ocean*.

2 Ciociltan, *The Mongols and the Black Sea Trade in the Thirteenth and Fourteenth Centuries*.

Among the new cities of the post-Manila Galleon era is modern Seattle. Although a recent establishment, about 1851, it is now a gigantic presence on the Pacific Rim. As a city, it is in many ways an extension of Asia, not just full of Asian settlers and visitors, but in every respects an international community and culture. Seattle not only has trading connections with Japan, Korea, China and beyond. In every respect it has substantial demographic connections with Asia. In 2010, with an official urban area population of 608,660, it was reported that 13.8% of the population was Asian or Asian-American, and the percentage in some suburbs may well be higher still. The Chinese have been there from the beginning, as have the Japanese, although the Japanese received a setback due to discrimination in WWII. More recently, as a result of the Southeast Asian wars, Seattle has taken in large numbers of Vietnamese and Cambodians, and now many other Asian groups, even individuals from such small minorities as the Yu-Mien (Seattle even has a large Tibetan community and a few Mongols).

Its Asian presence creates not only a demographic effect. There are major cultural impacts as well, including food. Seattle has several large Asian supermarkets with an amazing range of foods for sale and varieties of foods that accord with the interests of the Asian populations. Restaurant fish tanks imply instant death for large numbers of fish to achieve freshness. There is always an impressive variety of vegetables—more than one finds in most cities. Ordinary and specialty teas are available in profusion; hundreds of varieties are sold in the Asian supermarkets and specialty stores. Seattle's Asian restaurant culture rivals many an East Asian city. People of all origins and backgrounds now shop in those markets and eat at those restaurants; it is common to see people with backgrounds from four different continents happily mixing at the same table at a Chinese watering hole. And the food is mixed too, not just by nationality but including purely traditional Asian foods along side those with connections to the Eurasian heartland, from *Baozi* to *Mandu* and beyond. Korean restaurants abound, and a northwest Chinese restaurant serving thoroughly Central Asian-style food had a long career near the University of Washington.

Because of its demographics and the cultural presence of Asians, and its trade orientation and links to a larger trading zone, Seattle resembles in many ways the old Silk Road communities and the associated maritime world. It is in fact a Silk Road city in every way, a Silk Road city as metaphor. In fact, the entire world has now become part of a global silk road and all of its interactions and exchanges that came together so long ago but persists in new forms today.

Thus Seattle is a good place to stop. It is a New World city but also one that has in many ways developed, like much of China, from deep Eurasian links affecting everything from crops to herbs and spices and foods. It is all here, just moved across the Pacific with a little help from the Manila Galleon, and the

Asian goods and people that first came with it, and now arrive by air or on great cargo vessels.

3 A Final Word

The story of the food of Central Asia is a story of travels, meetings, interactions, borrowings, and trade. Since long before modern humans arose, the region was one in which different human groups could meet, mix, and create new worlds. Being about equally far from China, India, the Mediterranean, and Europe, on good trade routes, it could take advantage of a wide range of goods and ideas.

Much of the interaction was violent; the region has always been warlike. Much was trade between strangers. Most was less dramatic: ordinary contacts between people, in nomad camps, in villages, in cities, in mountain pastures. Through these contacts, foods from the known world were transmitted throughout the Eurasian continent. The slow spread of wheat and barley in Neolithic times led to the faster spread of new crops in the middle ages, and New World foods still later.

The rise of the Silk Road (or roads) led to a golden age. Not only did trade flourish, but Central Asia was briefly the world center of nutritional science. The great medical writers Al-Birūni and Ibn Sīnā (Avicenna) were only the most conspicuous of many brilliant writers who could take advantage of available science from Europe to India. Medical and nutritional knowledge spread to China and elsewhere. This was part of a vast Eurasia-wide exchange of religions, philosophies, art styles, sciences, and all else that makes life interesting.

The rise of the Mongol and Turkic warlords impacted but did not stop science and trade, but the Little Ice Age and the rapid expansion of sea trade on the “Maritime Silk Roads” ended the importance of the Central Asian routes. Central Asia declined. It is now rising again, through a combination of mineral and agricultural wealth, revived land trade (and air trade), and local dynamism.

Throughout the region, we see the importance of the basic framework of Near Eastern Neolithic staples: wheat, barley, chickpeas, sheep, goats, cattle, onions and garlic. Grapes came from the Caucasus region. Central Asia contributed the horse and the apple tree, domesticated in what is now Kazakhstan. Apricots and Persian walnuts are native to Central Asian mountains. Tea from China, mung beans from India, carrots from the Mediterranean, and other crops came in the medieval period. Chiles, tomatoes, green beans, squash, potatoes, and maize came from the New World after 1600. Central Asian food today is an eclectic mix of ingredients from all corners of the world,

but remains rather conservative in recipes. Bread remains the staple. Roasts, stews, dumplings, noodles, and soups are the usual culinary forms. Recipes spread widely, food being identifiably similar from Kazakhstan to Xinjiang. Islam has influenced foodways strongly by eliminating pigs, horses, and—less universally—wine from the diet in Islamic lands.

The lessons of Central Asia include a whole curriculum on the advantages of learning from your neighbors. Part of that curriculum involves respect, a very important teaching in Central Asian cultures. Today, as people try to balance globalization and local independence, we can find instruction by considering the experiences of Central Asians over time. Some of the examples are negative ones, such as the horrible meltdowns under warlords like Tamerlane (Timur-i Lenk), the decline due partly to climate in the Little Ice Age, the brutal excesses of invasive colonialism in the 19th and 20th centuries, and the mismanagement that dried the Aral Sea and is impacting many other areas. Other examples are more inspiring: openness to trade over most of history, the art-loving and science-conscious society of the 11th and 12th centuries, the modern efforts in at least some nations to establish democracy.

Today, with a Uighur restaurant in Sydney, a Mongolian one in San Francisco, and an Uzbek one in Los Angeles, the Silk Road is the world. Central Asian food has thereby become part of a wider story of human enterprise, change, adaptation, and conflict. Food is a major part of a wider story of migration, war, trade, learning, art, politics, and of sheer human toughness and flexibility in a difficult and demanding environment.

APPENDIX

Summary of Western Plants in the *YSZY* and the *HHYF*

The following Western plants are mentioned in the 14th century *YSZY*, 28 of them in all. Some, like the grain-of paradise, cardamoms from Africa, were exotic imports:

Almond
Barley
Basil
Chickpeas
Citron
Coriander
Cucumber
Fennel
Fenugreek
Garlic
Grains-of-paradise
Grape
Lettuce
Onions, western ball
Pistachio
Pomegranate
Poppy seeds
Rape-turnip
Safflower
Saffron
Sesame
Shallots
Spinach
Sugar beet
Swiss chard
Vetch
Watermelon
Wheat, bread and durum (unmistakably described and differentiated)

By contrast with this list, the *Huihui Yaofang* includes 67 Western plants used medicinally. These were traded into China by land along the Silk Roads but most probably came by sea by the time that the *Huihui Yaofang* was compiled.

- Agaricus campestris*, common field mushroom (possibly native to China too)
- Allium cepa*, ball onion
- Allium sativum*, garlic
- Althaea rosea* and/or *officinalis*, mallow, hollyhock
- Anethum graveolens*, dill
- Apium graveolens*, celery
- Asparagus officinalis*, but the Chinese asparagus that was probably used as a substitute is not a normal food, though edible.
- Beta vulgaris*, beet (chard or something similar is implied)
- Borago officinalis*, borage
- Brassica alba* (possibly also *B. nigra*), mustard
- B. campestris*, Chinese mustard greens, Chinese cabbage
- B. oleracea*, western cabbage, broccoli
- Capparis spinosa* (but probably not the substitutes they would probably use), caper
- Carum copticum*, black caraway
- Ceratonia siliqua*, carob
- Cheiranthus cheiri* (marginally a food), wallflower
- Cichorium endivia*, chicory
- Cordia myxa* (marginally a food; fruit edible but nobody in cent or E Asia eats it except for medicine), seabastard
- Coriandrum sativum*, coriander
- Cornus mas*, dogwood, cornelian cherry
- Crocus sativus*, saffron
- Cucumis melo*, melon (possibly native to China also)
- Cydonia oblonga*, quince
- Cyperus rotundus*, grassnut
- Daucus carota*, carrot (Afghanistan/Iran)
- Eruca sativa*, rocket, arugula
- Ferula asafoetida*, asafoetida
- Ficus carica*, fig
- Foeniculum vulgare*, fennel
- Fraxinus excelsior*, manna ash
- Hordeum vulgare*, barley
- Hyssopus officinalis*, hyssop
- Laurus nobilis*, laurel

Lavandula stoechas (possibly other spp.), lavender
Lepidium latifolium, cress, peppergrass
L. sativum, cress, peppergrass
Linum usitatissimum, flaxseed
Lupinus albus (and/or *L. termus*), lupine
Malus communis, apple (native to Kazakhstan)
Marrubium vulgare, horehound
Melilotus officinalis, sweet clover
Melissa officinalis, lemon balm
M. haplocalyx, mint
M. pulegium, pennyroyal
Nigella sativa, love-in-a-mist, black caraway
Ocimum basilicum (and probably other spp.), basil
Olea europea, olive
Origanum spp., oregano
Papaver somniferum, opium poppy
Petroselinum hortense, parsley
Phoenix dactylifera, date
Pimpinella anisum, anise
Prunus amygdalus, almond
P. armeniaca, peach
P. domestica, plum (but Chinese *P. salicina* was probably actually used)
P. mahaleb, mahleb cherry
Punica granatum, pomegranate
Rhus coriaria, sumac
Rosmarinus officinalis, rosemary
Salsola kali, Russian thistle
Sesamum indicum, sesame
Solanum melongena, eggplant
Thymus spp. incl. *serpyllum*, thyme
Trigonella foenum-graecum, fenugreek
Triticum spelta, spelt (wheat)
Vicia ervilia, vetch
Vitis vinifera, grape

Bibliography

- Abu-Asab, Mones and Hakima Amri and Marc S. Micozzi, *Avicenna's Medicine: A New translation of the 11th-Century Canon with Practical Applications for Integrative Health Care* (Rochester, VT: Healing Arts, 2013).
- Abu-Lughod, Janet L., *Before European Hegemony: The World System AD 1250-1350* (New York and Oxford: Oxford University Press 1989).
- Achilli, Alessandro and Anna Olivieri and Pedro Soares and Hovirag Lancioni and Baharak Hooshiar Kashani and Ugo A. Perego and Solomon G. Nergadze and Valeria Carossa and Marco Santagostino and Stefano Capomaccio and Michela Felicetti and Walid Al-Achkar and M. Cecilia T. Penedo and Andrea Verini-Supplizi and Massoud Houshmand and Scott R. Woodward and Ornella Semino and Maurizio Silvestrelli and Elena Giulotto and Luísa Pereira and Hans-Jürgen Bandelt and Antonio Torroni, "Mitochondrial Genomes from Modern Horses Reveal the Major Haplogroups that Underwent Domestication," *Proceedings of the National Academy of Sciences* 109 (2012), pp. 1449-1454.
- Adle, Chahryar, and Irfan Habib (eds.), with Karl M. Baipakov, *History of Civilizations of Central Asia, Vol. v: Development in Contrast: From the Sixteenth to the Mid-nineteenth Century* (Paris: Motilal Banarsidass, 2003).
- Ahsan, M. M., *Social Life under the Abbasids* (London and New York: Libraire du Liban 1979).
- Akhmedov, Akhmed-Djabir, *Azerbaijan Cookery* (Baku: Ishyg Publishers Azerbaijan, 1986).
- Albert, Salvador Bernabéu, and Carlos Martínez Shaw (eds.), *Un Océano de seda y plata: el universo económico del Galeón de Manila* (Sevilla: Consejo de Investigaciones Científicas 2013).
- Al-Bīrūnī, *Al-Bīrūnī's Book on Pharmacy and Materia Medica*, Hakim Mohammed Said, trans. and ed., (Karachi: Hamdard National Foundation, 1973).
- Allan, Sarah, ed., *The Formation of Chinese Civilization, an Archaeological Perspective* (New Haven: Yale University Press, 2002).
- Allchin, Bridget, "Middle Paleolithic Culture," in *History of Civilizations of Central Asia. Vol. 1: The Dawn of Civilization: Earliest Times to 700 BC*, ed. by A. H. Dani and v. M. Masson, (Paris: Motilal Banarsidass, 1992) pp. 65-88.
- Allentoft, Morten and Martin Sikora and Karl-Göran Sjögren and Simon Rasmussen and Morten Rasmussen and Jesper Stenderup and Peter B. Damgaard and Hannes Schroeder and Torbjörn Ahlström and Lasse Vinner and Anna-Sapfo Malaspinas and Ashot Margaryan and Tom Higham and David Chivall and Niels Lynnerup and Lise Harvig and Justyna Baron and Philippe Della Casa and Paweł Dąbrowski and Paul R. Duffy and Alexander v. Ebel and Andrey Epimakhov and Karin Frei and

- Mirosław Furmanek and Tomasz Galyak, et al., "Population Genomics of Bronze Age Eurasia," *Nature* 522 (2015), pp. 167-172.
- Allsen, Thomas T, *The Steppe and the Sea, Pearls in the Mongol Empire*, Philadelphia: the University of Pennsylvania Press, 2019.
- Allsen, Thomas T, *The Royal Hunt in Eurasian History* (Philadelphia: The University of Pennsylvania Press, 2006).
- Allsen, Thomas T, *Culture and Conquest in Mongol Eurasia* (Cambridge: Cambridge University Press, 2001).
- Allsen, Thomas T, *Commodity and Exchange in the Mongol Empire* (Cambridge: Cambridge University Press, 1997).
- Almond, Richard, *Medieval Hunting* (Stroud: The History Press, 2003).
- Amiri, Mousa M., *Classic Afghan Cookbook* (no place, author, 2002).
- Ammianus Marcellinus, *History*, n. d., Latin text in next.
- Ammianus Marcellinus, *History*, trans. by J. C. Rolfe, 4 vols., (Cambridge MA, and London: Harvard University Press, 1939).
- Anderson, E. N., "Birds of the Mongol Empire," *Ethnobiology Letters* 7:1:67-73.
- Anderson, E. N., *The East Asian World-System, Climate and Dynastic Change*, Cham, Switzerland: Springer, 2019.
- Anderson, E. N., "The Historical Context of the *Huihui Yaofang*" on E. N. Anderson's webpage, <<http://www.krazykioti.com/articles/the-historical-context-of-the-hui-hui-yaofang/>>. Accessed June 20, 2017.
- Anderson, E. N., *Caring for Place: Ecology, Ideology, and Emotion in Traditional Landscape Management* (Walnut Creek CA: Left Coast Press, Inc., 2014).
- Anderson, E. N., *Everyone Eats*, 2nd edn., (New York: NYU Press, 2014).
- Anderson, E. N., *Food and Environment in Early and Medieval China* (Philadelphia: University of Pennsylvania Press, 2014).
- Anderson, E. N., "Indigenous Traditions: Asia," *Berkshire Encyclopedia of Sustainability*, Vol. 1, *the Spirit of Sustainability* (2010), pp. 216-221.
- Anderson, E. N., "Ancient and Modern Foods from the Tarim Basin," *Expedition* 52:3 (2010), pp. 5-6.
- Anderson, E. N., "Caffeine and Culture", in William Jankowiak and Daniel Bradburd, eds., *Drugs, Labor, and Colonial Expansion*, ed. by (Tucson: University of Arizona Press, 2003), pp. 159-176.
- Anderson, E. N., *The Food of China* (New Haven: Yale University Press, 1988).
- Andrews, Roy Chapman, *Across Mongolian Plains* (London: D. Appleton and Co., 1921).
- Annanepesov, M., and H. N. Bababekov, "The Khanates of Khiva and Kokand and the Relations between the Khanates and with Other Powers," in Adle Chahryar and Irfan Habib, eds., *History of Civilizations of Central Asia*, Vol. v: *Development in Contrast: From the Sixteenth to the Mid-nineteenth Century* (Paris: UNESCO, 2003), pp. 63-81.

- Anthony, David W., *The Horse, the Wheel and Language: How Bronze-Age Riders from the Eurasian Steppes Shaped the Modern World* (Princeton: Princeton University Press, 2007).
- Arberry, A. J., *The Romance of the Ruba'iyat* (London: MacMillan, 1959).
- Archery History, <<http://centenaryarchers.org.au/about-archery/the-basics/history/>>. Accessed December 8, 2018.
- Arseniev, v. K., *Dersu the Trapper (Dersu Uzala)*, Malcolm Burr Kingston, trans., (New York: Barnes and Noble, 1996).
- Atleo, E. Richard, *Tsawalk: A Nuu-Chah-Nulth Worldview* (Vancouver: UBC Press, 2004).
- Avicenna (Abū 'Alī al-Husayn ibn 'Abd Allāh ibn Sīnā), *The Canon of Medicine (al-Qānūn fi'l-tibb)* (The Law of Natural Healing), ed. by Laleh Bakhtiar, 5 vols., (Chicago: Great Books of the Islamic World, Inc., 1999-2014).
- Azarovym, v., et al., *Kazakhskaiia Kukhnia* (Alma Ata: Qainar, 1981).
- Bade, David, *Of Palm Wine, Women and War, the Mongolian Naval Expedition to Java in the 13th Century* (Singapore: Institute of Southeast Asian Studies, 2013).
- Baipakov, K. M., and B. E. Kumakov, "The Kazakhs," in Chahryar Adle and Irfan Habib, eds., *History of Civilizations of Central Asia. Vol. v: Development in Contrast: From the Sixteenth to the Mid-nineteenth Century* (Paris: Motilal Banarsidass, 2003), pp. 89-108.
- Baldick, Julian, *Animal and Shaman: Ancient Religions of Central Asia* (New York: NYU Press, 2000)
- Barber, Elisabeth Wayland, "More Light on the Xinjiang Textiles," in Victor H. Mair and Jane Hickman, eds., *Reconfiguring the Silk Road: New Research on East-West Exchanges in Antiquity* (Philadelphia: University of Pennsylvania Press, 2014), pp. 33-39.
- Barber, Elisabeth Wayland, *The Mummies of Ürümqi* (New York: W. W. Norton and Co., 1999).
- Barfield, Thomas J., "Centralization/Decentralization in the Dynamics of Afghan History," *Cliodynamics* 3:1 (2012), pp. 94-104.
- Barfield, Thomas J., *The Nomadic Alternative* (Englewood Cliffs NJ: Prentice Hall, 1993).
- Barfield, Thomas J., *The Perilous Frontier: Nomadic Empires and China, 221 BC to AD 1757*. (Cambridge MA: Harvard University Press, 1989).
- Barfield, Thomas J., *The Central Asian Arabs of Afghanistan* (Austin: University of Texas Press, 1981).
- Barker, Graeme, *The Agricultural Revolution in Prehistory: Why Did Foragers Become Farmers?* (Oxford: Oxford University Press, 2006).
- Barnes, Gina L., *Archaeology of East Asia: The Rise of Civilization in China, Korea and Japan*, 3rd edn., (Oxford: Oxbow Books, 2015).
- Basilov, Vladimir N. and Vera P. D'yakonova and Vladimir I. D'yachenko and Vadim P. Kurylev, "Household Furnishings and Utensils," in *Nomads of Eurasia*, ed. by Vladi-

- mir N. Basilov, trans. by Mary Fleming Zirin, (Los Angeles: Natural History Museum of Los Angeles County, 1989), pp. 127-136.
- Batmanglij, Najmieh, *Cooking in Iran: Regional Recipes and Kitchen Secrets* (Washington, DC: Mage Publishers, 2018).
- Baumer, Christoph, *The History of Central Asia. Vol. 2: The Age of the Silk Roads* (London: I. B. Tauris, 2014).
- Baumer, Christoph, *The History of Central Asia, Vol. 1: The Age of the Steppe Warriors* (London: I. B. Tauris, 2012).
- Beck, Ulrike and Mayke Wagner and Xiao Li and Desmond Durkin-Meisterernst and Pavel E. Tarasov, "The Invention of Trousers and Its Likely Association with Horseback Riding and Mobility: A Case Study of Late 2nd Millennium BC Finds from Turfan in Eastern Central Asia," *Quaternary International* 348 (2014), pp. 224-235.
- Beckwith, Christopher, *Warriors of the Cloisters: The Central Asian Origins of Science in the Medieval World* (Princeton: Princeton University Press, 2013).
- Beckwith, Christopher, *Empires of the Silk Road: A History of Central Eurasia from the Bronze Age to the Present* (Princeton: Princeton University Press, 2009).
- Beckwith, Christopher, "The Introduction of Greek Medicine into Tibet in the Seventh and Eighth Centuries," *Journal of the American Oriental Society*, 99 (1979): pp. 297-313.
- Bedigian, Dorothea, "African Origins of Sesame Cultivation in the Americas," in Robert Voeks and John Rashford, eds., *African Ethnobotany in the Americas* (New York: Springer 2013), pp. 67-120.
- Bedigian, Dorothea, "History and Lore of Sesame," *Economic Botany* 58 (2004), pp. 329-353.
- Benham, Jill Tilsley, "Is That Hippocrates in the Kitchen?" *Oxford Symposium on Food and Cookery 1984-85, Proceedings* (1986), pp. 102-114.
- Benedict, Carol, *Bubonic Plague in Nineteenth-Century China* (Stanford: Stanford University Press, 1996).
- Betts, Alison and Peter Weiming Jia and John Dodson, "The Origin of Wheat in China and Possible Pathways for Its Introduction: A Review," *Quaternary International* 348 (2014), pp. 158-168.
- Bin Yang, *Between Winds and Clouds: The Making of Yunnan (Second Century BCE to Twentieth Century CE)*, (New York: Columbia University Press, 2008).
- Biran, Michal, *The Empire of the Qara Khitai in Eurasian History: Between China and the Islamic World* (Cambridge: Cambridge University Press, 2005).
- Blench, Roger, "Using Linguistics to Reconstruct African Subsistence Systems: Comparing Crop Names to Trees and Livestock," in Tim Denham and José Iriarte and Luc Vrydaghs, eds., *Rethinking Agriculture: Archaeological and Ethnoarchaeological Perspectives* (Walnut Creek: Left Coast Press, 2007), pp. 408-438.

- Bold, Sharav, *History and Development of Traditional Mongolian Medicine*, 2nd edn., (Ulaanbaatar: author, 2009).
- Boldsai Khan, Badamjav, *Encyclopedia of Mongolian Medicinal Plants*, 2nd edn., 2 vols., ed. by Ch. Sanchir, (Ulaanbaatar: Mongolian University of Science and Technology, System Science Research Institute, 2004).
- Bosse, Mirte and Hendrik-Jan Megens and Laurent A. F. Frantz and Ole Madsen and Yogesh Paudel and Naomi Duijvesteijn and Barbara Harlizius and Yanick Hagemeyer and Richard P. M. and A. Crooijmans and Martien A. M. Groenen, "Genomic Analysis Reveals Selection for Asian Genes in European Pigs Following Human-Mediated Introgression," *Nature Communications*, doi 10.1038/ncomms5392, 15 July (2014).
- Bosworth, C. E., and M. S. Asimov, eds., *History of Civilizations of Central Asia. Vol IV: The Age of Achievement: AD 750 to the End of the Fifteenth Century. Part Two: The Achievements* (Paris: Motilal Banarsidass, 2000).
- Bottéro, Jean, *The Oldest Cuisine in the World: Cooking in Mesopotamia*, trans. by Teresa Lavender Fagan, (Chicago: University of Chicago Press, 2004).
- Bottéro, Jean, *Everyday Life in Ancient Mesopotamia* (Baltimore: Johns Hopkins University Press, 2001).
- Bray, Francesca, *Science and Civilisation in China. Vol. 6: Biology and Biological Technology. Part II: Agriculture* (Cambridge: Cambridge University Press, 1984).
- Bregel, Yuri, *An Historical Atlas of Central Asia* (Leiden: E. J. Brill, 2003).
- Brite, Elizabeth Baker, "The Archaeology of the Aral Sea Crisis: Environmental Change and Human Adaptation in the Khorezm Region of Uzbekistan ca. AD 300-800," unpublished Ph.D. thesis, UCLA, Dept. of Anthropology, 2011.
- Brummell, Paul, *Kazakhstan*, 3rd edn., (London: Bradt Travel Guides, 2018).
- Buell, Paul D., "Eurasia, Medicine and Trade: Arabic Medicine in East Asia, How it Came there, and How it was Supported, including Possible Indian Ocean Connections for the Supply of Medicinals," in Angela Schottenhammer, ed., *Early Global Interconnectivity across the Indian Ocean World, Volume II, Exchanges of Ideas, Religions, and Technologies* (Cham, Switzerland: Palgrave Macmillan, 2019), pp. 261-293.
- Buell, Paul D., "Korea as Part of the Mongolian World: Patterns and Differences," *International Journal of Eurasian Research*, 5, 10 (January, 2017), 137-146.
- Buell, Paul D., "Early Mongolian Geographical Conceptions," *Journal of Asian History*, 49, 1/2 (2015): pp. 19-29.
- Buell, Paul D., "The Early Indian Ocean Trade in Medicinals: Some Indications from Chinese Sources," in Angela Schottenhammer, ed., *Tribute, Trade and Smuggling* (Wiesbaden: Otto Harrassowitz, 2014), pp. 133-140.

- Buell, Paul D., "Qubilai and the Indian Ocean: A New Era?," in Salvatore Babones and Christopher Chase-Dunn, eds., *Handbook of World-Systems Analysis* (London and New York: Routledge, 2012), 42-3.
- Buell, Paul D., "Qubilai and the Rats," *Sudhoffs Archiv*, Band 96, 2 (Dec, 2012), pp. 127-144.
- Buell, Paul D., "Some Royal Mongol Ladies: Alaqa-beki, *Ergene-Qatun and Others," *World History Connected*, 2010, digital at <<http://worldhistoryconnected.press.illinois.edu/7.1/buell.html>>. Accessed December 30, 2019.
- Buell, Paul D., "Indochina, Vietnamese Nationalism, and the Mongols," in Volker Rybatzki and Alessandra Pozzi and Peter W. Geier and John R. Krueger, eds., *The Early Mongols: Language, Culture and History Studies in Honour of Igor de Rachewiltz on the Occasion of His 80th Birthday* (Bloomington, 2009), pp. 21-29.
- Buell, Paul D., "How Did Persian and Other Western Medical Knowledge Move East, and Chinese West? A Look at the Role of Rashīd al-Dīn and Others," *Asian Medicine, Tradition and Modernity*, 3 (2007), pp. 278-94.
- Buell, Paul D., "Mongolian Empire and Turkicization: The Evidence of Food and Foodways," in Reuven Amitai-Preiss and David O. Morgan, eds., *The Mongol Empire and its Legacy* (Amsterdam: E.J. Brill, 1999), 200-223.
- Buell, Paul D., "Sübötei-ba'atur," in Igor de Rachewiltz, Chan Hok-lam, Hsiao Ch'i-ch'ing and Peter W. Geier, eds., *In the Service of the Khan, Eminent Personalities of the Early Mongol-Yuan Period (1200-1300)* (Wiesbaden: Otto Harrassowitz, 1993), pp. 13-26.
- Buell, Paul D., "Early Mongol Expansion in Western Siberia and Turkestan (1207-1219): a Reconstruction," *Central Asiatic Journal*, xxxvi, 1-2 (1992), pp. 1-32.
- Buell, Paul D., "The Sung Resistance Movement, 1276-1279: The End of an Era," *Annals of the Chinese Historical Society of the Pacific Northwest*, III (1985-6), pp. 138-186.
- Buell, Paul D., "Kalmyk Tanggaci People: Thoughts on the Mechanics and Impact of Mongol Expansion," *Mongolian Studies*, vi (1980), pp. 41-59.
- Buell, Paul D., "The Role of the Sino-Mongolian Frontier Zone in the Rise of Cinggis-qan," in Henry G. Schwarz, ed., *Studies on Mongolia, Proceedings of the First North American Conference on Mongolian Studies* (Bellingham: Center for East Asian Studies, Western Washington University, 1979), pp. 63-76.
- Buell, Paul D., "Tribe, Qan and Ulus in Early Mongol China: Some Prolegomena to Yüan History," unpublished doctoral dissertation, University of Washington, 1977.
- Buell, Paul D., and Moldir Oskenbay, *A Kazakh-English Dictionary*, forthcoming.
- Buell, Paul D., and Eugene N. Anderson, *Arabic Medicine in China: Tradition, Innovation and Change* (Leiden and Boston, E. J. Brill, forthcoming).
- Buell, Paul D., and E. N. Anderson and Charles Perry, *A Soup for the Qan: Chinese Dietary Medicine of the Mongol Era as Seen in Hu Sihui's Yinshan Zhengyao*, 2nd edn., (Leiden and Boston: E. J. Brill, 2010).

- Buell, Paul D., and Judy Kolbas, "The Ethos of State and Society in the Early Mongol Empire: Chingiz Khan to Güyük," in Timothy May, ed., *The Mongols and Post-Mongol Asia: Studies in Honour of David O. Morgan*, ed. by, *Journal of the Royal Asiatic Society*, 26, 1-2 (January, 2016), 43-64.
- Buell, Paul D., and Montserrat de Pablo, "Distilling of the Volga Kalmucks and Mongols: Two Accounts from the 18th Century by Peter Pallas with some Modern Comparisons," *Crossroads*, 13, 3 (2016), 116-123.
- Buell, Paul D., and Francesca Fiaschetti, *Historical Dictionary of the Mongol World Empire and its Successor States*, second revised and expanded edn., (Lanham, Md., and Oxford: The Scarecrow Press, Inc., 2018).
- Büntgen, Ulf and Vladimir S. Myglan and Fredrick Charpentier Ljungqvist and Michael McCormick and Nicola di Cosmo and Michael Sigl and Johann Jungclaus and Sebastian Wagner and Paul J. Krusic and Jan Esper and Jed O. Kaplan and Michiel A. C. Vaan and Jürg Luterbacher and Lukas Wacker and Willy Tegel, and Alexander v. Kirilyanov, "Cooling and Societal Change during the Late Antique Little Ice Age from 536 to around 660 AD," *Nature Geoscience* 9, 231-236 (2016), doi:10.1038/ngeo2652.
- Burnaby, Frederick, *A Ride to Khiva* (London: Cassell Pether and Galvin, 1877).
- Çağatay, Ergun, and Doğan Kuban, eds., *The Turkic Speaking Peoples, 2000 Years of Art and Culture from Inner Asia to the Balkans*, (Munich: Prestel Publishing, 2006).
- Carvalho, Nuno and Matthias Forkel and Myroslava Khomi and Jessica Bellarby and Martin Jung and Mirco Migliavacca and Mingquan Mu and Sassan Saatchi and Maurizio Santoro and Martin Thurner and Ulrich Weber and Bernhard Ahrens and Christian Beer and Alessandro Cescatti and James T. Randerson and Markus Reichstein, "Global Covariation of Carbon Turnover Times with Climate in Terrestrial Ecosystems," *Nature* 514 (2014), pp. 213-217.
- Charpentier, C. J., *Bazaar-e Tashqurghan: Ethnographical Studies in an Afghan Traditional Bazaar* (Upsala: Studia ethnographica Upsaliensia, 1972).
- Chase-Dunn, Christopher, and E. N. Anderson, eds., *The Historical Evolution of World-Systems* (New York: Palgrave/Macmillan, 2005).
- Chen, F. H. and G. H. Dong and D. J. Zhang and x. Y. Liu and x. Jia and C. B. An and M. M. Ma and Y. W. Xie and L. Barton and x. Y. Ren and Z. J. Zhao and x.H. Wu and M. K. Jones, "Agriculture Facilitated Permanent Human Occupation of the Tibetan Plateau after 3600 B.P.," *Science* 347 (2015), pp. 248-250.
- Chen Ming 陳明, "The Transmission of Foreign Medicine via the Silk Roads in Medieval China: A Case Study of the *Haiyao Bencao* 海藥本草," *Asian Medicine, Tradition and Modernity*, 3 (2007), pp. 241-264.
- Chen, Qiang, "Climate Shocks, Dynastic Cycles and Nomadic Conquests: Evidence from Historical China," *Oxford Economic Papers* 67 (2015), pp. 185-204.

- Ciociltan, Virgil, *The Mongols and the Black Sea Trade in the Thirteenth and Fourteenth Centuries*, trans. by Samuel Willcocks, (Leiden and Boston: E.J. Brill, 2012).
- Clutton-Brock, Julia, *Animals as Domesticates: A World View through History* (East Lansing, MI: Michigan State University Press, 2012).
- Coburn, Noah, *Bazaar Politics: Power and Pottery in an Afghan Market Town* (Stanford: Stanford University Press, 2011).
- Cochran, Gregory, and Henry Harpending, *The 10,000 Year Explosion: How Civilization Accelerated Human Evolution* (New York: Barnes and Nobel, 2009).
- Cramer, Marc, *Imperial Mongol Cooking, Recipes from the Kingdoms of Genghis Khan* (New York: Hippocrene Books 2001).
- Crawford, Gary, and Xuexiang Chen and Fengshi Luan and Jianhua Wang, "People and Plant Interaction at the Houli Culture Yuezhuang Site in Shandong Province, China," *The Holocene* 26 (2016), pp. 1594-1604.
- Cunliffe, Barry, *By Steppe, Desert, and Ocean, the Birth of Eurasia* (Oxford: Oxford University Press, 2015).
- Curry, Andrew, "The Milk Revolution," *Nature* 500 (2013), pp. 20-22.
- Curtin, Jeremiah, *A Journey in Southern Siberia* (Boston: Little, Brown, 1909).
- Dale Stephen Frederic, *The Orange Trees of Marrakesh: Ibn Khaldun and the Science of Man* (Cambridge, MA: Harvard University Press, 2015).
- Dani, A. H., and v. M. Masson (eds.), *History of Civilizations of Central Asia. Vol. 1: The Dawn of Civilization: Earliest Times to 700 BC* (Paris: Motilal Banarsidass, 1992).
- De Rachewiltz, Igor de, *The Secret History of the Mongols: A Mongolian Epic Chronicle of the Thirteenth Century*, 3 vols., (Leiden: E. J. Brill, 2004-2013).
- Delgado, James P., *Khubilai Khan's Lost Fleet, in Search of a Legendary Armada* (Vancouver and Toronto: Douglas and McIntyre, 2008).
- Delgado, James P., *Kamikaze, History's Greatest Naval Disaster* (London, Vintage Books, 2010).
- Deng, Gang, *Maritime Sector, Institutions, and Sea Power of Premodern China* (Westport, Conn., and London, Greenwood Press. 1999).
- Derevyanko, A. P., and Lǚ Zun-E. "Upper Paleolithic Cultures," in A. H. Dani and v. M. Masson, eds., *History of Civilizations of Central Asia. Vol. 1: The Dawn of Civilization: Earliest Times to 700 BC* (Paris: Motilal Banarsidass, 1992), pp. 89-108.
- Di Cosmo, Nicola and Allen J. Frank and Peter B. Golden (eds.), *The Cambridge History of Inner Asia: The Chinggisid Age* (Cambridge: Cambridge University Press, 2009).
- Drews, Robert, *Early Riders, the Beginnings of Mounted Warfare in Asia and Europe* (New York and London: Routledge, 2004).
- Duguid, Naomi, and Jeffrey Alford, *Beyond the Great Wall: Recipes and Travels in the Other China* (New York: Artisan, 2008).
- Dupree, Louis, *Afghanistan*, 2nd edn., (Princeton: Princeton University Press, 1980).

- Ebrey, Patricia Buckley, *Emperor Huizong*, (Cambridge, MA; Harvard University Press, 2014).
- Eisenman, Sasha W. and David E. Zaurov and Lena Struwe, eds., *Medicinal Plants of Central Asia: Uzbekistan and Kyrgyzstan*, trans. by David E. Zaurov and Sasha W. Eisenman and Dilmurad A. Yunusov, and Venera Isaeva, (New York: Springer, 2013).
- Elgood, Cyrus, *Safavid Medical Practice* (London: Luzac, 1970).
- Elgood, Cyrus, *A Medical History of Persia and the Eastern Caliphate from the Earliest Times until the Year AD 1932* (Cambridge: Cambridge University Press 1951).
- Enkhtuvshin, B., T. Sanjmyatav, *Nomadic Civilization and Mongolian Bronze Age Monuments*, (Ulaanbaatar: UNESCO and International Institute for the Study of Nomadic Civilizations, 2007).
- Erdenebat, Ulambayaryn, *Mongol Shuvuulakhui* (Ulaanbaatar: Selengepress, 2014).
- Eshraghi, E., "Persia during the Period of the Safavids, the Afshars and the Early Qajars," in Chahryar Adle and Irfan Habib, eds., *History of Civilizations of Central Asia*. Vol. v: *Development in Contrast: From the Sixteenth to the Mid-nineteenth Century*, ed. by, (Paris: Motilal Banarsidass, 2003).
- Federov-Davydov, German A., *The Silk Road and the Cities of the Golden Horde*, trans. by Jeannine Davis-Kimball (Berkeley: Zinat Press, 2001).
- Fiaschetti, Francesca, "Mongol Imperialism in the Southeast – Uriyangqadai (1201-1272) and Aju (1127-1287)," in *In the Service of the Khans: Elites in Transition in Mongol Eurasia*, ed. by Michal Biran, special issue of *Asiatische Studien / Études Asiatiques*, vol. 71.4 (2017), 1119-1135.
- Fiaschetti, Francesca, "The Six Duties: Yuan Diplomatic Interactions with Southeast Asia," in *Archivium Eurasiae Medii Aevii*, vol. 23 (2017), 81-101.
- Fiaschetti, Francesca, *Das Konzept des Auslandes in der Yuan-Zeit*, unpublished Ph.D. Dissertation, Ludwig-Maximilians-University Munich, 2015.
- Fletcher, Joseph, *Studies on Chinese and Islamic Inner Asia*, ed. by Beatrice Forbes Manz, (Aldershot: Variorum 1995).
- Foltz, Richard, *Religions of the Silk Road*, 2nd edn., (New York: Palgrave MacMillan 2010).
- Fontana, Luciane, and Mingjie Sun and Xiaozhong Huang and Lixiong Xiang. "The Impact of Climate Change and Human Activity on the Ecological Status of Bosten Lake, NW China, Revealed by a Diatom Record of the Last 2000 Years," *The Holocene* 29 (2019), pp. 1871-1884.
- Frachetti, Michael D., "Seeds for the Soul: Ideology and Diffusion of Domesticated Grains across Inner Asia," in Victor Mair and Jane Hickman, eds., *Reconfiguring the Silk Road: New Research on East-West Exchange in Antiquity* (Philadelphia: University of Pennsylvania Press, 2014), pp. 41-53.

- Frachetti, Michael D., "Multiregional Emergence of Mobile Pastoralism and Non-uniform Institutional Complexity across Eurasia," *Current Anthropology* 53 (2012), pp. 2-38.
- Fragner, Bert G., and Ralph Kauz and Florian Schwarz, eds., *Wine Culture in Iran and Beyond*, (Wien: Österreichische Akademie der Wissenschaften, 2014).
- Frankopian, Peter, *The Silk Roads, a New History of the World* (London and New York: Bloomsbury, 2015).
- Freeman, Michael, and Selena Ahmed, *Tea Horse Road: China's Ancient Trade Road to Tibet* (Bangkok: River Books, 2015).
- Freedman, Paul, *Out of the East, Spices and the Medieval Imagination*, New Haven and London: Yale University Press, 2008.
- Friedrich, Paul, *Proto-Indo-European Trees: The Arboreal System of a Prehistoric People* (Chicago: University of Chicago Press, 1970).
- Galen, *Galen on the Properties of Foodstuffs*, ed. and trans. by Owen Powell, (Cambridge: Cambridge University Press 2003).
- Ganbold, M., "The Milk-Sprinkling Ceremony," in I. Lkhagvasuren and Yuki Konagaya, eds., *Oirat People: Cultural Uniformity and Diversification* (Osaka: National Museum of Ethnology, 2014), pp. 245-57.
- Gao Lian, "Essays on Drinks and Delicacies for Medicinal Eating," trans. by Sumei Yi, ed. by E. N. Anderson, 2011, <<http://www.krazykioti.com/articles/gao-lian-and-ming-dynasty-nutraceuticals/>>. Accessed June 18, 2017.
- Garrett, Frances, "Tapping the Body's Nectar: Gastronomy and Incorporation in Tibetan Literature," *History of Religions* 49 (2010), pp. 300-326.
- Garrett, Frances, "Critical Methods in Tibetan Medical Histories," *Journal of Asian Studies* 66 (2007), pp. 363-387.
- Gaunitz, Charleen, et al., "Ancient Genomes Revisit the Ancestry of Domestic and Przewalski's Horses," *Science* 360 (2018), pp. 111-114.
- Ge, Wei and Li Liu and Xingcan Chen and Zhengyao Jin, "Can Noodles Be Made from Millet? An Experimental Investigation of Noodle Manufacture Together with Starch Grain Analyses," *Archaeometry* 53 (2011), pp.194-204.
- Gibbons, Ann, "How We Tamed Ourselves—and Became Modern," *Science* 346 (2014), 405-406.
- Gignoux, Ph., and B. A. Litvinsky, "Religions and Religious Movements – 1," in B. A. Litvinsky, ed., *History of Civilizations of Central Asia. Vol. III. The Crossroads of Civilizations: AD 250 to 750* (Paris: Motilal and Banarsidass, 1996), pp. 403-420.
- Gilmour, James, *Among the Mongols* (New York, Praeger, 1970 [1883]).
- Gimbutas, Marija, *The Goddesses and Gods of Old Europe, 6500-3500 BC: Myths and Cult Images* (Berkeley: University of California Press, 1982).
- Giraldez, Arturo, *The Age of Trade, the Manila Galleon and the Dawn of the Global Economy*, (Lanham, MD: Rowman and Little Field, 2015).

- Girardot, N. J., *Myth and Meaning in Early Taoism, The Theme of Chaos (Hundun)* (Berkeley: University of California Press, 1983).
- Glantz, Michael, ed.) *Creeping Environmental Problems and Sustainable Development in the Aral Sea Basin* (Cambridge: Cambridge University Press, 1999).
- Glover, Denise, "Up from the Roots: Contextualizing Medicinal Plant Classifications of Tibetan Doctors in Rgyalthang, PRC," unpublished doctoral dissertation, Dept. of Anthropology, University of Washington, 2005.
- Golden, Peter B., "Bir bor içsä: Some Notes on Drink among the Pre-Činggisid Turkic Peoples," manuscript.
- Golden, Peter B., "Comestibles in Maḥmūd al-Kašġarī," manuscript.
- Golden, Peter B., *Central Asia in World History* (Oxford: Oxford University Press, 2011).
- Golden, Peter B., *Studies on the Peoples and Cultures of the Eurasian Steppes* (Bucuresti: Academiei Romane, 2011).
- Golden, Peter B., "Migrations, Ethnogenesis," in Nicola Di Cosmo and Allen J. Frank and Peter B. Golden, eds., *The Cambridge History of Inner Asia: The Chinggisid Age* (Cambridge: Cambridge University Press, 2009), pp. 109-119.
- Golden, Peter B., "Chopsticks and Pasta in Medieval Turkic Cuisine," *Rocznik Orientalistyczny* 44 (1994), pp. 73-82.
- Gongor, D., *Khalkh Tovchoon*, 2 vols., (Ulaanbaatar: BNMAU Shinzhlekh Uxkany Akademiy Tuukhiyn Khureelen 1970-78).
- Gorshunova, Olga, "Pray, Howl and Take My Power: Sacred Images and Nature Cult in Central Asian Islam," presentation, International Society for the Study of Religion, Nature and Culture, Malibu, CA, Aug. 9, 2012.
- Guan, Ying and Deborah M. Pearsall and Xing Gao and Fuyou Chen and Shuwen Pei and Zhenyu Zhou, "Plant Use Activities during the Upper Paleolithic in East Eurasia: Evidence from the Shuidonggou Site, Northwest China," *Quaternary International* 347 (2014), pp 74-83.
- Gunn, Geoffrey C., *History without Borders: The Making of an Asian World Region, 1000-1800* (Hong Kong: Hong Kong University Press, 2011).
- Guchinova, El'za-Bair, *The Kalmyks: A Handbook*, David C. Lewis, trans., (London: Routledge, 2006).
- Haak, Wolfgang, et al., "Massive Migration from the Steppe Was a Source for Indo-European Languages in Europe," *Nature* 522 (2015), pp. 207-211.
- Halici, Nevin, *Sufi Cuisine* (London: Saqi Books, 2005).
- Hambis, Louis, trans., *Le devisement du monde: le livre des merveilles*, 2 vols., texte integral établi par A. D. Moule et P. Pelliot, version française de L. Hambis, introduction et notes de S. Yerasimos, Paris: Éditions Française Maspero, 1980.
- Hangin, John, and John R. Krueger and Paul D. Buell and William v. Rozycki and Robert G. Service, *A Modern Mongolian-English Dictionary* (Bloomington IND: Indiana University Research Institute, 1986).

- Hansen, Eric, "The Fabled Flatbreads of Uzbekistan," *Aramco World*, July/August (2015), <http://www.aramcoworld.com/en-US/Articles/July-2015/The-Fabled-Flatbreads-of-Uzbekistan#.Vss6y_vLazA.facebook>. Assessed January 4, 2019.
- Hansen, Valerie, *The Silk Road, a New History with Documents, with Coverage of the Mongols and Marco Polo* (New York and Oxford: Oxford University Press, 2017).
- Hardin, Garrett, "The Tragedy of the Commons," *Science* 162 (1968), pp. 1243-1248.
- Harington, John, *The School of Salernum* (Salerno, 1966 [ca. 1600]).
- Harris, David R., *Origins of Agriculture in Western Central Asia: An Environmental-Archaeological Study* (Philadelphia: University of Pennsylvania Museum of Archaeology and Anthropology, 2010).
- Harmatta, Janos, "The Emergence of the Indo-Iranians: The Indo-Iranian Languages," in A. H. Dani and v. M. Masson, eds., *History of Civilizations of Central Asia. Vol. I: The Dawn of Civilization: Earliest Times to 700 BC*, (Paris: Motilal Banarsidass, 1992), pp. 357-378.
- Harmatta, Janos, and B. N. Puri and G. F. Etemadi, eds., *History of Civilizations of Central Asia. Vol. II: The Development of Sedentary and Nomadic Civilizations: 700 BC to AD 250* (Paris: Motilal Banarsidass, 1994).
- Harper, Donald, "The Cookbook in Ancient and Medieval China," Paper, conference on Discourses and Practices of Everyday Life in Imperial China, New York, 2002.
- Haw, Stephen G., *Marco Polo's China: A Venetian in the Realm of Khubilai Khan* (London and New York: Routledge, 2006).
- Hayden, Brian, ed., *Feasts: Archaeological and Ethnological Perspectives on Food, Politics and Power* (Washington, DC: Smithsonian Institution Pr., 2001).
- Hedin, Sven, *The Wandering Lake* (New York: E.P. Dutton and Company, 1940).
- Hedrick, Kimberly, "Our Way of Life: Identity, Landscape, and Conflict," unpublished doctoral dissertation, Dept. of Anthropology, University of California, Riverside, 2007.
- Heine, Peter, *Kulinarische Studien, Untersuchungen zur Kochkunst im arabische-islamischen Mittelalter Mit Rezepten* (Wiesbaden: Otto Harrassowitz, 1988).
- Heine, Peter, *Weinstudien, Untersuchungen zu Anbau, Produktion und Konsum des Weins im arabisch-islamischen Mittelalter*, (Wiesbaden: Otto Harrassowitz, 1982).
- Heiss, Mary Lou, and Robert J. Heiss, *the Story of Tea: A Cultural History and Drinking Guide* (Berkeley; Ten Speed Press, 2007).
- Ho Ping-ti, "The Introduction of American Food Plants into China," *American Anthropologist* New Series, Vol. 57, No. 2, Part 1 (Apr., 1955), pp. 191-201.
- Hofiani, Said Z., *Afghanistan Cuisine* (author, 2008).
- Holder, Kathleen. "Humans Migrated to Mongolia Much Earlier than Previously Believed." Phys.org, Aug. 16, <<https://phys.org/news/2019-08-humans-migrated-mongolia-earlier-previously.html?fbclid=IwAR3VjyT6qPLUXmfvifL0rVslkKfjrjL15zzJyDdTG9UNqDEJc44eeHx631g>> (2019). Accessed December 30, 2019.

- Hommel, Rudolf P, *China at Work*, (Cambridge MA: MIT Press, 1937).
- Honeychurch, William, "The Nomad as State Builder: Historical Theory and Material Evidence from Mongolia," *Journal of World Prehistory* 26 (2013), pp 283-321.
- Honeychurch, William, and Chunag Amartuvshin, "States on Horseback: The Rise of Inner Asian Confederations and Empires," in Miriam Stark, ed., *Archaeology of Asia* (Oxford: Blackwell, 2006), pp. 255-278.
- Hourani, George, *Arab Seafaring in the Indian Ocean in Ancient and Medieval Times*, Revised and Expanded by John Carswell (Princeton, N.J.: Princeton University Press, 1996).
- Hu Shiu-ying, *Food Plants of China* (Hong Kong: The Chinese University Press, 2005).
- Hu Sihui 忽思慧, *Yinshan zhengyao* 飲膳正要, Sibū congkan xubian 四部叢刊續編子部 (1456).
- Hudgins, Sharon, "Tsatsal: The Symbolism and Significance of Mongolian Ceremonial Milk Spoons," *Mongolian Studies*, xxxvi (2014), pp. 41-81.
- Humphrey, Caroline, "Chiefly and Shamanist Landscapes in Mongolia," in Eric Hirsch and Michael O'Hanlon, eds., *The Anthropology of Landscape: Perspectives on Space and Place*, (New York, 1995), pp. 135-162.
- Humphrey, Caroline, and Urgunge Onon, *Shamans and Elders: Experience, Knowledge, and Power among the Daur Mongols* (Oxford: Oxford University Press, 1996).
- Hunt, Harriet v. and Anna Rudzinski and Hongen Jiang and Ruiyun Wang and Mark G. Thomas and Martin K. Jones, "Genetic Evidence for a Western Chinese Origin of Broomcorn Millet (*Panicum miliaceum*)," *The Holocene* 28 (2018), pp. 1968-1978.
- Hutchins, K. C., "Like a Lullaby: Song as Herding Tool in Rural Mongolia," *Journal of Ethnobiology* 39 (2019), pp. 444-459.
- Huntington, Ellsworth, *The Pulse of Asia: A Journey in Central Asia Illustrating the Geographic Basis of History* (Boston: Houghton Mifflin Company, 1907).
- Ibn Battuta, *The Travels of Ibn Battuta*, trans. by Hamilton Gibb, 3 volumes, (Cambridge: Cambridge University Press for the Hakluyt Society, 1958-1971).
- Ibn Battuta, *The Travels of Ibn Battuta: A. D. 1325-1354*, ed. and trans. by Gibb, H.A.R., and C.F. Beckingham, Vol. 4 (Hakluyt Society, Second Series, 178) (London: Hakluyt Society, 1994).
- Ibn Faḍlān, Aḥmad, "Mission to the Volga," trans. by James E. Montgomery, in Philip Kennedy and Shawkat Toorawa, eds., *Two Arabic Travel Books, Accounts of China and India and Mission to the Volga* (New York: NYU, 2014), pp. 165-309.
- Ibn Faḍlān, Aḥmad, *Ibn Faḍlān and the Land of Darkness: Arab Travellers in the Far North*, trans. by Paul Lunde and Caroline Stone, (London: Penguin, 2012).
- Ibn Khaldun, *The Muqaddimah*, trans. by Franz Rosenthal (Princeton: Princeton University Press, 1958).
- Işin, Priscilla Mary, *Bountiful Empire: A History of Ottoman Cuisine* (London: Reaktion Books, 2018).

- Jackson, Peter, *The Mongols and the Islamic World from Conquest to Conversion* (New Haven: Yale University Press, 2017).
- Jackson, Peter, trans. and ed., and David Morgan. ed., *The Mission of Friar William of Rubruck, Journey to the Court of the Great Khan Möngke* (London: The Hakluyt Society, 1990).
- Jacobs, Jane, *The Economy of Cities* (New York: Random House, 1969).
- Jeong, Choongwon and Shevan Wilkin and Tsend Amgalantugs and Abigail S. Bouwman and William Timothy Treal Taylor and Richard W. Hagan and Sabri Brundage and Tsoninkhishig Tsolman and Christian Trachsel and Jonas Grossmann and Judith Littleman and Cheryl A. Makarewicz and John Krigbaum and Marta Burri and Ashley Scott and Ganmaa Davaasambuu and Joshua Wright and Franziska Irmer and Erdene Myagmar and Nicole Boivin and Martine Robbeets and Frank J. Rühli and Johannes Krause and Bruno Frohlich and Jessica Hendy and Christina Warinner, "Bronze Age Population Dynamics and the Rise of Dairy Pastoralism on the Eastern Eurasian Steppe," *Proceedings of the National Academy of Sciences* 115 (2018), pp. E11248-E11255.
- Jeong, Choongwon and Oleg Balanovsky and Johannes Krause, "The Genetic History of Admixture across Inner Eurasia," *Nature Ecology & Evolution* 3 (2019), pp. 966-976.
- Jenkinson, Anthony, and Other Englishmen, *Early Voyages and Travels to Russia and Persia, with Some Account of the First Intercourse of the English with Russia and Central Asia by Way of the Caspian Sea*, ed. By E. Delmar Morgan and C. H. Coote, (London, 1886).
- Jiang Runxiang 江潤祥 (Y.C. Kong), ed. *Huihui yaofang ji youguan lunwen shuying* 回回藥方及有關論文書影 (Hong Kong: Xianggang Zhongguo bianyi youxian gongsi 香港中國編譯印務有限公司, 1996).
- Joinville, Jean, Sire de, *La vie du Saint Roi Louis*, put into modern French by Henri Longnon (Paris: Cité des Livres, 1928, orig. 1309).
- Jones, Schuyler, *Men of Influence in Nuristan: A Study of Social Control and Dispute Settlement in Waigal Valley, Afghanistan* (London: Seminar Press, 1974).
- Kamola, Stefan, *Making Mongol History: Rashid al-Din and the Jami' al-Tawarikh*, Edinburgh: Edinburgh University Press, 2019.
- Kane, Daniel. "Introduction, Part 2." *Journal of Song-Yuan Studies* 43 (2013), pp. 11-25.
- Katz Sandor, Ellix, *The Art of Fermentation: An In-Depth Exploration of Essential Concepts and Processes from around the World*, (White River Junction, Vermont: Chelsea Green Publishing, 2012).
- Kauz, Ralph, *Aspects of the Maritime Silk Road: from the Persian Gulf to the East China Sea* (Wiesbaden: Otto Harrassowitz, 2010).
- Kelenka, Pita, *The Horse in Human History* (Cambridge: Cambridge University Press, 2009).

- Kelley, Laura, *The Silk Road Gourmet: Volume One, Western and Southern Asia* (Bloomington, IN: iUniverse, 2009).
- Kenin-Lopsan, Mongush B., *Shamanic Songs and Myths of Tuva*, ed. and trans. by Mihály Hoppál (Budapest: Akadémiai Kiadó, 1997).
- Kerr, George H., *Okinawa, the History of an Island People*, revised edition (Tokyo, Rutland Vermont, and Singapore: Tuttle Publishing, 2000).
- Khayyam, Omar, *The Rubáiyát of Omar Khayyam*, The Five Authorized Versions, trans. by Edward FitzGerald (Roslyn NY: Walter J. Black, Inc., 1942).
- Kiel University, "Earliest Spread of Millet Agriculture Outside China Linked to Herding Livestock." PhysOrg, Sept. 6, <https://phys.org/news/2019-09-earliest-millet-agriculture-china-linked.html?fbclid=IwAR2MDLT5FIBKxS_ucDQcAynl_YqsyWUiiQn0-fxflmsP7Obi7Q5j8y71-SE> (2019). Accessed December 30, 2019.
- Kimura Jun, *Archaeology of East Asian Shipbuilding* (Gainesville: University Press of Florida, 2016).
- Kindstedt, Paul S., and Tsetsgee Ser-Od "Survival in a Climate of Change: The Origins and Evolution of Nomadic Dairying in Mongolia," *Gastronomica* 3 (2019), pp. 20-28.
- King, Matthew W. *Ocean of Milk, Ocean of Blood* (New York: Columbia University Press, 2019).
- Kobori, Iwao, and Michael H. Glantz, eds., *Central Eurasian Water Crisis: Caspian, Aral, and Dead Seas* (Tokyo: United Nations University Press, 1998).
- Kodama Kanako, and Konagaya Yuki, "Oirat Oral Histories of Natural and Social Changes in Ejene Banner, Inner Mongolia," in Lkhagvasuren and Konagaya Yuki, eds., *Oirat People: Cultural Uniformity and Diversification* (Osaka, 2014), pp. 259-275.
- Kramell, Annemarie and Xiao Li and René Csuk and Mayke Wagner and Tomasz Gosner and Pavel E. Karasov and Nicole Kreusel and Ralph Kluge and Christian-Heinrich Wunderlich, "Dyes of Late Bronze Age Clothes and Accessories from the Yanghai Archaeological Site, Turfan, China; Determination of the Fibres, Color Analysis, and Dating," *Quaternary International* 348 (2014), pp. 214-223.
- Kunoshita, Sharon (trans. and ed.), *Marco Polo, The Description of the World* (Indianapolis and Cambridge: Hackett Publishing Company, 2016).
- Kuzmina, E., *The Prehistory of the Silk Road* (Philadelphia: University of Pennsylvania Press, 2008).
- Lambton, A. K. S., "The *Āthār wa ahyā'* of Rashīd al-Dīn Fadl Allāh Hamadānī and His Contribution as an Agronomist, Arboriculturist and Horticulturalist," in Reuven Amitai-Preiss and David O. Morgan, eds., *The Mongol Empire and its Legacy* (Leiden, Boston and Köln, 1999), pp. 126-154.
- Larner, John, *Marco Polo and the Discovery of the World* (New Haven and London: Yale University Press, 1999).
- Larson, Greger, "Genetics and Domestication: Important Questions for New Answers," *Current Anthropology* 52, Supplement 4 (2011), pp. S485-S495.

- Lattimore, Owen, *Inner Asian Frontiers of China* (New York: American Geographical Society, 1940).
- Laufer, Berthold, *Sino-Iranica: Chinese Contributions of the History of Civilization in Ancient Iran, with Special Reference to the History of Cultivated Plants and Products* (Chicago: Field Museum of Natural History, 1919).
- Lawler, Andrew, "Central Asia's Lost Civilization," *Discover Magazine*, online at <<http://discovermagazine.com/2006/nov/ancient-towns-excavated-turkmenistan>>. Accessed on June 16, 2017.
- Lev, Efraim, and Zohar Amar, *Practical Materia Medica of the Medieval Eastern Mediterranean According to the Cairo Genizah* (Leiden, Boston: E. J. Brill, 2008).
- Levey, Martin, and Noury al-Khaledy, eds. and trans., *The Medical Formulary of Al-Samarqandī* (Philadelphia: University of Pennsylvania Press, 1967).
- Levin, M. G., and L. P. Potapov, *The Peoples of Siberia* (Chicago: University of Chicago Press, 1964).
- Levin, Theodore, *Where Rivers and Mountains Sing* (Bloomington: Indiana University Press, 2006).
- Levin, Theodore, *The Hundred Thousand Fools of God* (Bloomington: Indiana University Press, 1996).
- Levine, Marsha A., "Eating Horses: The Evolutionary Significance of Hippophagy," *Antiquity* 72 (1998), pp. 90-100.
- Levine, Marsha A., and Colin Renfrew and Katie Boyle, eds., *Prehistoric Steppe Adaptations and the Horse* (Cambridge: McDonald Institute for Archaeological Research, 2003).
- Li Feng, *Early China: A Social and Cultural History* (Cambridge: Cambridge University Press, 2013).
- Li Shizhen. *Compendium of Materia Medica (Bencao Gangmu)*, trans. by Committee for Editing and Publication of the English Edition of *Compendium of Materia Medica* (Beijing: Foreign Languages Press, 2003).
- Li, Wenjun and Lynn Huntsinger, "China's Grassland Contract Policy and Its Impacts on Herder Ability to Benefit in Inner Mongolia: Tragic Feedbacks," *Ecology and Society* 16:2 (2011), article 1.
- Ligeti, Louis ed., *Histoire Secrète des Mongols* (Budapest: Akadémiai Kiadó, 1972).
- Little, Stephen, *Taoism and the Arts of China, The Journey to Perfect Harmony* (Chicago: Department of Museum Education, Art Institute of Chicago, 2000).
- Liu Li and Xingcan Chen, *The Archaeology of China: From the Late Paleolithic to the Early Bronze Age* (Cambridge: Cambridge University Press 2012).
- Liu Xinyi and Rachel E. B. Reid and Emma Lightfoot and Giedre Motuzaite Matuzeviciute and Martin K. Jones, "Radical Change and Dietary Conservatism: Mixing Model Estimates of Human Diets along the Inner Asia and China's Mountain Corridors," *The Holocene* 26 (2016), pp. 1556-1565.

- Liu Xinru, *The Silk Roads, A Brief History with Documents* (Boston and New York: Bedford St. Martin's, 2012).
- Liu Xinru, *The Silk Road in World History* (Oxford and New York: Oxford University Press, 2010).
- Liu Xinru, *Silk and Religion, an Exploration of Material Life and the Thought of People, AD 600-1200* (New Delhi: Oxford University Press, 1996).
- Liu Xinru, *Ancient India and Ancient China: Trade and Religious Exchanges, AD 1-600* (New Delhi: Oxford University Press, 1988).
- Liu Xinru, and Lynda Norene Shaffer, *Connections Across Eurasia, Transportation, Communication, and Cultural Exchange on the Silk Roads* (New York: McGraw Hill, 2007).
- Liverani, Mario, *The Ancient Near East: History, Society and Economy* (London: Routledge, 2014).
- Lordkipanidze, David and Marcia S. Ponce de León and Ann Margvelashvili and Yoel Rak and G. Phiiip Rightmire and Abesalom Vekua and Christoph P. E. Zollikofer, "A Complete Skull from Dmanisi, Georgia, and the Evolutionary Biology of Early *Homo*," *Science* 342 (2013), pp. 326-331.
- Luo Feng, "Liquor Still and Milk-Wine Distilling Technology in the Mongol-Yuan Period," in Luo Xin and Roger Covey eds., *Chinese Scholars on Inner Asia*, (Bloomington, IN: Sinor Research Institute for Inner Asian Studies, 2012): pp 487-518.
- Ma Dazheng, "The Tarim Basin," in Chahryar Adle and Irfan Habib, eds., *History of Civilizations of Central Asia*. Vol. v: *Development in Contrast: From the Sixteenth to the Mid-nineteenth Century* (Paris: Motilal and Banarsidass, 2003): pp. 181-208.
- MacNeish, Richard S., *The Origins of Agriculture and Settled Life* (Norman: University of Oklahoma Press, 1991).
- MacNeish, Richard S., "The Beginnings of Agriculture in Central Peru," In *Origins of Agriculture*, ed. by Charles Reed, (The Hague: Mouton, 1977) pp. 753-801.
- Maggi, Wynne, *Our Women Are Free: Gender and Ethnicity in the Hindukush* (Ann Arbor: University of Michigan Press, 2001).
- Mahmudov, Karim, *Uzbek Cuisine* (San Bernardino CA: CreateSpace Independent Publishing Platform, 2013).
- Mair, Victor H., and Jane Hickman, eds., *Reconfiguring the Silk Road; New Research on East-West Exchange in Antiquity* (Philadelphia: University of Pennsylvania Press, 2014).
- Mair, Victor H., and Erling Hoh, *The True History of Tea* (London: Thames and Hudson 2009).
- Mallory, J. P., "Indo-European Dispersals and the Eurasian Steppe," in Victor Mair and Jane Hickman, eds., *Reconfiguring the Silk Road: New Research on East-West Exchange in Antiquity*, ed., (Philadelphia, 2014), pp. 73-88.
- Mallory, J. P., *In Search of the Indo-Europeans: Language, Archaeology, and Myth* (London: Thames and Hudson, 1991).

- Mallory, J. P., and Victor H. Mair, *The Tarim Mummies: Ancient China and the Mystery of the Earliest Peoples from the West* (London, Thames and Hudson, 2000).
- Manz, B.F., *The Rise and Rule of Tamerlane* (Cambridge: Cambridge University Press, 1999).
- Marcarelli, Rebekah. "Genghis Khan Rose to Power during Drought, Expanded Empire during Rainy Season," HNCN news online, March 11, 2014.
- Marshall, Fiona, and Keith Dobney and Tim Denham and José Capriles, "Evaluating the Roles of Directed Breeding and Gene Flow in Animal Domestication," *Proceedings of the National Academy of Sciences* 111 (2014), pp. 6153-6158.
- Martinez, Arsenio Peter, "Institutional Development, Revenues and Trade," in Nicola Di Cosmo, Allen. J. Frank, and Peter B. Golden, eds., *the Cambridge History of Inner Asia: The Chinggisid Age*, (Cambridge, 2009), pp. 89-108.
- Masson, v. M., "The Environment," A. H. Dani and v. Masson, *History of Civilizations of Central Asia*. Vol. 1. *The Dawn of Civilization: From Earliest Times to 700 BC.*, (Paris: Motilal and Banarsidass, 1992), pp. 29-44.
- May, Timothy, *The Mongol Empire* (Edinburgh: Edinburgh University Press 2018).
- May, Timothy, *The Mongol Conquests in World History* (London: Reaktion, 2012).
- May, Timothy, *The Mongol Art of War* (Yardley, PA: Westholm, 2007).
- McGovern, Patrick E. *Ancient Wine, The Search for the Origins of Viniculture* (Princeton and Oxford: Princeton University Press, 2003).
- McLaughlin, Raoul, *The Roman Empire and the Indian Ocean, the Ancient World Economy and the Kingdoms of Africa, Arabia and India* (Yorkshire and Philadelphia: Pen & Sword Maritime, 2014).
- Metzo, Katherine R., "Articulating a Baikal Environmental Ethic," *Anthropology and Humanism* 30 (2005), pp. 39-54.
- Meyer, Matthias and Qiaomei Fu and Ayinuer Aximu-Petri and Isabelle Glocke and Birgit Nickel and Juan-Luis Arsuaga and Ignacio Martinez and Ana Gracia and José Maria Bermúdez de Castro and Eudald Carbonell and Svante Pääbo, "A Mitochondrial Genome Sequence of a Hominin from Sima de los Huesos," *Nature* 505 (2014), pp. 403-406.
- Micklin, Philip, and Nikolay v. Aladin, "Reclaiming the Aral Sea," *Scientific American*, April (2008), pp. 64-71.
- Miller, James Innes, *The Spice Trade of the Roman Empire, 29 BC to AD 641* (Oxford: Oxford University Press, 1969).
- Miller, Naomi and Robert N. Spengler III and Michael Frachetti, "Millet Cultivation across Eurasia: Origins, Spread, and the Influence of Seasonal Climate," *The Holocene* 26 (2016), pp. 1566-1575.
- Millward, James A. *Eurasian Crossroads, a History of Xinjiang* (New York: Columbia University Press, 2007).

- Mukai Masaki 向正樹, "The Interests of the Rulers, Agents and Merchants behind the Southward Expansion of the Yuan Dynasty," in *Journal of the Turfan Studies: Essays on The Third International Conference on Turfan Studies: The Origins and Migrations of Eurasian Nomadic Peoples*, ed. by *Academia Turfanica*, (Shanghai 上海: Shanghai guji chubanshe 上海古籍出版社, 2010), pp. 428-445.
- Mukai Masaki 向正樹, and Francesca Fiaschetti, "Yang Tinbi: Mongol Expansion along the Maritime Silk Roads," in Michal Biran, Jonathan Brack, Francesca Fiaschetti, eds., *Along the Silk Roads in Mongol Eurasia: Generals, Merchants and Intellectuals* (Oakland, California, forthcoming).
- Mukhamedjanov, A. R., "Economy and Social System in Central Asia," in Janos Harmatta, B. N. Puri, and G. F. Etemadi, eds., *History of Civilizations of Central Asia. Vol. II: The Development of Sedentary and Nomadic Civilizations: 700 BC to AD 250*, ed. by (Paris: Motilal Banarsidass, 1994), pp 265-290.
- Murphy, Daniel, "Booms and Busts: Asset Dynamics, Disaster, and the Politics of Wealth in Rural Mongolia," *Economic Anthropology* 1 (2014), pp. 104-123
- Nabhan, Gary, *Cumin, Camels and Caravans: A Spice Odyssey* (Berkeley: University of California Press, 2014).
- Nasrallah, Nawal, "Delights from the Garden of Eden: A Cookbook and a History of the Iraqi Cuisine," author, 2003.
- Nesbitt, Mark and St. John Simpson and Ingvar Svanberg, "History of Rice in Western and Central Asia," in S. D. Sharma, ed., *Rice: Origin, Antiquity and History*, ed. by (Enfield NH: CRC Press, 2010), pp. 308-340, 535-541.
- Netting, Robert, *Smallholders, Householders: Farm Families and the Ecology of Intensive, Sustainable Agriculture* (Stanford: Stanford University Press, 1993).
- Newman, Jacqueline, "Mongolia and Its Foods," *Flavor and Fortune* 21:4 (2014), pp. 16-19.
- Newman, Jacqueline, "Uygur: China's Fifth Largest Minority Group," *Flavor and Fortune* 21:4 (2014): pp. 7, 33.
- Nomokonova, Tatiana and Robert J. Losey and Vera N. Iakunaeva and Iuliana A. Emel'ianova and Ekaterina A. Baginova and Mikhail v. Pastukhov, "People and Seals at Siberia's Lake Baikal," *Journal of Ethnobiology* 33 (2013), pp. 259-280.
- Norman, Jerry, *A Concise Manchu-English Lexicon* (Seattle: University of Washington Press, 1978).
- Oldenburg, Ray, *The Great Good Place: Cafes, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangouts, and How They Get You Through the Day*, 2nd edn. (New York: Marlow and Company, 1997).
- Orta, Garcia da, *Colóquios des simples e drogas da Índia*, two vols., ed. and annotated by the Conde de Ficalho (Lisboa: Impresa National-casa da Moeda, 1891).
- Oskenbay, Moldir, "Fermented Dairy Products in Central Asia: Methods for Making Kazakh *Qurt* and their Health Benefits," *Crossroads*, 14 (2016), pp. 205-18.

- Pallas, P., *Sammlungen Historischer Nachrichten über die Mongolischen Völkerschaften* (St. Petersburg, Frankfurt, Leipzig: Acta Academiae Scientiarum Imperialis Petropolitanae Saint Petersburg, 1776-1801).
- Park Hyunhee, "The Peak of China's Long-Distance Maritime Connections with Western Asia during the Mongol Period, Comparison with the Pre-Mongol and Post-Mongol Periods," in Angela Schottenhammer, ed., *Ideology and Knowledge Exchanges across the Indian Ocean World* (London: Palgrave MacMillan, 2019), pp. 53-78.
- Park Hyunhee, *Mapping the Chinese and Islamic Worlds, Cross-cultural Exchange in Pre-modern Asia*, Cambridge: Cambridge University Press, 2012.
- Pauthier, *Le Livre de Marco Polo* (Genève: Slatkin Reprints, 1978 [1865]).
- Pedersen, Morten Axel. *Not Quite Shamans: Spirit Worlds and Political Lives in Northern Mongolia* (Ithaca: Cornell University Press, 2011).
- Pedersen, Morten Axel. "Totemism, Animism and North Asian Indigenous Ontologies," *Journal of the Royal Anthropological Institute* n.s. 7 (2001), pp. 411-427.
- Pederson, Neil and Amy Hessel and Nachin Baatarbileg and Kevin Anchukaitis and Nicola Di Cosmo, "Pluvials, Droughts, the Mongol Empire, and Modern Mongolia," *Proceedings of the National Academy of Sciences* 111 (2014), pp. 4375-4379.
- Pei, Qing, and David D. Zhang, "Long-term Relationship between Climate Change and Nomadic Migration in Central Asia," *Ecology and Society* 19:2:68 (2014), pp. 68-84.
- Perdue, Peter, *China Marches West: The Qing Conquest of Central Eurasia* (Cambridge MA: Belknap Press of Harvard University Press, 2010).
- Perry, Charles, "Dried, Frozen and Rotted: Food Preservation in Central Asia and Siberia," in *Cured, Fermented and Smoked Foods: Proceedings of the Oxford Symposium on Food and Cookery 2010* (Totnes, England: Prospect Books, 2011), pp. 240-247.
- Perry, Charles, "Nomadic and Medieval Turkic Cuisines", in *The Turkic Speaking Peoples*, ed. by Ergun Çağatay and Doğan Kuban, (Berlin, 2006), pp. 116-131.
- Perry, Charles, *A Baghdad Cookery Book* (Totnes, England: Prospect Books, 2006z).
- Perry, Charles, "*Kitāb al-Tibākhā*: A Fifteenth Century Arabic Cookbook," Maxime Robinson, A. J. Arberry, and Charles Perry, eds., (Totnes, England: Prospect Books, 2001), pp. 467-75.
- Perry, Charles, "The Horseback Kitchen of Central Asia," In *Food on the Move: Proceedings of the Oxford Symposium on Food and Cookery* (Totnes, England: Prospect Books, 1997), pp. 243-248.
- Perry, Charles, "Three Medieval Arabic Cookbooks," manuscript
- Perry, Charles, "Postscript to Three Medieval Arabic Cookbooks," manuscript
- Pettid, Michael J., *Korean Cuisine, an Illustrated History* (London: Reaktion Books, 2008).
- Phillips, Roger, and Martyn Rix, *Perennials* (London: Pan, 1991).

- Pierotti, Raymond, *Indigenous Knowledge, Ecology, and Evolutionary Biology* (New York: Routledge, 2011).
- Piotrovsky, Boris, *From the Lands of the Scythians* (New York: Metropolitan Museum NY Graphic Society, 1976).
- Pitulko, Vladimir V. and Alexei N. Tikhonov and Elena Y. Pavlova and Pavel A. Nikolskiy and Konstantin E. Kuper and Roman N. Polozov, "Early Human Presence in the Arctic: Evidence from 45,000-year-old Mammoth Remains," *Science*, Vol. 351, January 15, 2016, p. 260, doi: 10.1126/science.aad0554.
- Polo, Marco, *The Description of the World*, see Kinoshita.
- Prazniak, Roxann, *Sudden Appearances, the Mongol Turn in Commerce, Belief, and Art* (Honolulu: University of Hawai'i, 2019).
- Pugachenkova, G. A. and A. H. Dani and Liu Zhengyin and E. Alexandre, "Architecture," in Adle, Chahryar, and Irfan Habib, eds., *History of Civilizations of Central Asia*, Vol. v, *Development in Contrast: From the Sixteenth to the Mid-Nineteenth Century* (Paris: Motilal and Banarsidass, 2003), pp. 477-526.
- Pumpelly, Raphael, *Across America and Asia* (New York: Leypoldt and Holt, 1870).
- Qatran, Dosymbek, *Qazaqtyng desturli as-tagham madenieti* (Almaty: QazMöghzi, 2002).
- Rechung, Rinpoche, *Tibetan Medicine* (Berkeley: University of California Press, 1976).
- Reeder, Ellen (ed.), *Scythian Gold* (New York: Harry N. Abrams, 1999).
- Reischauer, Edwin O., trans. and ed., *Einin's Diary The Record of a Pilgrimage to China in Search of the Law*, 2 vols., (New York: The Ronald Press Company, 1955).
- Renfrew, Colin, "Foreword: The Silk Road Before Silk," in H. Mair and Jane Hickman, eds., *Reconfiguring the Silk Road; New Research on East-West Exchange in Antiquity* (Philadelphia, 2014), pp. xi-xiii.
- Robertson, George Scott, *The Kafirs of the Hindu-Kush* (London: Lawrence and Bullen, 1896).
- Robinson, Cyril D., "The Bagel and Its Origins—Mythical, Hypothetical and Undiscovered," *Peteits Propos Culinaires* 58 (1998), pp. 42-46.
- Rodinson, Maxime and A. J. Arberry and Charles Perry, *Medieval Arab Cookery* (Totnes, England: Prospect Books, 2001).
- Rong Xinjiang 榮新江, *Zhongguo zhongguo yu wailai wenming* 中古中國與外來文明, rev. Edition (Beijing 北京: SDX Joint Publishing Company, 2014).
- Rong Xinjiang 榮新江, *Sichou zhi lu yu dong xi wenhua jiaoliu* 絲綢之路與東西文化交流, (Beijing 北京: Beijing Daxue Chubanshe 北京大學出版社, 2011).
- Rosen, Arlene Miller and Claudia Chang and Fedor Pavlovich Grigoriev, "Paleoenvironments and Economy of Iron Age Saka-Wusun Agro-Pastoralists in South-eastern Kazakhstan," *Antiquity* 74 (2000), pp. 611-623.
- Rosenberger, Nancy, *Seeking Food Rights: Nation, Inequality and Repression in Uzbekistan* (Belmont CA: Wadsworth Cengage Learning, 2012).

- Rosenberger, Nancy, "Patriotic Appetites and Gnawing Hungers: Food and the Paradox of Nation-Building in Uzbekistan," *Ethnos* 72 (2007), pp. 339-360.
- Rossabi, Morris, *The Mongols and Global History* (New York: W.W. Norton and Company, 2011).
- Rossabi, Morris, *Voyager from Xanadu: Rabban Sauma and the First Journey from China to the West* (Tokyo: Kodansha 1992).
- Rossabi, Morris, *Khubilai Khan: His Life and Times* (Berkeley: University of California Press, 1988).
- Rossabi, Morris, ed., *Eurasian Influences on Yuan China* (Singapore: Institute for Southeast Asian Studies, 2013).
- Roux, Jean-Paul, *Religion des Turcs et des Mongoles* (Paris: Payot, 1984).
- Roux, Jean-Paul, *Faune et flore sacrées dans les sociétés altaïques* (Paris: Maisonneuve, 1966).
- Rozin, Elisabeth, *Ethnic Cuisine: The Flavor Principle Cookbook* (Lexington MA: S. Green Press, 1983).
- Rudenko, Sergei I., *Frozen Tombs of Siberia: The Pazyryk Burials of Iron-Age Horsemen* (Berkeley: University of California Press 1970).
- Russell-Wood, A. J. R., *The Portuguese Empire, 1415-1808: A World on the Move* (Baltimore: Johns Hopkins University Press, 1998).
- Sabban, Françoise, "Un savoir-faire oublié: le travail du lait en Chine ancienne," *Zibun: Memoirs of the Research Institute for Humanistic Studies* 21(1986), pp. 31-65.
- Saberi, Helen, *Noshe Djan: Afghan Food and Cookery* (London: Prospect Books 1986).
- Sadek, M. M., *The Arabic Materia Medica of Dioscorides* (Québec: Les Éditions du Sphinx, 1983).
- Sahlins, Marshall, "The Segmentary Lineage: An Organization of Predatory Expansion," *American Anthropologist* 63 (1961), pp. 322-45.
- Salguero, C. Pierce, *Translating Buddhist Medicine in Medieval China* (Philadelphia: University of Pennsylvania Press, 2014).
- Sanders, Alan, and Jantsangiin Bata-Ireedüi, *Colloquial Mongolian* (London: Routledge 1999).
- Sauer, Carl, *Agricultural Origins and Dispersals* (New York: The American Geographical Society, 1952).
- Şavkay, Tuğrul, "Turkish Cuisine—From Nomadism to Republicanism," in *The Turkic Speaking Peoples*, ed. by Ergun Çağatay and Doğan Kuban, (Munich, 2006), pp. 267-285.
- Schafer, Edward, *The Golden Peaches of Samarkand* (Berkeley: University of California Press, 1963).
- Schottenhammer, Angela, *The Emporium of the World, Maritime Quanzhou, 1000-1400* (Leiden, Boston, Köln: E. J. Brill, 2001).
- Schurz, William, *The Manila Galleon* (New York: E.R. Dutton, 1939).

- Schram, Louis M. J., *The Monguors of the Kansu-Tibetan Frontier (Transactions of the American Philosophical Society, 44:1-51:3, 1954-1961)*.
- Scott, James C., *Seeing like a State* (New Haven: Yale University Press, 1998).
- Semenov, Petr Petrovitch, *Travels in the Tian'-Shan' 1856-1857*, trans. by Liudmila Gilmour, Colin Thomas and Marcus Wheeler, ed. and annotated by Colin Thomas (London: Hakluyt Society 1998).
- Serventi, Silvano, and Françoise Sabban, *Pasta: The Story of a Universal Food* (New York: Columbia University Press, 2002).
- Shimunek, Andrew, *Languages of Ancient Southern Mongolia and North China: A Historical-Comparative Study of the Serbi or Xianbei Branch of the Serbi-Mongolic Language Family with an Analysis of Northeastern Frontier Chinese and Old Tibetan Phonology* (Wiesbaden: Otto Harrassowitz, 2017).
- Shipman, Pat, *The Invaders* (Cambridge MA: Belknap Press of Harvard University Press, 2015).
- Shutova, Nadezhda, "Trees in Udmurt Religion," *Antiquity* 80 (2006), pp. 318-327.
- Sinor, Denis, "The Kitan and the Kara Khitay," in M. S. Asimov and C. E. Bosworth eds., *History of Civilizations of Central Asia. Vol. IV. The Age of Achievement: AD 750 to the End of the Fifteenth Century. Part One: The Historical, Social and Economic Setting*, (Paris: Motilal Banarsidass, 1998), pp. 227-242.
- Sjoberg, Gideon, *The Preindustrial City* (Glencoe IL: The Free Press, 1958).
- Smith, John Masson, Jr., "Dietary Decadence and Dynastic Decline in the Mongol Empire," *Journal of Asian History*, 34 (2000), 1, 35-52.
- Sodnompilova, M. M., "Socium Division Markers: Instruments of Kinship Relations as Expressed in Noirat and Buryat Traditions," in I. Lkhagvasuren and Yuki Konagaya, eds., *Oirat People: Cultural Uniformity and Diversification*, (Osaka, 2014): pp. 145-154.
- Solecki, Ralph, *Shanidar: The First Flower Children* (New York: Knopf 1971).
- Song Xian 宋峴, *Huihui yaofang kaoshi 回回藥方考釋*, two vols. (Beijing 北京: Zhonghua Shuju 中華書局, 2000).
- Spengler, Robert N., III, *Fruit from the Sands: the Silk Road Origins of the Foods we Eat*, Oakland: University of California Press, 2019.
- Spengler, Robert N., III, "Agriculture in the Central Asian Bronze Age," *Journal of World Prehistory* 28 (2015), pp. 215-253.
- Spengler, Robert N., III, and Claudia Chang and Perry A. Tourtellotte, "Agricultural Production in the Central Asian Mountains: Tuzusai, Kazakhstan (410-150 BC)," *Journal of Field Archaeology* 38 (2013), pp. 68-85.
- Spengler, Robert N., III, and Michael D. Frachetti and Gayle J. Fritz, "Ecotopes and Herd Foraging Practices in the Steppe/Mountain Ecotone of Central Asia during the Bronze and Iron Ages," *Journal of Ethnobiology* 33 (2013), pp. 125-147.
- Spengler, Robert N., III, and Farhod Maksudov and Elissa Bullion and Ann Merkle and Taylor Hermes and Michael Frachetti, "Arboreal Crops on the Medieval Silk Road:

- Archaeobotanical Studies at Tashbulak," *PLoSOne* doi.org/10.1371/journal.pone.0201409.
- Spengler, Robert N., III, and Natalia Ryabogina and Pavel E. Tarasov and Mayka Wagner, "The Spread of Agriculture into Northern Central Asia: Timing, Pathways, and Environmental Feedbacks," *The Holocene* 26 (2016), pp. 1527-40.
- Ståhlberg, Sabira, and Ingvar Svanberg, "Among Fishermen and Horse Nomads: Johan Peter Falck in Russia and Siberia 1768-1774," in Ingvar Svanberg and Łukasz Łuczaj, eds., *Pioneers in European Ethnobiology* (Uppsala: Uppsala Universitet, 2014), pp. 73-99.
- Ståhlberg, Sabira, and Ingvar Svanberg, and Ingvar Svanberg, "Sarana in Eurasian Folk Botany," *Journal de la Société Finno-Ougrienne* 91 (2006), pp. 133-157.
- Starostin, George, "Preliminary Lexicostatistics as a Basis for Language Classification: A New Approach," *Journal of Language Relationships* 3 (2010), pp. 79-116.
- Starr, S. Frederick, *Lost Enlightenment: Central Asia's Golden Age from the Arab Conquest to Tamerlane* (Princeton: Princeton University Press, 2013).
- Stein, Sir Aurel, *Ruins of Desert Cathay, Personal Narrative of Explorations in Central Asia and Westernmost China* (London: MacMillan, 1912).
- Stein, Sir Aurel, *Brief Narrative of Three Expeditions in Innermost Asia and Northwestern China* (London: MacMillan, 1933).
- Sternberg, Tony, "Piospheres and Pastoralists: Vegetation and Degradation in Steppe Grasslands," *Human Ecology* 40 (2012), pp. 811-820.
- Stevens, Chris, and Charlene Murphy and Rebecca Roberts and Leilani Lucas and Fabio Silva and Dorian Q. Fuller, "Between China and Southeast Asia: A Middle Asian Corridor of Crop Dispersal and Agricultural Innovation in the Bronze Age," *The Holocene* 26 (2016), pp. 1541-1555.
- Sun, Zhixin Jason, *Age of Empires: Art of the Qin and Han Dynasties* (New York: Metropolitan Museum of Art, 2017).
- Tallgrass Ontario, "Tallgrass Prairie and Carbon Sequestration" (2014) <https://www.tallgrassontario.org/carbon_sequestration.html?fbclid=IwAR3bWOGegsGcdmGeWRSE2vsDEjpfIdyQg1Z_h7zcowscoDKI_2vF3IP5WE>. Accessed 30 December, 1919.
- Tao, Jing-shen, *The Jurchen in Twelfth-Century China* (Seattle: University of Washington, 1976).
- Tarn, William W., *The Greeks in Bactria and India* (Cambridge: Cambridge University Press, 2010 [1938]).
- Tsydynzhapov, G. and E. Badueva, *Buriatskaia Kukhnia*, Ulan-Ude: Buriatskoe Knizhnoe Izdatel'stvo, 1991.
- Tucker, Jonathan, *The Silk Road: Art and History* (Chicago, Art Media Resources Ltd, 2003).

- Tungalag, Radnaakhand, and Tseden Jamsran, *A Field Guild to the Trees and Shrubs of Mongolia/Mongol Orni Zarim Mod, Söög Tanikh Garin Avlaga* (Ulaanbaatar: Munkhiin Useg Publishing, 2012).
- Unschuld, Paul U. U., *Medicine in China, a History of Pharmaceuticals* (Berkeley, Los Angeles, London: University of California Press, 1986).
- Uzakbaeva, Cholpon, "Traditional Kyrgyz Walnut-Apple Forests Provide Map for Sustainable Future," Mongabay, 27 Sept., 2018, <https://news.mongabay.com/2018/09/traditional-kyrgyz-walnut-apple-forests-provide-map-for-sustainable-future/?fbclid=IwAR0whs_pymOdpbAlb53hKtmEATjoVUBKHQamTILXkmdkR7rFvDxKDBruk3E>. Accessed October 7, 2019.
- Vainstein, Sevyan, *Nomads of South Siberia: The Pastoral Economies of Tuva*, ed. by Caroline Humphrey, trans. by Michael Colenso (Cambridge: Cambridge University Press, 1980).
- Vaissière, Étienne de la, *Sogdian Traders: A History*, trans. by James Ward (Leiden: E. J. Brill, 2005).
- Vajda, Ed, *Yeniseian Peoples and Languages: a history of their study with an annotated bibliography and a source guide* (Surrey, England: Routledge, 2001).
- Vajda, Ket (Munich: LINCOM Publishers, 2004).
- Vakulova, Dar'ya, *Turniyaz*, POVAR.ru, <<https://povar.ru/recipes/turniyaz-50556.html>> Accessed January 22, 2020.
- Valeev, F.T. and Tomilov, N. A., *Tatary Zapadnoi Sibiri* (Novosibirsk: Science, 1996).
- Valenzuela-Zapata, Ana G., Paul D. Buell, María de la Paz Solano-Pérez, and Park Hyun-hee, "Huichol Stills: A Century of Anthropology—Technology Transfer and Innovation," *Crossroads*, 8, (2013), pp. 157-191.
- Van Driem, George, "Tibeto-Burman Phylogeny and Prehistory: Languages, Material Culture and Genes," in Peter Bellwood and Colin Renfrew, eds., *Examining the Farming / Language Dispersal Hypothesis* (Cambridge: McDonald Institute for Archaeological Research, 2002). pp. 233-249.
- Van Driem, George, "Neolithic Correlates of Ancient Tibeto-Burman Migrations,' in Roger Blench and M. Spriggs, eds., *Archaeology and Language 11*" (London: Routledge, 1999).
- Van Gelder, Geert Jan, *God's Banquet: Food in Classical Arabic Literature* (New York: Columbia University Press, 2000).
- Van Oudenhoven, Frederik, and Jamila Haider, *With Our Own Hands: A Celebration of Food and Life in the Pamir Mountains of Afghanistan and Tajikistan* (Utrecht: LM Publishers, 2015).
- Varis, Olli, "Curb Vast Water Use in Central Asia," *Nature* 514 (2014): 27-29.
- Ventresca Miller, Alicia R., and Cheryl A. Makarewicz, "Intensification in Pastoralist Cereal Use Coincides with the Expansion of Trans-Regional Networks in the Eurasian Steppe," *Nature Scientific Reports* 9, article 8363 (2019).

- Visson, Lynn, *The Art of Uzbek Cooking* (New York: Hippocrene Books, 1999).
- Vogel, Hans Ulrich, *Marco Polo Was in China: New Evidence from Currencies, Salts and Revenues* (Leiden, Boston and Köln: E. J. Brill, 2012).
- Vovin, Alexander. "The End of the Altaic Controversy: In Memory of Gerhard Doerfer," *Central Asiatic Journal* 49 (2005), pp. 71-132.
- Waley, Arthur, *the Travels of an Alchemist: The Journey of the Taoist Ch'ang-Ch'un from China to the Hindukush at the Summons of Chingiz Khan* (London: Routledge and Kegan Paul, 1931).
- Wallerstein, Immanuel, *The Modern World-System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century* (New York: Academic Press, 1976).
- Wan, Xinru, et al., "Historical Records Reveal the Distinctive Associations of Human Disturbance and Extreme Climate Change with Local Extinction of Mammals," *Proceedings of the National Academy of Sciences* 116 (2019), pp. 19001-19008.
- Wang Dayuan 汪大淵, *Taoyi zhilue xiaoshi 島夷誌略校釋* (Beijing 北京, Zhonghua shuju 中華書局, 1981).
- Wang, Di, *The Teahouse: Small Business, Everyday Culture, and Public Politics in Chengdu, 1900-1950* (Stanford: Stanford University Press, 2008).
- Wang, Jiajing and Li Liu and Terry Ball and Linjie Yu and Yuanqing Li and Fulai Xing, "Revealing a 5,000-year-old Beer Recipe in China," *Proceedings of the National Academy of Sciences* doi 10.1073/pnas.1601465113; 113 (2016), pp. 6444-48.
- Wang, Teresa, and E.N. Anderson, ed. and trans., "Cloud Forest Hall Collection of Rules for Drinking and Eating," *Petits Propos Culinaires*, Volume 60 (1988), pp. 24-41.
- Watkins, Calvert, *The American Heritage Dictionary of Indo-European Roots*. 2nd edn., (Boston: Houghton Mifflin and Co., 2000).
- Watson, Andrew M., *Agriculture Innovation in the Early Islamic World: The Diffusion of Crops and Farming Techniques, 700-1100* (Cambridge: Cambridge University Press, 2008).
- Weatherford, Jack, *Genghis Khan and the Making of the Modern World* (New York: Broadway Books, 2004).
- Weeks, Martha E., *Kyrgyz Cooking* (Northampton MA: author, 2005).
- Weeks, Martha E., "Cuisine of Dungan (Hui) People," *Flavor and Fortune* 11: 2 (2004), pp. 9-11, 28.
- Weng Tu-chien, "Ai-hsieh: A Study of his life," unpublished doctoral dissertation, Harvard University, 1938.
- Whitfield, Susan, *Silk, Slaves, and Stupas, Material Culture of the Silk Road* (Oakland, CA: University of California Press, 2018).
- Whitfield, Susan, *Life along the Silk Road*, 2nd edn. (Oakland CA: University of California Press, 2015).

- Wiggins, Sally Hovey, *The Silk Road Journey with Xuanzang*, Revised and Updated (Boulder, CO: Icon Editions Westview Press 2004).
- Wikipedia, "Mongolian barbecue," <https://en.wikipedia.org/wiki/Mongolian_barbecue>. Accessed April 28, 2019.
- Wikipedia, "Silk Road," <https://en.wikipedia.org/wiki/Silk_Road>. Accessed Sept. 27, 2019.
- Wilde, Sandra and Adrian Timpson and Karola Kirsenow and Elke Kaiser and Manfred Kayser and Martina Unterländer and Nina Hollfelder and Inna Potekhina and Wolfram Schier and Mark Thomas and Joachim Burger, "Direct Evidence for Positive Selection of Skin, Hair and Eye Pigmentation in Europeans during the last 5,000 Years," *Proceedings of the National Academy of Sciences* 111 (2014), pp. 4832-4837
- Willerslev, Rane, *Soul Hunter: Hunting, Animism, and Personhood among the Siberian Yukaghirs* (Berkeley: University of California Press, 2007).
- Williams, Dee Mack, *Beyond Great Walls: Environment, Identity and Development on the Chinese Grasslands of Inner Mongolia* (Stanford: Stanford University Press, 2002).
- Williams, Dee Mack, "Representations of Nature on the Mongolian Steppe: An Investigation of Scientific Knowledge Construction," *American Anthropologist* 102 (2000), pp. 503-519.
- Williams, Dee Mack, "Grassland Enclosure: Catalyst of Land Degradation in Inner Mongolia," *Human Organization* 55 (1996), pp. 307-313.
- Williams, Dee Mack, "The Barbed Walls of China: A Contemporary Grassland Drama," *Journal of Asian Studies* 55 (1995), pp. 665-691.
- Witzel, Michael, "Early Loan Words in Western Central Asia: Indicators of Substrate Populations, Migrations, and Trade Relations," in Victor Mair, ed., *Contact and Exchange in the Ancient World*, (Honolulu: University of Hawai'i Press, 2006), pp. 158-190.
- Wood, Frances, *The Silk Road, Two Thousand Years in the Heart of Asia* (Berkeley and Los Angeles: University of California Press, 2002).
- Wright, Arthur, *The Sui Dynasty* (New York: Knopf, 1978).
- Wu, Guohong Albert, and Javier Terol and Victoria Ibanez and Antonio López-García and Estela Pérez-Román and Carles Borredá and Concha Domingo and Francisco R. Tadeo and Jose Carbonell-Caballero and Roberto Alonso and Franck Curk and Dongliang Du and Patrick Ollitrault and Mikeal L. Roose and Joaquin Dopazo and Frederick G. Gmitter Jr. and Daviel S. Rokhsar and Manuel Talon, "Genomics of the Origin and Evolution of *Citrus*," *Nature* (2018), pp. 311-16.
- Wu WenWan and Xinghua Wang and XiaoHong Wu and GuiYun Jin and Pavel E. Tarasov, "The Early Holocene Archaeobotanical Record from the Zhangmatun Site Situated at the Northern Edge of the Shandong Highlands, China," *Quaternary International* 348 (2014), pp. 183-193.
- Wulff, Hans E., *The Traditional Crafts of Persia* (Cambridge MA, 1966).

- Wyngaert, Anastasius van den, *Sinica Franciscana, I, Itinera et Relationes Fratrum Minorum, saec. XIII et XIV* (Quarancchi-Firenze: College of Saint Bonaventura, 1929).
- Yang Xiaoping and Louis A. Scuderi and Xulong Wang and Louis J. Scuderi and Deguo Zhang and Hongwei Li and Steven Forman and Qinghai Xu and Ruichang Wang and Weiwen Huang and Shixia Yang, "Groundwater Sapping as the Cause of Irreversible Desertification of Hunshandake Sandy Lands, Inner Mongolia, Northern China," *Proceedings of the National Academy of Sciences* 112 (2015), pp. 702-706.
- Yang, Yimin and Anna Shevchenko and Andrea Knaust and Idelisi Abuduresule and Wenying Li and Xingjun Hu and Changsui Wang and Andrej Shevchenko, "Proteomics for Kefir Dairy in Early Bronze Age China," *Journal of Archaeological Science* 45 (2014), pp. 178-186.
- Yao Kecheng 姚可成, *Shiwu bencao 食物本草* (Beijing 北京: Renmin Weisheng Chubanshe 人民衛生出版社, 2018).
- rszy. See Hu Sihui 忽思慧, *Yinshan zhengyao 飲膳正要*, Sibu congkan xubian 四部叢刊續編子部 (1456).
- Yoo, Yushin, *Korea the Beautiful: Treasures of the Hermit Kingdom* (Los Angeles: Golden Pond Press, 1987).
- Young, Park Kun, "Kimchi: Ideal Health Food for a Well-being Lifestyle," *Koreana*, Winter (2008).
- Yule, Henry, *Cathay and the Way Thither*, second edition, revised and ed. by Henri Cordier, four volumes (London: Hakluyt Society 1915).
- Yule, Henry, and Henri Cordier, *The Book of Ser Marco Polo the Venetian Concerning the Kingdoms and Marvels of the East. Translated and edited, with notes, by Colonel Sir Henry Yule. Third edition, revised throughout in the light of recent discoveries by Henri Cordier*, 2 vols (St. Helier, Armoriga Book Company, Amsterdam, Philo Press, 1903).
- Yung, Peter, *Bazaars of Chinese Turkestan: Life and Trade along the Old Silk Road* (Hong Kong, New York: Oxford University Press 1997).
- Zeder, Melinda, "The Domestication of Animals," *Journal of Anthropological Research* 68 (2012), pp. 161-190.
- Zeder, Melinda, "The Origins of Agriculture in the Near East," *Current Anthropology*, supplement 4 (2011), pp. S221-S235.
- Zeder, Melinda A. and Daniel G. Bradley and Eve Emshwiller and Bruce D. Smith, eds., *Documenting Domestication: New Genetic and Archaeological Paradigms* (Berkeley: University of California Press, 2007).
- Zheng, Yunfei and Gary Crawford and Xugao Chen, "Archaeological Evidence for Peach Cultivation and Domestication in China," *PloS One* doi:10.1371/journal.pone.0106595 (2014).
- Zhou Jixu, *Correspondence of the Basic Words between Old Chinese and Proto-Indo-European (Sino-Platonic Papers)*, Department of East Asian Languages and Civilizations University of Pennsylvania, 2002).

Zohary, Daniel and Maria Hopf and Ehud Weiss, *Domestication of Plants in the Old World*, 4th edn. (Oxford: Oxford University Press 2012).

Index

- Aaruul*, see *Qrut*
Abū Hāmid 114
Acorns, as Korean food 283
Afghan language 73
Afghanistan 1, 7, 9, 28, 34, 40, 73, 75, 90, 175-176, 177, 179, 204, 206-219
 Bread 207-208
 Dairy products 215
 Drinks 216
 Festivals 207
 First agriculture 75
 Flavorings 215-216
 Food influences 219
 Food words 215
 Fowl 215
 Kebabs 214-215
 Markets 218
 Meat stewed with fruit 212-213
 Pasta 208
 Rice 209
 Sweets 216
 Types of *pilau* 209-210
 Weddings 217-218
Agriculture, advance of, spread into Central Asia 53-55, 74-75
Ai Khanum 90
Al-Bīrūnī (973-1048), 48, 116, 122
Al-Khwārizmī 116
Alcohol 3, 199
Alcoholic drinks 191, 258-261, 284
 Korean 284
 Mongolian 258-261
Ale 57, 151
 Millet ale 151
 Rice ale (*terracina*, “rice wine”) 151
Alexander the Great 90, 116-117
Alfalfa 42, 57, 88, 98
Allsen, Thomas 22, 143
Almaty 32, 60
Almonds 57, 106, 125, 148, 238, 265
 In Ibn Sīnā’s *Canon* 125
 Wild species, in Mongolia 265
Altai Mountains 7, 8, 12, 59, 71
Altaic languages 70
Ammianus Marcellinus 99-100, 129
 On Hun 99-100
Amu Darya 9, 28, 34
Amur-Ussuri 171
Animal-style art, spread of 80
Animal life, overview 21-29
Animals, domestication 63, 65
 Effects of domestication 63
 History of domestication in Eurasia 63
 Self-taming 65
Anise 104
An Lushan 安祿山 Rebellion 105
Apples 18, 32, 57, 60, 61, 94, 112, 148, 174, 181, 205, 236, 238
Apricots 32, 57, 94, 106, 125, 174, 205, 235-236, 238
Aqsakal 126
Aquaculture 95
Aral Sea 9, 18, 27-29, 35
Arabian spices 137
Arabs 88, 104
 Conquest of western Central Asia 88, 104
Araq (*araq*) 51, 198. See also *Arkhi*
Area of Central Asian nations 31
Aristotle 123
Arkhi 51, 153-154, 285. See also *Araq*
Armenian language 72
Arseniev, v. K. 175
 On Tungus 175
Ash 193
Ashak 208
Āthār va Ahyā’ 144
Avars (Rouran 柔然) 44-5
Avicenna, see Ibn Sīnā
Azerbaijan food 250-254
 Food proverbs 252
 Spices and flavorings 251
 Sweets 253-254
Azeri, language 251

Babur 161
Bactria 90-91
Bagel 184-185

- Baghdad, Mongol conquest of 132
- Baklava 231
- Bal* 151
- Balancing diet 119
- Balpo Soup 193
- Bamboo 125
- Bamiyan 104
- “Barbarian nomad,” myth of 44
- Barberries, in Iran 220
- Barfield, Thomas 38
- Barley 31, 49, 57, 59, 75, 77, 81, 112, 120, 148, 173, 174, 178, 181, 235, 279, 283
- Broth, in humoral medicine 120
- In Afghanistan bread 206
- Spread into Central Asia 75
- Spread into China 77
- Barley *Samosa* Noodles 188
- Barley Soup 252
- Bashkirs 173
- Batu 131-132
- Ba'urchi* 143
- Baysursak* 246-248
- Bean curd (*doufu* 豆腐) 48
- Beans 174, 176, 180, 284
- Broad 105
- Fava 235
- Green (fresh) 180
- Hyacinth 174
- In kimchi 284
- Small dry green 174. See also Mung beans
- Beansprouts 284
- Beetroot 174
- Beijing 北京 130, 134
- Founded by the Mongols 130
- Bencao Gangmu* 本草綱目 (Chinese herbal) 123
- Birch beer 112
- Birds, hunting 25-26
- Black Death 25
- And rodents 25
- Black-eyed peas 223
- Black gram 125
- Black kumiss 149
- Blood, as food 195
- Bolad 143-144
- “Booze,” 191
- Botai Culture, horse meat 76
- Boza* 191, 270. See also “Booze”
- Bread 56, 119, 182-184, 206-208, 263, 279
- In Afghanistan 206-208
- In humoral medicine 119
- In Mongolia 263
- Sacredness 183
- Britain 29
- British 175
- Influence on food 205
- Bronze Age 52, 76, 81
- Buckwheat 94, 283
- Buddhism 125
- Buddhist travelers to China 111
- Bukhara 3, 73, 162, 204, 221
- Burani*, eggplant dishes 212
- Buran, Princess 212
- Burma 133
- Butter 148, 197
- Butter-making 197
- Buudz* 263
- Byzantine Empire 45, 88
- Ca'adai Qanate 134
- Cabbage 181
- Chinese cabbage 284
- Camels, Bactrian 41, 48, 66, 69, 78, 173, 192, 264, 269
- In early Xinjiang 新疆 78
- Camels, dromedary 69
- Caracomos 151
- Caraway, black 62
- Caravan trade 2
- Cardamom 49, 60, 125, 181, 202
- Large cardamoms 202
- Carrots 49, 174, 181, 211, 280
- Varieties 211
- Caspian Sea 9, 52
- Castoreum 146
- Cassia 95, 148
- Cats 280
- Cattle 41-42, 49, 65, 69, 78, 173, 181, 192, 264, 268, 280, 285
- Beef in Korea 285
- In early Xinjiang 78
- Central Asia 2, 4, 22, 38, 74, 39-40, 82-84, 88-89, 121, 126, 162, 173-179,
- Center of Galenic Medicine 121
- Food 2

- Food un-Sinicized 178
- Foodways and religion 82
- Globalization 178-179
- Governance 126
- Herding 38
- Islam 83-84
- New World foods 176-177
- 19th and 20th century food 174
- Nomads 39-40
- Post-Mongol governance 173
- “Race,” 74
- Recent history 162, 177-178
- Slaving 88-89
- Writings on hunting 22
- Chaikhana* (teahouse) 222
- Champa 133
- Chang’an 長安 6
 - Ethnic communities 6
- Chang Chun 長春 148
- Chariots, origin and spread to China 76, 77
- Charpentier, C. J. 218
- Chen, Qiang 170
- Cherry Concentrate 251
- Cherries 32, 174, 238
- Chestnuts 94, 283
- Chickens 69, 196
 - In Afghanistan 215
- Chickpeas 54-56, 235
- Chiles 49, 162, 174, 176, 202, 205, 236, 281, 284
- China 1, 12, 37, 47-48, 54-56, 77-80, 86-88, 92, 95, 102, 107, 132-136, 178-179, 280-281, 379
 - And Central Asia 77
 - Animals from the West 280
 - Archery 79
 - Early contacts 79
 - Early dynasties 77, 87-88
 - Economic center of world 134
 - Food flows 95
 - Foods coming to China with Eurasian connections 107, 379
 - Gansu 甘肅 corridor 77
 - Greek influences 92
 - Han 漢 Dynasty 88
 - Han Dynasty and Central Asia 88
 - Herbal literature 102
 - History of agriculture 54, 56
 - Horse 88
 - In Mongol Empire 133
 - Merged into Central Asia 92
 - Military technology 79
 - Mongol Yuan 元 Dynasty 86
 - Near Eastern Spices 280
 - New World crops 281
 - Western grains other than wheat 379
 - Qijia 齊家 Culture 77
 - Shiba 寺洼 Culture 77
 - Stimulus diffusion 54
 - Tombs 80
 - “Western Regions,” 86
 - Western vegetables 280
 - Writing 78
- Chinese chives (garlic chives) 95, 96, 200, 202, 231
- Chinese foods of Central Asian background 271-281
 - In Ming 明 Dynasty 271-279
 - In modern times 279-281
- Chinese language 70, 78-79
 - Early Indo-European loan words 78-79
- Chinese pulsing 148
- Chocolate 281
- Chopsticks 97
- Chuqmin* 207-208
- Cinggis-qan 35, 47, 87, 108, 110, 115, 126-129
 - His starvation food in childhood 127-128
- Cinnamon 49, 62, 125, 181, 201
- Citrus fruit, from China 107-108
- Clavijo, Ruy Gonzales de 141
- Climate 12-13, 18-20
 - History 12-13
- Cloves 62, 125, 181
- Coconut 125
- Collective management 40
- Confucianism 77
- Congee, in Korea 283
- Cooking utensils 202-203
- Copper smelting 75
- Core and periphery 87
- Coriander 49, 57, 62, 104, 105, 181, 201, 280
- Cosmas Indicopleustes 110-111
- Cotton 28, 31, 62, 88, 125, 224
- Cowpeas 107
- Cucumber 49, 105, 181, 200
- Cumin 49, 57, 62, 104, 106, 181, 201, 280

- Daidu 大都 134
- Dairy foods 187, 197-198, 215, 222, 236, 240-241, 258-260
 In Afghanistan 215
 In Kazakhstan 240-241
 In Mongolia 258-260
 In Uzbekistan 222
 Use by mountain Tajiks 236
- Dairying, appearance of 66
- Dali 大理 Kingdom 132
- Dangerous animals, tabuing of names 22
- Daoism 77
- Dari language 73
- Dastarkhan* 239
- Dates 106, 115, 220
 In Iran 220
- Deer Stone-Khirigsuur complex 66
- Dersu the Hunter* 175
- Deodar 125
- Descent groups and resources 127
- Dietary Therapy, Galenic 118-120
- Dill 202
- Dioscorides, Pedanios 117, 120, 124
- Distillation 51, 164-169, 280, 285-286
Gaoliang 高粱 280
 In Korea 285-286
 Milk liquor 51
- Dock (herb) 202
- Dogs, Central Asian breeds 54, 63-64, 285
 As food, Korea 285
- Domestication of the dog 54, 63
- Domestication 53-55
- Defined 54
 In prehistory 53
- Dong'an 233, 257
- Donkeys 41-42, 173
- Dopiazza 215
- Dormice, as food 150
- Dragon fruit 281
- Duck (domestic) 95
- Dumplings 95, 181, 184-190, 263, 270, 279, 285
 In Korea 285
 In Mongolia 263
 Kalmyk 270
- Dungan, see Dong'an
- Dunhuang 敦煌 oasis 6, 93
- Dupree, Louis 40, 206-219
- Dūqī* 190
- Dzungar 29
- Dzungaria 8
- Eastern Iran, food 219
- Eggplant 49, 148, 212
- Embelia 125
- Enin 186
- Eurasian Heartland 1, 7
- Eurasian Heartland, agriculture 30-32, 38
 And environment 30-31
 And livestock 38
- Eurasian Heartland, and conflict 47
- Eurasian Heartland, animals 21
- Eurasian Heartland, birds 24-26
- Eurasian Heartland, bread 182-184
Nan 182-183
- Eurasian Heartland, cities 37
 Urban sprawl 37
- Eurasian Heartland, climate 19-20
 Climate change 12-13
- Eurasian Heartland, contemporary foodways 180-182
- Eurasian Heartland, cooking utensils 202
- Eurasian Heartland, crossroads 48
- Eurasian Heartland, desert woodlands 15
- Eurasian Heartland, ecological system 51
- Eurasian Heartland, environmental problems 26-27
 And religion 26-27
- Eurasian Heartland, foods 32, 49-51, 190-192, 197-203
 Dairy foods 197-198
 Drinks 198
 Grain foods 190-192
 Overall views of 49-51
 Sour preferred 202
 Spicing 202-203
 Sweet fruits and berries preferred 200-201
 Sweets 200
 Vegetables 199-200
- Eurasian Heartland, foodways, sources of change 204-205
- Eurasian Heartland, grasslands 37
- Eurasian Heartland, herding 38-39, 46
 Types 46
- Eurasian Heartland, history before the Mongols 86

- Eurasian Heartland, hunting 21-24
 Eurasian Heartland, irrigation 32
 Eurasian Heartland, languages 70-73
 Chinese 72
 Dari 73
 Farsi 72
 Ket 71
 Russian 73
 Tajik 73
 Tibetan 71
 Tokharian 71
 Turkic 72
 Xianbei 鮮卑 70
 Xiongnu 匈奴 70
 Eurasian Heartland, linguistic Stalinism 73
 Eurasian Heartland, linking area 48
 Eurasian Heartland, little Chinese influence 96
 Eurasian Heartland, major crops, animals, advance of 54
 Eurasian Heartland, major medical centers in past 121-122
 Eurasian Heartland, meat 192-196
 Cooking 192-195
 Sources 192-195
 Eurasian Heartland, medicinal herbs 18
 Eurasian Heartland, mountains, mountain landscapes 8-9, 15
 Eurasian Heartland, mythology 81
 Eurasian Heartland, nationalism 73
 Eurasian Heartland, nations 39-40
 Eurasian Heartland, noodle 184-185
 Eurasian Heartland, oases 35
 And agriculture 35
 And agriculture and irrigation 35
 Eurasian Heartland, origins of civilization 74-76
 Eurasian Heartland, pastures 13-14
 Eurasian Heartland, penetration by Russia 172
 Eurasian Heartland, Qing 清 conquests 172
 Eurasian Heartland, rain 12
 Eurasian Heartland, religions 82
 Eurasian Heartland, riparian forests 15
 Eurasian Heartland, rivers 9, 12, 32, 34-35
 Eurasian Heartland, small mammals 25
 Eurasian Heartland, steppe soils 37
 Eurasian Heartland, tree crops 32
 Eurasian Heartland, vegetation 13
 Falck, Johan Peter 173
 On Central Asian foods and foodways 173
 Falconry 21-22, 173
 Farsi language 72, 93, 204, 212
 Farsi food words in Central Asia 93, 204
 In Afghanistan 212
 Faxian 法顯, monk 111
 Feasting 55
 Feijoa 254
 Fennel 106, 280
 Fenugreek 104
 Fermented mares' milk, see *Kumiz*
 Ferghana, *Manti* 187
 Ferns, in Korean food 284
 Fertile Crescent 57
 Festival foods 217, 237
 In Afghanistan 217
 Among mountain Tajiks 237
 Figs 106, 115
 Fish, food species of Central Asia 196
 Fish oil 112
 Five Snouts 264
 Flax 106
 Fletcher, Joseph 127
 Food borrowings from China 96-97
 Galen 102, 116, 117, 118, 120-121, 145, 147
 And Dioscorides, Arabic translations 120-121
 Food coding of 102
 Medicine 118
 Gansu 93
 Gao Lian 高濂 172, 271-277
 On Ghee 273
 On *Habwa* 271
 Recipe for Black and Moist 276
 Recipe for Comp-print Crisps 275
 Recipe for Crisp Cookies 277
 Recipe for Goat Marrows 276
 Recipe for Making Sugar Syrup 272
 Recipe for Manchu Candied Fritters 274
 Recipe for Nest of Threads 275
 Recipe for Oil Harmonized with Flour 273

- Recipe for Pepper and Salt Cookies 276-277
 Recipe for Pine-nut Cookies 273
 Recipe for Pine-nut *Hailuo* 海羅 273
 Recipe for Puffed Buckwheat 275
 Recipe for Roasted Flour 272-273
 Recipe for *Saboni* 276
 Recipe for Slices with Mint 275
 Recipe for Snow White Shortbread 274
 Recipe for White and Moist 274
 Recipes for Wind-Dissolved Cakes 277-278
 Recipe for Yellow and Moisturized *Halwa* 274
 Sweets 172
Gaoliang (Chinese liquor) 60
 Garlic 49, 280
 Garlic chives, see Chinese chives
 Geography, physical 8, 9
 Georgian language 72
Ger (*yurt*) 43
 Ginger 49, 182, 202
 Ginseng 175
 Globalization 204
 Goats 41-42, 49, 64, 173, 181, 192, 220, 264, 280
 Göbekli Tepe 55-56
 Gobi 44, 257
 Goens, Benedikt on food 163
 Gog and Magog 110-111
 Goji berries 280. See also *Lycium*
 Golden Horde 134
 Cities of the Volga 140
 Goose (domestic) 95
 "Grains of Paradise," 6
 Grapes 31, 57, 60, 81, 88, 174, 181, 205, 280
 And raisins 31
 Domestication 60
 Grasses and grasslands 13-15
 "Great Game," 175
 Greek language 72
 Greeks 90
 Influence on Central Asia 90
 Grigor of Akanac 129
Grut 149, 152
 Guava 281
 Güyük-qan 131
 Haider, Jamila, see Van Oudenhoven
Halva, see *Halwa*
Halwa 182, 201, 204, 256, 257, 262
 In Uzbekistan 229
Habwāy Tar 278
 Han Dynasty 88, 89, 97
 Han (nationality) supremacy 73
 Hansen, Valerie 135, 137
 Hayden, Brian, on feasting 55
 Hazelnuts 112
 Heaven 83
 Helmand River 34
 Herodotus 110
 Hippocrates 116
 Hippocratic-Galenic medicine 116-120, 142
 Hö'elün-eke 127
 Honey 112, 280
 Honeybees 280
 Horde, etymology 46
 Horses 2, 23, 41-42, 47, 49, 54, 60, 66-69, 76, 112, 150, 173, 181, 192, 232, 238, 268, 280
 And humans 68
 Botai Culture and horse 67
 Domestication 2, 47, 66-68
 Kazakh consumption 238
 Meat 66-67
 Milk 67
 Origins, and Przhevalsky's Horse 66
 Sacrificed in medieval Russia 112
 Sausages of horse meat (*kazy*) 150, 173, 232
 Hu Sihui 忽思慧 24, 159
Huihui Yaofang 回回藥方 (Chinese medical encyclopedia) 123, 144-147, 159-161
 Hüle'ü 132, 133
 Humors, of Galenic medicine 118-119
 Huns 98-101
 And raw meat 99
 Hunting 21-29
 Hunting Eagles 21-22
 Huntington, Ellsworth 37
Huntun 餛飩 186
 Ibn Battuta, on foods 196
 On foods of later Uzbekistan 221-222
 Ibn Butlān 125
 Ibn Faḍlān 111-113
 And food 112

- Ibn Khaldun 87
 Ibn Sinā (Avicenna) 48, 116, 122-125
 Ilqanate 134
 Imbalances 119
 Indian Ocean, early accounts of 111
 Indo-European language phylum 4, 70,
 71-72, 78
 And Uighurs 4
 In early eastern Central Asia 78
 Loanwords into Chinese 79
 Spread into Central Asia 71-72
 Inner Mongolia (Nei Menggu 內蒙古) 1, 15,
 41, 72, 93, 97, 181
 Iran 30, 36, 52, 111, 148, 181, 219-221
 Eastern Iranian food 219-221
 Influences on food 181
 Iranian Medicine 148
 Iranic languages 49, 70, 204
 Irrigation 28-30, 32
 'Isā 145
 Isfahan 34
 Işin, Priscilla Mary 254
 Islam 48, 83-84, 104, 181
 And Central Asian foodways 84
 Conquests in Central Asia 104
 Hanafi 83
 Influence on foods 83-84, 181
 Legal traditions of 83-84
Itria 185

 Japan, Mongol invasions 134
 Japanese language 70
 Jebe, and Sübe'etei 131
 Jia Sixie 賈思勰 102
Jiaozi 餃子 186
 Jenkinson, Anthony 141, 163
 On food 163
 Jerky 195
 Jewish food in Uzbekistan 230-231
 Jin 金 Dynasty 105, 109, 127, 130, 131
Jujia biyong shilei 居家必用事類, medieval
 household book 155-189, 265
 "Muslim Recipes," 155-189
 Noodles 184
 Recipes from 156-159
 Jujube ("Chinese date") 94, 265
Juliana Anicia Codex 211
 Jürchen 109

 Juvaynī 128, 130

 Kababs 193, 214
 In Afghanistan 214
 Kabul 60
 Kaifeng 開封 128
 Kalash 84; foodways 85
 Kalmyk 165-166, 168, 268-271
 Agriculture, plants grown 269
 Color symbolism of food 270
 Dairy foods 270
 Distillation 165-166, 168
 Dumplings 270
 Feasting 269-270
 Food 268-271
 Food intake 271
 Food rules 270
 Food tabus 271
 Herding 268-269
 Land use 268
 Pregnancy food rules 271
 Tea 270
 Tsatsal Ritual 271
 Weddings 271
 Karakorum Mountains 7, 8
Karez 35-36
 Kazakh food 239-250
 Bread 246
 Dairy 240-241
 Jams, jellies and syrups 249-250
 Meat 239
 Kazakh food proverbs 242-245
 Role of proverbs and song in foodways
 242
 Kazakhs 5, 21, 22, 173, 221
 Kazakhstan 1, 7, 13, 28, 35, 51, 58, 59, 67, 75,
 81, 174, 177, 239, 242
 Festive board 239
 First agriculture 75
 Russian and Korean food 242
Kazy 195
 Kelley, Laura 251
 Khakass (Turkic people) 174
 Khayyam, Omar 30, 192
 Khazars 113
 Khitan 81, 105, 108-109, 130
 Khiva 204
 Khorasan 1, 30, 86, 219, 220-221

- Typical spicing 220-221
Khuriltay 127, 132, 133
 Khwarazm (Khorasm, Khwarizm, Khwaraz-
 mia) 115, 116, 128, 221
 Khwarazmian Empire 130
 Khwarazm-shāh 131
 Ki, Empress 282
Kimchi 51, 284, 286
Kitāb al-Tabīkh 113
Kitāb al-Tibākha 113
 Kitan 81
 Kohlrabi 106, 280
 Kokand 221
 Kok chuchwara 228-229
 Korea 49, 88, 178, 281-283
 And interior Asia 283
 Differences from Central Asia 282
 Influence at Mongol court 282
 Under the Mongols 281-282
 Korean food 177, 230, 281-286
 Chinese influences on food 282-283,
 285-286
 Congee 283
 Distillation 285-286
 Finely cut meats 285
 Grain 283
 In Uzbekistan 230
 Influences from West 281
 Kimchi 284
 Links to Central Asia 286
 Makkōlli and other drinks 285
 Meat 284
 Noodle dishes 285
 Pickles 283-284
 Pulgogi, conceptual stimulus for 285
 Rice 283
 Sauces 284
 Stuffed dumplings 282
 Korean language 70
Kumiz (fermented mares' milk) 49, 76, 90,
 148, 149, 151, 163, 164, 198, 232
 Black *kumiz* 149, 151
 Distilling for *araq* (*arkhi*) 164
 Kyrgyz 21, 238
 Food 238
 Kyrgyzstan 1, 174, 177, 234
 Medicinal herbs, wild herbs for medicine
 and food 234
 Lactase 75-76, 197
 Genes 197
Lactobacillus 75-76, 197, 202, 284
 Lactose, Eliminating 197-198
 Tolerance and intolerance 75-76, 197
Laghman 190, 226, 231, 240, 255
 Land connections, persistence of in Eurasia
 141
 Languages 70-73
 Language politics 73
 Lattimore, Owen 38
 Legumes 196
 Lemon 107
 Lemon juice 202
 Lentils 56, 235
 Domestication of 56
 In Tajikistan 235
 Lettuce 280
 Li Shizhen 李時珍 123
 Liao 遼 Dynasty 60, 105, 108
 Lily bulbs, as food 174
 Lime 107
 Little Ice Age 12-13, 135
 Livestock 38, 42
 And agriculture 38
 Ecological diversification 42
 Long pepper, see Pepper, Long
 Lop Nor 12, 52
 Loptuq 257
 Lotus 144
Lycium spp. 280
 Mahmud al Kāshgarī 255
 Mahmudov, Karim, on Uzbekistan food 231
 Maize 31, 162, 174, 175, 176, 180, 206, 281
 In Afghanistan bread 206
 Manchu food names 172
 Mamluk Egypt 133
 Mammals, hunting 26
 Mammoths 21, 53
 Hunting 21
 Manchuria, Turkish, Mongolian and Middle
 Eastern food words 171-172
 Manchus 170
 Manila galleon 162, 289
Manta, see *Manty*
Manti, see *Manty*
Mantou 饅頭 186

- Mantu* 285, 298
Manty 49, 186, 187-188, 255, 285
 Korean *mandu* 285
 Uighur *manta* 255
 Mao Zedong 毛澤東 29
Maotai 茅台 (Chinese liquor) 60
 Marco Polo 55, 109, 134, 140, 153-155, 185
 And noodles 185
 Did get to China 140
 On Mongol drinking ritual 153
 On Mongol feasting 154-155
 Maritime silk roads 291
 Marjoram 62
 Marmots, as food 159, 264
 Mead 151
 Meat 192-195
 Medicine, in Medieval Central Asia 116
 Medieval Warm Period (Medieval Climate
 Anomaly) 12-13, 103, 129, 135
Mei 梅 (Chinese apricot) 94, 156
 Melons 31-32, 57, 163, 174, 181, 205, 221-222,
 256
 Menander, King of Bactria 91
 Merv 34
 Mice, as food 150
 Migration 42
Milindapañha 91
 Milk 49, 148, 149, 182, 197-198, 259-260
 Sprinkling 259-260
 Milk ritual, Mongol, see *Tsatsal*
 Millet 31, 49, 54, 57-59, 75, 78, 81, 111, 125, 148,
 150, 151, 174, 175, 190, 206, 235, 281, 283
 Broomcorn millet, origins 57-59; spread
 into Central Asia 75
 Foxtail millet, origins 57-58
 In Afghanistan bread 206
 In early Xinjiang 78
 Millet ale 151
 Ming Dynasty 56, 141, 161-162, 289
 Mint 201
 Modernization, concept 204
 Mon languages 71
Möngke-qan 131-133, 152-153
 Tree of life 152-153
 Mongol China, Arabic Medicine in 145-146
 Mongol empire 83, 86, 87, 125-135, 142-161
 Attacks on North China 130
 Conquest of Khwarzmian Empire 130
 Cooking 143-144
 Food and medicine 142
 Invasions of Russia and Europe 131
 Post-imperial history 161
 Raiding 129
 Rise of and climate 129
 “Tengrism,” 83
 Wars with Jin 130
 World Conquest 129
 Mongol food 168, 194, 257-267
 Boil meat 194
 Breads 263
 Dairy foods 258-260
 Distilling 168, 260-261
 Dumplings, and noodles 263
 Fruits and vegetables uncommon 264
 Gathered foods 266
 Herbs 265-266
 Jerky 262-263
 Meat esteemed food 262
 Medical 266-267
 Milk tea 259
 Modernization 263
 Mountain foods 265
 Rose hips 265
 Sausage 262
 Soup 263
 Tea 259-261
 Tsatsal, milk-scattering ritual 259-260,
 267
 Whole-cooked lamb 261
 Wild-gathered foods 265-267
 Mongolia 1, 7, 15, 16, 18, 19, 26, 29, 35, 40, 41,
 44, 48, 78, 170, 177, 205, 257-258, 264
 Conservation 26
 Geography, landscape 257
 Livestock, five snouts 264
 Roads, problem of 44
 Sacred landscape 257-258
 Sacred trees 16, 18, 19
 Mongolian language 4, 70
 Mongols 21, 40-41, 46, 83, 86, 258, 263-265,
 267
 Belief systems 267
 Mythic origins 46
 Nomads 40
 Religion 83
 Respect for animals 264-265

- Respect for nature 263-264
 Sing to livestock 264
 Subsistence 258
 Traditional medicine 267
 Moti Mahal restaurant, Old Delhi 212, 219
 Mulberries 32, 205, 206, 216, 235
 In Afghanistan 206, 216
 Staple for mountain Tajiks 235
 Mung beans 60
 Muraviev, Nikolay 171
 Mushrooms, as food 200
 Mustard 106
 Myrobalans 125

Nan (bread) 93, 174, 182-184, 206, 222, 234, 236, 255
 Nauruz 52, 217, 230
 In Afghanistan, foods 217
 Uzbekistan wheat preparation for 230
 Near East 54-55, 57
 "Neolithic Diet," 53
 New World foods 162, 205
 Arrival in Asia 162
 Newman, Jacqueline 255
 Ni Zan (倪瓚), cookbook by 109
 Nigella 202
 Nomadic herding, modern 69
 Nomadism, types 46
 Nomads 41, 42, 43, 44-47, 61, 196
 And kinship 46-47
 And the land 61
 Housing 43
 Hunting 43
 Lifestyle, history of 47
 Livestock 42
 Mobility 44-45
 Nomads and agrarian empire 47
 Settlement of 46
 Traditional meal use 196
 Noodles 95, 96, 181, 185, 194-190, 192, 279, 283
 Earliest known 185
 In China 185
 In the Western world 185
 Nutritional and dietary therapy, under the Mongols 142

 Oats 42, 173, 174, 175, 279
 Ögödei-qan 35, 131

 Oil (food) 148
 Olives 106
 Onions 49, 95, 174, 181, 199=200, 280
 Chinese green 95
 Oqol-qaimish 131
 Oranges 95, 107-108, 125
 Organ meats, and blood 195
 Orkhon Inscriptions 90
 Ostrovskikh, Peter, on Central Asian food 174
 Otrar massacre 130
Ovoo 258

 Pallas, Peter 164-169
 Distillation 164, 165-166, 168
Paklama, Uzbek baklava-like dish 231-233
Palov or *Plov* 226
 Pamir Mountains 7, 8
 Pashtun language 73
 Pasta 144, 208-209
 Afghanistan forms 208-209
 Pastoral nomads, and Uighur 5
 Pea (European) 105, 173, 235
 Peaches 32, 94, 125, 174, 205
 And apricots 94
 Peanuts 281
 Pears 94, 174, 238
 Pegolotti 142
 Pepper, black 62, 111, 125, 148, 181, 162, 201
 Long 125, 162
 White 148
Peremech 188-189
 Perilla 284
 Perry, Charles 187-188, 196, 203, 212, 214, 217, 227-229, 240-241, 259-263, 278-279
 Persia and Persian Empire 88, 90
 Persian foodways 52
 Pickles 211
 In Afghanistan 211
 Pigeons, domesticated 69
 Pigs 65, 69, 264, 280, 285
 Domestication 65
Pilaf (*polo*, *pilau*) 97, 192-193, 209-210, 226, 231, 251, 255
 In Afghanistan, *pilau* 209-210
 In Azerbaijan, *plov* 251
 In Uighur culture, *polo* or *palao* 255
 In Uzbekistan, *palov* or *plov* 226, 231

- Pine-nuts 200, 283, 284
 Pineapple 281
 Pines, bark, cones, and seeds eaten 200
 Piora Oscillation 2200-2000 BCE 76
 Pistachios 60, 106
 Pit-cooking 194
 Plants, domesticated 56-60
Platycodon tips as food in Korea 284
 Pliny the Elder 110
 Plums 32, 174, 202
 Sour plums 202
 Pomegranates 32, 60, 181, 252
 Syrup 252
 Poppy seeds 160, 201
 Population of Central Asian nations 31
 Portuguese, expansion in 16th century 162
 Potatoes 49, 176, 180, 205, 236, 281
 Pottery, origin 54
 Prehistory 53
 Przewalsky Horse 23, 67
 Pulses, in Afghanistan 206
 Pumpelly, Raphael 37
 Pumpkins 176, 236

Qabli pilau 210-211
 Qaidu Qanate 134
Qan (Turkic term for ruler) defined 126
Qanat 35
 Qanates, divisions of the Mongol Empire
 134, 135
 Decline of 135
Qara qazan 245-246
 Qaraqorum 34-35, 90, 131, 149
Qattama 249
Qāwurma Palāw, Samarqand style 227-228
Qimin yaoshu 齊民要術 102
 Qin 秦, state 97
 Dynasty 87-88, 97
 Quinces 174
 Qing Dynasty 29, 89, 170-171, 177, 178
 Imports of fish and mushrooms 171
 In Mongolia 170
 In Siberia and Central Asia 171
 In Tibet 170
Qorma-i Sayib 213
 Qubilai-*qan* 24, 55, 133-134, 282
 Queen Mother of the West 98
 Quick *Manta* 209

Qurma 193
Qurt (*qurt*; dried milk solids; *aaaruul*) 152,
 197, 236, 241-242
 Kazakh production method 241-242
 Quvud 278

 Radish 284
 Raisins 111
 Rashid al-Din 108, 144
 Hospital 144
 On food 144
 Raspberry jam 249
 Recipes, see also separate list
 Records, problem of 90
 Red Current Sharbat 217
 Regimen 118
 Reindeer 46, 264
 Religion and Central Asian foodways 82,
 288
 Religious tolerance in Central Asia 83-84
 Respect, for nature 43
 Rhubarb 148
 Rice 54, 58-59, 96, 107, 119, 144, 174, 178, 209-
 211, 236, 279, 283
 In Afghanistan 209-211
 In humoral medicine 119
 Origins 58
 Richtofen, Ferdinand von 1, 135-136
 Rodents eaten in Medieval Mongolia 150
 Rome and Roman Empire 88
 Rosenberger, Nancy 224-226, 229-
 Rouran (Avars) 44. See also Avars
Ruba'iyat of Omar Khayyam 30, 192
 Rubruck, William of, see William of Rubruck
 Russia and Russians 29, 170-172, 175, 177, 178,
 180, 204, 205, 221, 287
 Influences on food 178-180
 Russian language 72
 Rye 151, 173, 174, 177, 235
 Early reference 151
 Replacing millet as staple 173

 Sabban, Françoise 181
 Saffron 106, 182, 202
 In Iran 220
 Sahlins, Marshall 126
 Saiga antelope 23

- Sakas 110
Saksaul 15, 266
Salma 114, 184-185
 Salt 148
 Samarkand 6, 142, 162, 204
 Heavy eating 142
Samosa 49
 In Uzbekistan 229
Samusa 186
Sardāba 35
 Sauer, Carl, on domestication 54
 Sausage, horse tripe 150
 Scapulimancy 163
 Scripts and transcriptions 3
 Scythians 80, 110
 Sea buckthorn 18, 265
 Sea routes, Seattle 289-290
 Sea trade, rise 289
 Seattle, as modern Silk Road terminus 290-291
 Seaweeds 284
 "Secondary products revolution" 66
Secret History of the Mongols 13, 47, 127-128, 143
 Semenov, Pyotr, on food 175
 Semirech'ye 81
 Sesame 57, 60, 106, 174, 181, 280, 284
 Shams al-Dīn Samarqandī 125
 Shang 商 Dynasty 77, 87
 Shangdu 上都 22
 Shanyu 單於 (Xiongnu ruler) 47
Sharbat 198-199, 204, 216-217
 In Afghanistan 216
Shashlyk 193
 Sheep 41-42, 49, 64, 173, 181, 192, 220, 264, 268, 280
 Domestication and Central Asian forms 64
 Fat-tailed 64
Shelpek 249
Shennong Bencao Jing 神農本草經 117
Shilaer 食來兒 254
Shish kebab 214
Shishkabab 193
Shūlen 193
 Siberia 171, 174
 Sichuan, land route to south 140
 Signature spicing 201
 Silk 88, 135-136
 Roll of on Silk Road, in China 136
 Silk Road 1, 52, 88-9, 95, 104, 110, 134-142, 162, 178-179, 289
 And food exchanges 52, 95
 Decline and fall 162
 History, China 88, 136
 In Mongol period 135, 140
 In Tang 唐 times 104
 Influences in Central Asia 178-79
 Maritime 110
 New Cities 134
 Origin of term 1
 Products 136
 Traffic on 139
 Silkworms 136, 144
 Sintasha culture 76
 Sogdian language 73
 Sogdians 103
 Soju 285-286
 Song 宋 Dynasty 105, 109, 110
 Food 110
 Maritime Contacts 109
 Sea food 109
 Sorghum 31, 59, 60, 108, 163, 174, 175, 279-280, 283
 Soybeans 270
 Soy sauce 49, 202
 Spanish, expansion in 16th century 162
 Spelt (variety of wheat) 173
 Spices 62, 95 136-137, 141, 142, 215-216, 280
 In China, ones that were adopted and ones that were less so 280
 Lists of "spices," including medicinals, on the Silk Road 136-137, 141, 142
 Spices and flavorings in Afghanistan 215-216
 Spices and flavorings, arrival of 62
 Spicing of Central Asian food 201-202
 Spinach 49, 57, 106, 280
 Squashes 174, 176
 Steppes 14-15
 Strawberries 18, 112
 Sturgeons 114, 220, 252
 Sugar, in Afghanistan 216
 Sugarcane 125
 Sui 隋 Dynasty 89, 103

- Süütei chai*, "milk tea," "tea with milk" 259,
 260, 261
 Sumac 202, 253
 Sweet potatoes 162, 281
 Sweets 200-201, 216, 221-279
 Gao Lian's Ming Dynasty sweets recipes
 271-279
 In Afghanistan 216
 Syr Darya 9, 32, 34

Taba nan 248
Tabib 144
Tacuinum Sanitatis 125
 Tajik food 234-237
 Dairy food 236
 Festival foods 237
 Meat 237
 Settlements and food 235
 Social change 237
 Tajikstan 1, 28, 125, 177
 Languages 235
 Talas River, battle of 88, 103-104
 Tamarind 125
 Tamerlane 141, 161. See also Timur
 Tandur 202-203, 207, 222, 236
 Tang 唐 Dynasty 89, 102-106, 110, 140
 Central Asian influence 104
 New Plants 105-106
 Tang food 110
 Tangut Lungs 232
 Tanistry 127
*Tanksūq-nāma-yi Ilhānī dar funūn-i 'ulūm-i
 Khitāy* 147
 Tao Hongjing 陶弘景 102
 Tarim Basin 8, 12, 78
 Mummies 78
 Tarim River 34, 44
 Tashkent 32, 60, 73, 222
 Languages in 73
 Public market 222
 Tea 107, 122, 144, 181, 198-9, 216, 234, 235, 270
 In Afghanistan 216
 In Uzbekistan 234
 New to mountain Tajiks 236
 Shops 199
 Temüjin 127
 Tengri and "Tengrism," 83

 Terracina 151
 Thai language, word for chicken 79
 Theophylactus Simocatta 110
 Thyme 62
 Tianshan 天山 Mountains 7, 8
 Tibet 42, 170
 Tibetan Buddhism 170
 Tibetan language 71
 Tibeto-Burman languages 71
 Timur (Timur Lenk, Tamerlane) 141, 161
 Toba Wei 魏 101
 Tobacco 162
 Toghun-Temür, Mongol emperor 282
 Korean wife Ki 282
 Tokharian languages 71
 Tolui-noyon 131
 Tomatoes 49, 176, 180, 200, 205, 236, 281
 Transhumance 42
 Treaty of Aigun 171
 Trebizond 135
Tsatsal (Mongol milk-sprinkling ritual) 149,
 259
 Turan 86, 90
 Turkey 55, 151, 176, 179, 254-255
 Central Asian foods 151, 254-255
 Turkic languages 3, 5, 49, 70, 71-72
 Turkic peoples, origin 46, 101
 Mythic origin 46
 Turkish food, Central Asian roots 254
 Turkish language 72
 Turkistan 115
 Science 115
 Turkmenistan 1, 28, 34, 177
 Turks, emergence of 101
 Turmeric 60, 125, 202
 Turnips 174
 Turpan Depression 7, 36
Tutmāj (Medieval bread recipe) 113
 Tuva, tombs 80

 Uighur food 255-257
 Ash 256
 Chinese influences 256
 Ngan, nan 255
 Noodles 255
 Polo, pulao 255
 Sheep food of choice 256
 Xinjiang melons 256

- Uighurs 4, 5, 105, 178
 History 5
 Languages 5
 Religion 5
- Ulaanbaatar 37, 40
 Urban sprawl 37, 40
- [U]mach 253
- United States 28
- USSR 29, 37
- Uzbek people 5, 221
 Uzbek and Kyrgyz, medicinal use of
 plants 234
- Uzbekistan 1, 28, 34, 37, 46, 51, 59, 85, 177,
 221, 224-226
 Curse of cotton 224
 Origins 221
 Private plots 225
 Urban sprawl in 37, 225
 Social conditions 224-226
 Village siting in 37
- Uzbekistan, food 95, 221-234
 Ancient fruit-growing 95
 Baklavas 231-232
 Breads and dairy, products, jams,
 etc. 233
 Dairy 222-223
 Dishes 223
 Drinks 234
 Food and foodways 221-234
 Food and the new 230
 Food as social indicator 224-225
 Fruits and nuts 223
 Gender structure and food 230
 Horse meat 232
 Local dishes 223
 Marriage 230
 Meat 222
 Meat and fruit stews 231
 Medicinal herbs, wild herbs for medi-
 cine and food 234
Nan 222
Palov, kebab and dumpling, and
 noddle dishes 233
 Palov or *plov* 226-228
 Popular dishes 229-230
 Rice 222
 Russian and Korean food 230
 Soups 223, 233
- Spicing 223
Tandur 222
 Tripe 232
- Van Oudenhoven, Frederik, and Jamila
 Haider, on Tajik food 234-238
- Vasco da Gama 161
- Vegetables, in Central Asian cooking 31,
 199-200, 211
 In Afghanistan 211
 Vegetables and spices 31
- Vegetation, overview 13-20
- Vietnam 133
- Vinegar 202
 "Virgin lands," 16
- Visson, Lynn, on Uzbek food 231-233
- Volga River 9
- Wallerstein, Immanuel 87
- Walnuts 94, 111, 148, 174, 216, 233, 235-236,
 238
 In Afghanistan 216
 In Uzbekistan 223
- Warring States period 77
- Watermelons 60, 108, 163, 174, 250, 256
 Jam 250
- Wedding foods, in Afghanistan 217
- Weeks, Martha 238
- Wei Dynasty 101
- Wheat 31, 49, 54-56, 57, 59, 75, 77-78, 81, 112,
 148, 151, 173, 174, 175, 181, 183-184, 191-192,
 220, 235, 279
 Bread wheat, origins 57
 Einkorn 56
 Emmer 57
 Foods 191-192
 Foods in China 279
 In China 279
 In early Xinjiang 78
 In Iran 220
 Spread into Central Asia 75; to
 China 77
 Wheat flour 148
- Whey 49
- Whole animal, cooking 194
- Wild plants, gathering of 62
- William of Rubruck 149-153
 On *grut* making 153

- On Mongol dogs 151
 On Mongol food 149-153
 Description of liquor fountain 152
 Williams, Dee Mack 39
 Willow Steamed Lamb 194
 Wine 115, 148, 149, 151
 Wolfthorn berries, see Goji berries, *Lycium*
 spp.
 Wolf Soup 24
 Wolves 22
 Sacred 21-22
 Taken with hunting eagles 22
 Women, power of 48
 World-system theory 87, 88, 89
 Wulff, Hans 218-219

 Xia 夏 kingdom 76
 Xianbei 70, 101
 Xinjiang Province 1, 4-6, 12, 36, 41, 52, 72, 76,
 78, 84, 96-97, 170, 174, 178, 181
 And China 6
 And religions 5
 And Uighurs 4
 Chinese migration 4
 Early towns 76
 Food 96
 Han settlers outnumber Uighurs 178
 Xiongnu 42, 47, 70, 80, 88, 97
 Yaks in 42
 Xixia 西夏, state 110, 131
 Xuanzang 玄奘, monk 104, 111

 Yaks 41-42, 49, 66, 264
 Yamnaya culture 76
 Yaqub Beg 170
 Yellow sapote 281
 Yesügei 127
Yinshan zhengyao 飲膳正要 24, 153, 155,
 160, 184
 Game recipes 24
 Noodles 184
Yin zhuang fushi lian 飲饌服食箋 271
 Yogurt 49
 Yuan Dynasty 86, 89, 102, 289
 Yuezhi 月支 86
Yurt 43. See also *Ger*

Zakhūra-i-Khwārazmshāhī 145

- Zhang Qian 張騫 97-98
 Zhongdu 中都 130
 Zhou 周 Dynasty 77, 87

List of Recipes

Afghanistan

- Dopiazza*, stew with onions 215
 Egg bread 208
Nauring palaw, pilau with oranges 213-214
Pilau, types and recipes 209-210
 Qabli pilau 210-211
Qorma-i-Sayb, meat with apples and split
 peas 213
 Quick *manta* 209

Jujia biyong shilei (Medieval household encyclopedia)

- Baldy* 158
Güllach 158
Habwa 158
Julapia 159
 Kogurma 157
Qarisa 160
Quresh-e 158
 Rolled thin pancakes 156
 Sour soup 157
 Sweet *börek* 156
Tutum-ash 157
 West of the River Lungs 160

Kazakh

- Bauyrsaq*, Kazakh doughnuts 246-247
 Melon jam 250
Qattama, puff pastry 249
 Raspberry jam 249
Shelpek, fried thin bread 249
Taba nan, bread 248
Turniyaz, soup with qurt 241
 Watermelon jam 250

Medieval Syrian, noodles

- Salma* 113
Tutnāj 113

Ming China, Gao Lian's recipes

- Black and moist candy 276

Comb-print crisps 275
 Crisp cookies 277
 Flour-with-oil candies 273
 Ghee 273
 Goat "marrow" candy 276
 Manchu candied fritter 274
 Nest of threads candy 275
 Pepper-and-salt cookies 276-277
 Pine nut cookies 273
 Pine nut halva 273-274
 Puffed buckwheat 275-276
 Roasted flour 272-273
Saboni 276
Shilaier, sweet 254
 Slices with mint (candy) 275
 Snowflake shortbread 274
 Sugar syrup 272
 White and moist candy 274
 Wind-dissolved cakes 277
 Yellow and moist halva 274

Tajik

Halva 278

Tatar

Peremech dumplings 188

Uzbekistan

Kok chuchwara, green dumplings 228-229

Oshkovok *manti* 187

Qawurma palaw, meat with rice 227-228

Yinshan Zhengyao (Medieval Mongol)

Bal-po soup 193-194

Barley *samsa* 189

Barley soup (*harisa*) 252

Cherry concentrate 252

Chuqmin, "long bread," 207

Cut flowers *manta* 187

Pomegranate syrup 252

Poppy seed rolls 160

Red currant *sharbat* 217

Roast wolf 24

Tangut lungs 232-233

Umach noodles 253

Willow-steamed lamb 194