

# THE YANGGUANZHAI ARCHAEOLOGICAL PROJECT, CHINA

**Course ID: ARCH 380A**

**June 24-July 28, 2018**

**FIELD SCHOOL DIRECTORS:**

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## INTRODUCTION

The prehistoric village of Yangguanzhai (YGZ) dates to the Middle to Late Yangshao period (3200-3,000 BCE). It is one of the largest settlements of its kind. The site is located in the Jing River Valley, approximately 25 kilometers north of the ancient city of Xi'an in northwest China. Since 2004, in preparation for a major construction project, the Shaanxi Provincial Institute of Archaeology began to conduct large-scale excavations and exploratory surveys – by means of test trenches and auguring with the Luoyang spade – in various parts of the site. More than 18,000 square meters have been excavated to date. These activities revealed a moat, a row of cave dwellings, subterranean houses, child urn-burials in the residential areas, and extensive pottery kilns. The quantity and quality of finds were impressive enough for the Chinese authorities to halt commercial development and declare the area a protected archaeological site. In 2010, as part of the ongoing excavation, a joint UCLA/Shaanxi Provincial Archaeological Academy/Xibe University project began to operate at the site. This project is shifting the focus from the large-scale exposure of architecture to a more careful and systematic analysis of local stratigraphy and a stronger emphasis on anthropological interpretations. Most recently, researchers from the Shaanxi Provincial Institute of Archaeology have discovered an extensive cemetery at the site belonging to the Miaodigou Period.

In its initial five seasons (2010-2014), the YGZ project excavated the northeastern portion near the moat, exposing multiple layers of domestic architecture. Like the other excavated sections of the YGZ site, no

clear pattern of planning or coherent arrangement of habitation spaces is evident, as compare to other known Neolithic villages in the region. Many features were found either adjacent or at very short distance from the moat. In 2016, the field project excavated several house foundations and hearths, as well as a potential pottery kilns and a child urn burial, adjacent to a large artificial reservoir in the south central part of the site. In 2017, field school work returned to the northeastern section of the site. There, students discovered additional pits, a possible dwelling, and the inhumation burial of an infant inside the fill of a pit - an unusual feature for the Miaodigou Period.

Although full understanding of YGZ still eludes us, a clearer picture has begun to emerge. Based on research into the formation processes of the moat and one of the pits excavated by the IFR field school, preliminary site formation models have been formulated. Results from the analysis of micromorphological samples suggests that the function of the moat has changed from “potentially defensive or symbolic in nature” (M. Fox 2016) to a garbage dumping place. Both environmental (mostly by water) and anthropogenic actions were responsible for such change, however, reasons behind the changes in human behavior throughout the occupation history of the site are still unclear.

The testing results and newly available <sup>14</sup>C dates indicate the existence of a long-lasting farming community at YGZ. The community subsisted on millet cultivation, husbandry of pigs, wild animal hunting, fishing, and wild plant gathering. YGZ people also invested heavily in ceramic manufacture, demonstrated not only by the enormous amount of pottery sherds discovered at the site, but the remaining kilns found in all seven excavated sectors at YGZ. Unlike earlier Neolithic villages where ceramic manufacturing was separated from the village in adjacent locations, the ceramic kilns found in YGZ are next to or built within residential areas. Imported ceramics such as white paste rings, either plain or painted with red colored patterns, attest to the fact that long distance contacts with other regions was commonplace.

What makes Yangguanzhai and other contemporary sites stand out in the Neolithic Period is the fact that about 90% of all uncovered features are pits. We aim not only to discover the reasons for this phenomenon, but also to make use of it in order to challenge the traditional notions of “pits” in Chinese archaeology. Up to now, settlement pits in China are commonly designated *huikeng*, literally meaning “ash pit”, but better translated as “refuse pit”. However, this describes only the last function in the use life of a pit, whereas many of the pits at Yangguanzhai are much too large to have started off as mere garbage dumps. One of the main purposes of our research is thus to elucidate the initial function of these pits, as potential pit dwellings for example, through careful excavation and documentation as well as micromorphological analysis to study their formation in depth. This is supplemented by the typology of artifacts that have not entered the pit as refuse and the analysis of botanical remains from the pits. This way, we attempt to replace the simplistic concept of “refuse pits” in Chinese archaeology with a more nuanced idea of what functions settlement pits may have had.

In the coming 2018 season, the project will continue working in the northeastern portion of the site near the moat. Students will witness and participate in the procurement and preparation of samples for micromorphological analysis. Another focus will be on post-excavation techniques such as flotation and the cataloguing of artifacts. Our main goal for the 2018 season is to clarify the nature and relationships of the pits and dwellings in the northeastern area of the site. This will likely include the opening of several new squares for excavation, depending on the size of the team and the nature of what we uncover. This way, we hope to gain a clearer picture of how the living and working spaces in the ancient settlement were structured and get closer to our goal of re-conceptualizing settlement pits in China. Of particular interest is the pit that contained the infant burial, since there are indicators that it might have been a dwelling.

The YGZ project provides not only training in field excavation, but also a full exposure to Chinese archaeology through lectures and visits to museums and archaeological sites of various periods. In addition, it provides opportunities for students to interact on a daily basis with Chinese students and to work closely with highly experienced Chinese archaeologists.

#### **ACADEMIC CREDIT UNITS & TRANSCRIPTS**

**Credit Units:** Attending students will be awarded 8 semester credit units (equivalent to 12 quarter credit units) through our academic partner, Connecticut College. Connecticut College is a private, highly ranked liberal arts institution with a deep commitment to undergraduate education. Students will receive a letter grade for attending this field school (see grading assessment and matrix). This field school provides a minimum of 160 direct instructional hours. Students are encouraged to discuss the transferability of credit units with faculty and registrars at their home institutions prior to attending this field school.

**Transcripts:** An official copy of transcripts will be mailed to the permanent address listed by students on their online application. One additional transcript may be sent to the student's home institution at no additional cost. Additional transcripts may be ordered at any time through the National Student Clearinghouse: <http://bit.ly/2hvrkl>.

#### **ARTIFACT IDENTIFICATION**

Students will learn the basic artifact types found at the YGZ site. These include pottery sherds, lithics, and ceramic tools. Students will also learn to excavate and identify human and animal bones. Student will learn how archaeologists use artifacts to reconstruct the layout of an ancient site, in order to learn about activities and ways of life in antiquity.

#### **DISCLAIMER – PLEASE READ CAREFULLY**

Archaeological work involves physical work in the outdoors. You should be aware that conditions in the field are different than those you experience in your home or college town. This program operates during the summer. During the day, temperatures in the shade can exceed 90°F and humidity is high. Our excavation units will be covered by partial-shade tarps but we are still working in the outdoors. Good shoes, a hat, and work clothes are mandatory. Appropriate attire includes loose clothing that protects skin. Long pants and closed toe shoes are required for excavation work. Avoid dangling jewelry. Sunglasses with UV protection are recommended. Mosquito repellent and sun block lotion are also needed.

If you have medical concerns, please discuss them with your doctor. All other concerns may be discussed with project directors – as appropriate.

#### **SOILS, STRATIGRAPHY, AND GEOARCHAEOLOGY**

An archaeological site cannot be interpreted without an understanding of how the layers of sediment at the site became deposited over time, both by natural and human processes. Students will learn how archaeologists identify different soil and sediment types and then use this information to help reconstruct a chronology of the archaeological strata, as well as to clarify the relationships between different parts of the site and excavated artifacts.

In addition, students will learn about the geoarchaeological method of micromorphology. This technique consists in extracting samples of sediment from archaeological features for further analysis in a laboratory, which can reveal the specific composition of the earthen matrix and the history of its deposition. These insights are of tremendous help in understanding how certain features were formed

and how they were impacted by the environment. Students will learn about the extraction and preparation of samples first hand, while the laboratory part of the analysis will be covered in lecture by a specialist.

### **ASSEMBLAGE ANALYSIS**

Once the excavation of a site has begun, archaeologists must have a clear understanding of the spatial relationships of various parts of the site. Vertical and horizontal stratigraphy provide critical contexts for understanding the function and use of artifacts, as well as determining the occupation history of the site, including how its major and minor features relate to each other. Students will gain an understanding of this interpretive process as the excavation proceeds. They will thereby learn how spatial analysis creates a framework for excavation planning and post-excavation analyses.

### **SURVEY TECHNIQUES**

Students will be introduced to a survey technique that is unique to Chinese archaeology: the Luoyang spade. Students will work together with YGZ field technicians and learn how to identify soil samples from natural and cultural deposits.

### **FLOTATION**

Archaeological flotation involves using water to process soil or archaeological deposits to recover tiny artifacts, specifically botanical remains. At the YGZ site, students will use simple techniques in flotation to extract plant seeds for later analysis.

This field school is a collaboration between the Institute for Field Research, UCLA, the Shaanxi Archaeological Academy and Xibei University in Xi'an, China. The course will begin on June 24 and will meet daily until July 28. Students will be able to depart for onward travel or return home on July 28.

Students will spend the first week in Xi'an for four days of lectures and instructional museum tours. The classroom lectures will focus on questions of archaeological method and theory on the one hand and the particularities of Chinese archaeology on the other hand. The students will be introduced to some of the most important archaeological finds in the Wei River Valley, as well as to various anthropological themes related to the Yangshao culture and the Yangguanzhai site. Important topics covered in the class include the history of Chinese archaeology, the origins of agriculture and animal domestication, sedentary villages, ritual, and craft specialization.

Following this initial week of preliminary instruction, three weeks will be spent in the field performing survey, excavation, and lab work at the Yangguanzhai Station near the Yangguanzhai site.

### **HOW TO REPORT SEXUAL HARRASSMENT AND DISCRIMINATION**

The project staff takes issues of sexual harassment and discrimination very seriously. We follow the guidelines set up by the IFR: <http://bit.ly/2ADfeBH>. Do not hesitate to report any inappropriate behavior using the IFR hotline (24/7): +1 (424) 226-6983 or IFR email: [info@ifrglobal.org](mailto:info@ifrglobal.org).

### **GRADING MATRIX**

Grading will be based on two different components: Fieldwork and presentations. The following is the grade breakdown:

**Fieldwork (60%):** Students are required to participate in excavation activities at the site every working day and to keep field records, which will be checked regularly.

**Two presentations, in oral and written format (2 x 20%):** Students are required to prepare two PowerPoint presentations - a mid-season and a final presentation - that use materials from lectures,

readings, and fieldwork. Students will work in team on their presentations (each 2-to-3-person team comprises students from China and the United States). The presentations will be given orally and also will be submitted in a written format. Grades will be assigned for each team member based on the grade assigned to the team and individual performance.

### **PREREQUISITES**

There are no prerequisites for participation. This course will focus on hands-on, experiential learning. Students will study on site how to conduct archaeological research. Excavation involves physical work and exposure to the elements as well as a certain amount of improvisation, and it requires a willingness to adapt to new situations and an ability to react to unforeseen developments in a creative and flexible manner. An archaeological field school like ours is therefore rather different from the typical university learning experience. Furthermore, excavations are a team effort requiring cooperation and willingness to discuss and compromise.

You will encounter unfamiliar situations and people who think very differently from yourself, which can be a challenge but also a great adventure. You will get sweaty and tired and have to work outdoors, so please be sure that you are physically able to do so.

Students are required to come equipped with sufficient excitement and adequate understanding that the archaeological endeavor requires real, often hard work – in the sun, on your feet and with your trowel.

### **ACCOMMODATIONS**

During the first week of the field school, students will live in a student dormitory at Xibei University in the city of Xi'an. While in the field, students will reside at the Wufulinmen Hotel near the site.

Food is provided Monday to Saturday (breakfast, lunch, and dinner). Students are responsible for their own meals on Sundays. All meals will be communal events and will provide plenty of nutritious but basic food in the tradition of local cuisine. The daily diet in north China is heavily based on rice, noodles, and vegetables. Specialized diets (vegan, kosher, etc.) are difficult to maintain in this location. Vegetarians may find options fairly limited, and should be prepared to be flexible when eating the local food, or should bring supplemental food (e.g. protein bars) if they think it will be necessary.

### **TRAVEL & MEETING POINT**

Students will be met at the Xi'an airport or train station, or may travel themselves directly to the Cuiyuan Hotel, located on the campus of Xibei University (city of X'ian) on June 24. Students may travel to X'ian by train or may fly into the Xi'an-Xianyang international airport (XIY). Please note that train tickets often sell out in summer and should be purchased well in advance through a website such as English.Ctrip.com or through a local travel agent. From Beijing to Xi'an, high speed trains leave every 1 to 2 hours throughout the day. If you are unable to purchase the ticket you desire, you can always take a slower train. There are also many domestic flights to Xi'an from other points of entry into China such as Hong Kong, Shanghai, and Beijing, and some international flights go directly to Xi'an.

The program coordinators will meet the students at the airport on June 24 one time between 11 AM and 2 PM; and at the North Train Station between 2:15 PM and 4 PM. Those who miss the meeting time can take the public transportation or a taxi to the Cuiyuan Hotel (the meeting time is subject to change once we know students' travel schedules).

The address of the Cuiyuan Hotel is: No. 229 Taibai Beilu, Northwest University, Xi'an (西北大学翠园宾馆, 太白北路 229 号)

From the airport, take the shuttle bus to Nanshaomen ( 7 天酒店西安小雁塔南稍门机场大巴店, 25 RMB), then take a taxi to the Cuiyuan Hotel, (翠园宾馆, 14 to 16 RMB), or you can take a taxi at the airport directly to the hotel (106-116 RMB).

From Xi'an North Station (high speed railway station): take Subway Line 2, to Yongningmen (永宁门), take Exit C, walk about 170 meters, to the Nanmen stop of Bus 701; the fourth stop is Xi'an Chengjiao (西南城角), get off, cross the street (please take the crosswalk!!), and you will arrive at the north gate of Xibei University (Xi'bei Daxue). Pass through the north gate and walk straight south on campus to the Cuiyuan Hotel (about 10 min).

From Xi'an West Station (station for non-high speed trains): walk 400 meters to the West station stop of Bus 900 or Bus 21, the fifth stop is the Xibei Daxue stop. Get off, walk to the west gate of the campus. Pass through the west gate, walk east on campus to the Cuiyuan Hotel (about 10 min).

## VISA APPLICATION

Non-Chinese participants are required to secure a tourist visa to China prior to arrival. You should apply for the visa several months ahead of time. You can download your visa application here:

<http://losangeles.chinaconsulate.org/eng/visa/forms/P020110615059220818410.pdf>

All students should apply for a Tourist visa (L visa) for **60 days, unless you plan to stay in China longer**. On Section 2 of the form, please fill in the fields using the following options:

- 2.1: mark: Tourism
- 2.2: mark: One entry valid for 3 months, unless you want to come back to China multiple times this year.
- 2.4: write down the days you plan to stay in China: at least 40 days--our program is 34 days.
- 2.5 :
  - 1. No. 229 Taibai Beilu, Cuiyuan Hotel, Northwest University, Xi'an, Shaanxi Province, tel: 029-8841-5914
  - 2. Wufulinmen Hotel, Weiyang Road, Jinwei Industrial Park, Xi'an, Shaanxi Province, tel: 137-7207-0955
- 2.6 myself
- 2.8 International Exchange Program, Northwest University, No. 229 Taibai beilu, Xi'an, Shaanxi
- 2.9 Please mark the following individuals:
  - Li Chang'an, International Exchange Program, Northwest U. No. 229 Taibai beilu, Xi'an, Shaanxi, 133-1918-0992
  - Sun Zhouyong, Shaanxi Provincial Institute of Archaeology, No. 33 Leyou lu, Xi'an, Shaanxi, 135-7289-6679
  - Ye Wa, Shaanxi Provincial Institute of Archaeology, No. 33 Leyou lu, Xi'an, Shaanxi, 187-1730-6309

## EQUIPMENT LIST

- Passport
- Entry visa to China
- Close-toed shoes
- Sunscreen
- Mosquito repellent
- Wide brim hat
- Sunglasses
- Powdered Gatorade
- Immodium
- Medications or prescriptions that you need
- Preferred feminine hygiene products
- A few pairs of work pants and shirts

Alert your credit card company and ATM bank that you will be abroad so they don't think your cards have been stolen and cancel your access.

If you want to use your phone, alert your carrier that you will be abroad and ask about rates, or plan to obtain a local SIM card.

Electrical adapters to the Chinese electrical system (have a look here to see what you need for China as compared to what you may already own: <http://www.rei.com/learn/expert-advice/electricity-voltage-by-country.html>)

## **SCHEDULE**

All reading materials will be provided as PDF files to students through a shared Dropbox folder.

Week 1 (June 24-30)

### **June 24, 2018 (Sunday)**

**6:00 PM: Participants meet at Cuiyuan Hotel, Xibei University for dinner and program briefing.**

### **June 25, 2018 (Monday)**

The first week of classroom lectures focuses on three topics: the history of Chinese archaeology; a brief review of Shaanxi archaeology with emphasis on Wei River Neolithic archaeology and the YGZ site; theory and method of archaeology. Students need to pay attention to the keywords of each lecture.

**Breakfast 7:00 AM** Student dining hall, Xibei University

**Lecture I 8:30AM—10:00AM**

**Professor Lothar von Falkenhausen (Cotsen Institute of Archaeology, UCLA): Brief History of Chinese Archaeology**

Keywords: *Jinshixue* tradition, modern archaeology in China, methodology, research questions, recent topics in Chinese archaeology

Discussion: 10:00-10:30

Break: 10:30-10:45

**Lecture II 10:45 AM-11:45AM**

**Professor Zhang Hongyan (Department of Archaeology, Xibei University): Introduction to Chinese archaeology**

Keywords: Geographical overview, chronology, cultures, features, key sites in Shaanxi (Paleolithic, Neolithic, Bronze Age, Qin to Tang dynasties)

Discussion: 11:45AM-12:00PM

**Lunch break (12:00-2:30PM)**

**Lecture III 2:30 PM-4:30PM**

**Professor Zhang Hongyan (Department of Archaeology, Xibei University): Neolithic Cultures of the Wei River Valley**

**Key words:** Laoguantai culture (8000-7000 BP), Yangshao culture (7000-5000 BP), Longshan culture (5000-4000 BP)

### **June 26, 2018 (Tuesday)**

**Breakfast 7:00 AM** Student dining hall, Xibei University

**Lecture IV 8:30AM—9:30AM**

**Dr. Richard Ehrich: Brief Introduction to Archaeological Method**

Keywords: excavation, stratigraphy, survey, experimental archaeology

**Lecture V 10:15AM-11:15AM**

**Professor Wang Weilin (SPIOA): The Yangguzhai Project, its important discoveries, and the research results obtained so far**

Key words: Miaodigou phase, Banpo IV phase, archaeological features, pottery production

Discussion: 11:15-11:45 AM

**Lunch break (12:00-2:30PM)**

**Tour 2:30-5:00 PM**

**Professor Zhang Hongyan: Laboratory and Xibei University Museum visiting**

Handouts: illustrations of pottery of the early, middle, and late Yangshao culture

### **June 27, 2018 (Wednesday)**

**Breakfast 7:00 AM** Student dining hall, Xibei University

**Lecture VI 8:30AM—10:00 AM**

**Professor Qian Yaopeng (Xibei University): Settlement Archaeology in China**

Keywords: Neolithic settlement in the Yellow River region, Settlement remains analysis, Settlement pattern analysis, Settlement relationships

**Break 10:00AM-10:15AM**

**Lecture VII 10:15AM-11:45 AM**

**Elizabeth Berger (UNC): Human Osteology**

Handout: Introduction to human osteology, selection from physical anthropology handbook

**Lunch break (12:00-1:00PM)**

**Afternoon:** visit to the Banpo Museum. Led by **Professor Qian Yaopeng (Xibei University)**, leave Xibei University at 1:00 PM

Leave the museum at 5:00 PM

### **June 28, 2018 (Thursday)**

**Breakfast 7:00 AM** Student dining hall, Xibei University

**Lecture VIII 8:30AM—10:00 AM**

**Yang Liping (Shaanxi Institute of Archaeology): Systematic overview on field methods as pertaining to Yangguzhai**

Handouts: On site recording check list and excavation forms

**10:00AM-10:15 break**

**Lecture IX 10:15-11:45 AM**

**Dr. Ye Wa (UCLA): The Yangguzhai Project 2010-2017**

Formation process (cultural deposition and environmental formation process), archaeological record, craft production

**Lunch break: 12:00PM-1:00 PM**



### **June 29, 2018 (Friday)**

**Breakfast 7:00 AM** student dining hall, Xibei University

**Leave at 9:00 AM from Xibei University. Bring all your belongings.**

We shall visit the Museum of Terracotta Soldiers and Horses (tomb of the first Chinese emperor, Qin Shihuangdi, now a UNESCO World Heritage Site) in the morning, and will transfer to the Wufulinmen Hotel, a hotel near the Yangguzhai site. Students will move into their rooms (2 students per room).

**12:30 PM:** Picnic at the Museum of the Terracotta Army.

**3:00 PM:** Leave for YGZ site, check-in at the Wufulinmen Hotel.

**7:00 PM:** Dinner, meet at the lobby of Wufulinmen Hotel.

### **June 30, 2018 (Saturday)**

**8:00 AM: Breakfast at the Wufulinmen Hotel.**

**9:00 AM: Visit the Yangguzhai site and discuss this year's excavation plan in the field.**

**12:30 PM: Lunch**

**Afternoon: Visit the Yangguzhai Field Lab**

**2:30 PM: meet at the Yangguzhai Field Lab**

**Lecture:**

**Yang Liping: Yangguzhai recording system**

**Handout: field journal**

7:00 PM: Dinner, meet at the lobby of the Wufulinmen Hotel.

### **Sunday July 1, 2018 (Sunday)**

Free time, optional outing to supermarket

### **PART TWO: Fieldwork (July 2 - July 27, 2018)**

Intensive excavations and lab work at the Yangguzhai site and the Yangguzhai field research station. Students may return to Xi'an for organized field trips on the weekends, staying Saturday night at the Xibei University dorms at your own expense, and returning to the site on Sunday before 5 pm.

Project directors and scholars who visit the site will give lectures on site or at the hotel where we are staying. The times are not fixed yet, since it depends on their availability, but we will announce them to the team as soon as we know. One of these lectures will be:

**Mathew L. Fox (University of Arizona): Soils and Site Formation: The Geoarchaeology of loess-paleosol sequences and midden deposits at Yangguzhai.**

In addition, we will have lectures on the following topics:

- 1) Archaeological Science
- 2) Mortuary Archaeology
- 3) Experimental Archaeology

Detailed assignment of each week's tasks will be explained to student at the site.

Notice: The monsoon season starts mid-June in northern China; our lab work (washing pottery sherds, flotation, cataloging) is usually arranged on rainy days.

**Daily schedule (Monday through Saturday):**

**6:40 AM: breakfast**

**7:00 AM: arrive at the site by bicycle and work till 11:30 AM**

**12: 00-3:00 PM: lunch break**

**3:30 PM: bike to the site and work till 7:00 PM**

**7:30 PM: Dinner**

**July 13, 2018 (Friday)**

**2:00 PM Mid-Season Presentation**

Students present their research results and further questions at this stage in the season, 20-25 min per group. Professors from collaborating institutions will comment on the presentations.

**July 27, 2018 (Friday)**

**Morning:** group discussion; preparation of presentations

**12:00 PM: Lunch**

**1:30 PM: Meet at the YGZ Lab**

**2:00 PM: Final Presentation**

Same procedure as the mid-season presentation.

**7:00 PM: Farewell Party at the Xincheng Restaurant.**

**July 28, 2018 (Saturday)**

Students depart

**REQUIRED READINGS**

K.C. Chang. (1986). *The Archaeology of Ancient China* (4<sup>th</sup> edition). New Haven and London: Yale University Press. Chapters 2 "The Early Farmers," pp. 71-95; Chapter 3 "Regional Neolithic Developments in North China," pp. 107-123.

Lee, Yun-Kuen (2007). Centripetal Settlement and Segmentary Social Formation of the Banpo Tradition. *Journal of Anthropological Archaeology* 26: 630-675.

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Falkenhausen, Lothar von (1995). The Regionalist Paradigm in Chinese Archaeology. In, *Nationalism, Politics and the Practice of Archaeology*, edited by P. Kohl and C. Fawcett. New York: Cambridge University Press. Pp. 198-216.

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### SUPPLEMENTAL READINGS

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- Fitzgerald-Huber, Louisa G. (1999). The Yangshao Culture: Banpo. *The Golden Age of Archaeology: Celebrated Discoveries from the People's Republic of China*, edited by Yang Xiaoneng. Washington: National Gallery of Art. Pp. 54-77.
- Flad, Rowan K., Yuan Jing, and Li Shuicheng (2007). Zooarchaeological Evidence for Animal Domestication in Northwest China. In *Late Quaternary Climate Change and Human Adaptation in Arid China*, edited by David B. Madsen, Chen FaHu, et al. Amsterdam: Elsevier Press. Pp. 163-199.
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