

Isotopic analysis of dietary patterns in northern China from the Proto-Shang Period to the Qin Dynasty $_{\rm Ma,\ Y.}$

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REFERENCES

- Archaeological Institute of Henan Province (AIHP). 2001. The Shang City of Zhengzhou. Zhongzhou Guji Chubanshe, Zhengzhou. (in Chinese)
- Archaeological Institute of Zhejiang Province (AIZP) and Pujiang Museum. 2007. The brief excavation report of the Shangshan Site, Pujiang, Zhejiang Province. Archaeology 9, 7-18. (in Chinese)
- Albarella, U., Rizzetto, M., Russ, H., Vickers, K., Viner-Daniels, S. 2016. The Oxford Handbook of Zooarchaeology. Oxford University Press, Oxford.
- Allan, S. 1984. The myth of the Xia Dynasty. Journal of the Royal Asiatic Society of Great Britain and Ireland 2, 242-256.
- Allan S. 2007. Erlitou and the formation of Chinese civilization: Toward a new paradigm. Journal of Asian studies 66, 461-497.
- Allan, S. 2010. The Shape of Turtle: Myth, Art and Cosmos in Early China. Wang, T. (Trans.). The Commercial Press, Beijing. (in Chinese)
- Ambrose, S.H. and Norr, L. 1993. Experimental evidence for the relationship of the carbon isotope ratios of whole diet and dietary protein to those of bone collagen and carbonate. In: Lambert, J.B. and Grupe, G. (Eds.), Prehistoric Human Bone: Archaeology at the Molecular Level. Springer-Verlag, Berlin, pp.1-37.
- An, Z. 1989. Prehistoric agriculture in China. In: Harris, D.R. and Hillman, G.C. (Eds.), Foraging and Farming: The evolution of plant exploitation. Unwin Hyman, London, pp. 643-649.
- Anonymous. 2009. Bamboo Annals. Shidai Wenyi Press, Jilin. (in Chinese)
- Atahan, P., Dodson, J., Li, X., Zhou, X., Hu, S., Chen, L. 2011a. Early Neolithic diets at Baijia, Wei river valley, China: Stable carbon. Journal of Archaeological Science 38, 2811-2817.
- Atahan, P., Dodson, J., Li, X., Zhou, X., Hu, S., Bertuch, F. 2011b. Subsistence and the isotopic signature of herding in the Bronze Age Hexi Corridor, NW Gansu, China. Journal of Archaeological Science 38, 1747-1753.
- Bada, J.L., Peterson, R.O., Schimmelmann, A., Hedges, R.E.M. 1990. Moose teeth as monitors of environmental isotopic parameters. Oecologia 82, 102-106.
- Baeten, J. 2012. Development and application of archaeological biomarkers in organic residue analysis. D.Phil. thesis. Catholic University of Louvain.

- Bai, Z. 2010a. Bai Shouyi Twenty Talks about Chinese History: Xia, Shang, Zhou Volume. China Friendship Publishing Company. (in Chinese)
- Bai, Z. 2010b. Bai Shouyi Twenty Talks about Chinese History: Qin and Han Volume. China Friendship Publishing Company. (in Chinese)
- Ban, G. 2007. Hanshu: History of the Former Han. Zhonghua Book Company, Beijing.
- Barnes, G.L. 1999. China, Korea and Japan: The Rise of Civilization in East Asia. Thames and Hudson, London.
- Barton, L. and An, C. 2014. An evaluation of competing hypotheses for the early adoption of wheat in East Asia. World Archaeology 46, 775-798.
- Barton, L., Newsome, S.D., Chen, F.H., Wang, H., Guilderson, T.P., Bettinger, R.L. 2009. Agricultural origins and the isotopic identity of domestication in northern China. Proceedings of the National Academy of Sciences 106, 5523-5528.
- Bass, W.M. 2005. Human Osteology: A Laboratory and Field Manual. Missouri Archaeological Society, Columbia, MO.
- Bender, M.M., Rouhani, I., Vines, H.M., Black, C.C. 1973. ¹³C/¹²C ratio changes in Crassulacean acid metabolism plants. Plant Physiology 52, 427-430.
- Bender, M.M., Baerreis, D.A. and Steveton, R.L. 1981. Further light on carbon isotopes and Hopewell agriculture. American Antiquity 46, 346-353.
- Betts, A., Jia, P.W. and Dodson, J. The origins of wheat in China and potential pathways for its introduction: A review. 2014. Quaternary International, 348, 158-168.
- Bocherens, H. and Drucker, D. 2003 Trophic level isotopic enrichment of carbon and nitrogen in bone collagen: Case studies from recent and ancient terrestrial ecosystems. International Journal of Osteoarchaeology 13, 46-53.
- Bottrell, S.H. and Newton, R.J. 2006. Reconstruction of changes in global sulfur cycling from marine sulfate isotopes. Earth-Science Reviews 75, 59-83.
- Brand, W. 2002. Mass spectrometer hardware for analyzing stable isotope ratios. In: Groot, P.A.D. (Eds.), Handbook of stable isotope analytical techniques. Elsevier, Amsterdam, pp. 835-856.
- Britton, K., Gaudzinski-Windheuser, S., Roebroeks, W., Kindler, L., Richards, M.P. 2012. Stable isotope analysis of well-preserved 120,000-year-old herbivore bone collagen from the middle Palaeolithic site of Neumark-Nord 2, Germany reveals niche separation between

- bovids and equids. Palaeogeography Palaeoclimatology Palaeoecology 333, 168-177.
- Broderick, L. 2016. People with Animals: Perspectives and Studies in Ethnozooarchaeology. Oxbow Books, Oxford.
- Brown, T.A., Nelson, D.E., Vogel, J.S., Southon, J.R. 1988. Improved collagen extraction by modified Longin method. Radiocarbon 30, 171-177.
- Burlingame, A.L. and Schnoes, H.K. 1969. MS in organic geochemistry. In: Elington, G. and Murphy, M.T.J. (Eds.), Organic Geochemistry. Springer-Verlag, Heidelberg, pp. 96-104.
- Cai, S. 1987. The Collection of Shu Jing. Shanghai Guji Press, Shanghai. (in Chinese)
- Cai, L. and Qiu, S. 1984. ¹³C analysis and paleodiet reconstruction. Kaogu 10, 945-955. (in Chinese)
- Cai, D., Sun, Y., Tang, Z., Hu, S., Li, W., Zhao, X., Xiang, H., Zhou, H. 2014. The origins of Chinese domestic cattle as revealed by ancient DNA analysis. Journal of Archaeological Science, 41, 423-434.
- Campbell, R.B. 2014. Archaeology of the Chinese Bronze Age: From Erlitou to Anyang (Monographs). The Cotsen Institute of Archaeology Press, Los Angeles.
- Carter, J.F. and Barwick, V.J. 2012. Good practice guide for isotope ratio mass spectrometry. Veterinary Record 168, 220-221.
- The Complete Collection of Chinese Bronze Vessels Editorial Board (CBV EB). 1996. The Complete Collection of Chinese Bronze Vessels: Western Zhou Volume. Wenwu Press, Beijing. (in Chinese)
- Cerling, T.E. and Harris, J.M. 1999. Carbon isotope fractionation between diet and bioapatite in ungulate mammals and implications for ecological and palecological studies. Oecologia 120, 347-363.
- Chang, C. 2007. Rise of the Chinese Empire: Nation, State, and Imperialism in Early China, CA. 1600BC-8AD. University of Michigan Press, Michigan.
- Chao, F. 2016. The Social Changes during Xia, Shang and Zhou Dynasties. China Renmin University Press, Beijing. (in Chinese)
- Chen, X. 2001. The Archaeology of Xia and Shang. Wenwu Press, Beijing. (in Chinese)
- Chen, W. 2002. Agriculture Archaeology. Wenwu Press, Beijing. (in Chinese)
- Chen, Z. 2004. From exclusive Xia to inclusive Zhu-Xia: The conceptualization of Chinese identity in early China. Journal of the Royal Asiatic Society 14, 185-205.

- Chen, W. 2005. The History of Agricultural Civilization in China. Jiangxi Science and Technology Press, Nanchang.
- Chen, W. 2007. The Chinese Agriculture History: Xia, Shang, Western Zhou, Spring and Autumn Volume. China Agriculture Press, Beijing. (in Chinese)
- Chen, X. 2014. The History of Spring and Autumn. Shanghai Renmin Press, Shanghai. (in Chinese)
- Chen, B, Zhang, J. and Lv, H. 1995. The discovery and significance of the rice phytolith at Jiahu site, Henan. Chinese Science Bulletin 40, 339-342. (in Chinese)
- Chen, X., Yuan, J., Hu, Y., He, N., Wang, C. 2012. Animal feeding practice at Taosi site. Archaeology 9, 75-82. (in Chinese)
- Chen, X., Fang, Y., Hu, Y., Hou, Y., Lü, P., Yuan, J. 2015. Isotopic reconstruction of the late longshan period (ca. 4200–3900 BP) dietary complexity before the onset of state-level societies at the Wadian site in the Ying River Valley, Central Plains, China. International Journal of Osteoarchaeology 137, oa.2482.
- Chen, X., Hu, S., Hu, Y., Wang, W., Ma, Y., Lü, P. 2016. Raising practices of Neolithic livestock evidenced by stable isotope analysis in the Wei River Valley, North China. International Journal of Osteoarchaeology 26, 42-52.
- China National Museum. 2009a. Culture Relics and History of Xia, Shang and Zhou. Zhonghua Book Company, Beijing. (in Chinese)
- China National Museum. 2009b. Culture Relics and History of Spring and Autumn and Warring States. Zhonghua Book Company, Beijing. (in Chinese)
- China National Museum. 2009c. Culture Relics and History of Qin and Han. Zhonghua Book Company, Beijing. (in Chinese)
- China National Museum. 2009d. Culture Relics of Prehistory. Zhonghua Book Company, Beijing. (in Chinese)
- Chisholm, B.S., Nelson, D.E. and Schwarcz, H.P. 1982. Stable carbon isotope ratios as a measure of marine versus terrestrial protein in ancient diets. Science 216, 1131-1132.
- Choi, W.j., Ro, H.M. and Hobbie, E.A. 2003. Patterns of natural ¹⁵N in soils and plants from chemically and organically fertilized uplands. Soil Biology & Biochemistry 35, 1493-1500.
- Cohen, D.J. and Murowchick, R.E. 2014. Early complex societies in Northern China. In: Renfrew,C. and Bahn, P. (Eds.), The Cambridge World Prehistory 2. Cambridge University Press,Cambridge, pp. 782-806.

- Confucius. 2006. Lunyu: Analects of Confucius. Zhonghua Book Company, Beijing. (in Chinese).
- Coplen, T.B. and Krouse, H.R. 1998. Sulphur isotope data consistency improved. Nature 392, 32.
- Cotterell, A. 1981. Emperor of China: The Greatest Archeological find of Our Time. Holt, Rinehart and Winston, New York.
- Coyston, S., White, C.D. and Schwarcz, H.P. 1999. Dietary carbonate analysis of bone and enamel for two sites in Belize. In: White, C.D. (Eds.), Reconstructing Ancient Maya Diet. University of Utah Press, Salt Lake City, pp. 221-244.
- Craig, H. 1953. The geochemistry of the stable carbon isotopes. Geochimica et Cosmochimica Acta 3, 53-92.
- Craig, A.M. 2007. The heritage of Chinese civilization. Pearson Prentice Hall, Upper Saddle River, New Jersey.
- Crawford, G., Underhill, A.P., Zhao, Z., Lee, G.A., Feinman, G. M., Nicholas, L. M., Luan, F., Yu, H., Fang, H., Cai, F. 2005. Late Neolithic Plant Remains from Northern China: Preliminary Results from Liangchengzhen, Shandong. Current Anthropology 46, 309-317.
- Crawford, G.W., Chen, X. and Wang, J. 2006. Houli culture rice from the Yuezhuang site, Jinan. Eastern Archaeology 3, 247-251. (in Chinese)
- Cui, Y., Hu, Y., Chen, H., Dong, Y., Guan, L., Wong, Y. 2006. Stable isotopic analysis on human bones from Zongri site. Quaternary Sciences 26, 604-611. (in Chinese)
- Dai S. 2014. Liji: Book of Rites. Huangshan Publishing House, Hefei. (in Chinese)
- Defrance, S.D. 2009. Zooarchaeology in complex societies: political economy, status, and ideology. Journal of Archaeological Research 17, 105-168.
- Dematte, P. 1999. Longshan-era urbanism: The role of cities in predynastic China. Asian Perspectives 2, 119-153.
- DeNiro, M.J. 1985. Post-mortem preservation and alteration of in vivo bone collagen isotope ratios in relation to paleodietary reconstruction. Nature 317, 806-809.
- DeNiro, M.J. and Epstein, S. 1978. Influence of diet on the distribution of carbon isotopes in animals. Geochimica et Cosmochimica Acta 42, 495-506.
- DeNiro, M.J. and Epstein, S. 1981. Influence of diet on the distribution of nitrogen isotopes in animals. Geochimica et Cosmochimica Acta 45, 341-351.
- Ding, S. 1988. Research on the History of Shang and Zhou Dynasties. Zhonghua Book Company, Beijing. (in Chinese)

- Dodson, J. R., Li, X., Zhou, X., Zhao, K., Sun, N., Atahan, P. 2013. Origin and spread of wheat in China. Quaternary Science Reviews 72, 108-111.
- Dong, Y., Hu, Y., Zhang, Q., Cui, Y., Guan, L., Wang, C. 2007. Stable isotopic analysis on human bones of the Lamadong Site, Beipiao, Liaoning Province. Acta Anthropologica Sinica 1, 77-84. (in Chinese)
- Duan, Q. 2011. The Archaeological Research on the Qin Shi Huangdi Mausoleum. Peking University Press, Beijing. (in Chinese)
- Duke of Zhou. 2014. Zhouli: Rites of Zhou. Zhonghua Book Company, Beijing. (in Chinese)
- Dupras, T.L. and Tocheri, M.W. 2007. Reconstructing infant weaning histories at Roman period Kellis, Egypt using stable isotope analysis of dentition. American Journal of Physical Anthropology 134, 63-74.
- Eerkens, J.W, and Barnard, H. 2007. Theory and Practice of Archaeological Residue Analysis.

 British Archaeological Reports, Oxford.
- Evershed, R.P. 1993. Biomolecular archaeology and lipids. World Archaeology 25, 74-93.
- Evershed, R.P. 2008. Organic residue analysis in archaeology: the archaeological biomarker revolution. Archaeometry 50, 895-924.
- Evershed, R.P., Heron, C. and Goad, L.J. 1990. Analysis of organic residues of archaeological origin by high-temperature gas chromatography and gas chromatography-mass spectrometry. Analyst 115, 1339-1342.
- Fan, Z. 1986. The Agriculture at Guanzhong Plain during Zhou Dynasty: Evidence from the inscriptions on bronzes. China Agriculture History 1, 61-66. (in Chinese)
- Faure, G. 1997. Principles of Isotope Geology. Wiley, New York, pp. 523-552.
- Faure, G. and Mensing, T.M. 2005. Isotopes: principles and applications. Wiley, Hoboken.
- Feng, M. 2009. The History of Eastern Zhou States. Zhonghua Book Company, Beijing. (in Chinese)
- Feng, Z. 2015. The Rise and Fall in the Map: Qin, from Tribe to Empire. Sino Maps Press, Beijing. (in Chinese)
- Fogel, M.L., Turross, N. and Owsley, D. 1989. Nitrogen isotope tracers of human lactation in modern and archaeological populations. Annual Report of the Director, Geophysical Laboratory, Carnegie Institution of Washington: Carnegie Institution of Washington, Washington D.C., pp. 111-116.

- France, R.L. 1995. Differentiation between littoral and pelagic food webs in lakes using carbon isotopes. Limnology & Oceanography 40, 1310-1313.
- Fritz, P. and Fontes, J.C. 1986. Handbook of Environmental Isotope Geochemistry. Elsevier B. V., Amsterdam.
- Fry, B. 2006. Stable Isotope Ecology. Springer, New York.
- Fry, B. and Sheer, E.S. 1984. δ ¹³C Measurements as indicators of carbon flow in marine and freshwater ecosystems. Contributions in Marine Science 27, 13-47.
- Fuller, B.T., Richards, M.P. and Mays, S.A. 2003. Stable carbon and nitrogen isotope variations in tooth dentine serial sections from Wharram Percy. Journal of Archaeological Science 30, 1673-1684.
- Fuller, B.T., Fuller, J.L., Harris, D.A., Hedges, R.E.M. 2006a. Detection of breastfeeding and weaning in modern human infants with carbon and nitrogen stable isotope ratios. American Journal of Physical anthropology 129, 279-293.
- Fuller, B.T., Molleson, T.I., Harris, D.A., Gilmour, L.T., Hedges, R.E.M. 2006b. Isotopic evidence for breastfeeding and possible adult dietary differences from Late/Sub-Roman Britain. American Journal of Physical Anthropology 136, 327-337.
- Gao, J. 2009. An Archaeological Study of Civilizing Couse in Central Plains. Dongfang Press, Beijing. (in Chinese)
- Gao, F. and Xu, W. 2013. Review on the research of Emperor Mausoleum during Qin to Han Dynasties (1949-2012). Study on Qin and Han Dynasties 7, 285-322. (in Chinese)
- Gong, Q. 2002. Yangshao Culture. Wenwu Press, Beijing. (in Chinese)
- Gong, C. and Xu, Y. 2011. Offspring and Lessons of Yin Dynasty. China Social Science Press, Beijing. (in Chinese)
- Gremillion, K.J. 1997. People, Plants and Landscapes: Studies in Paleoethnobotany. The University of Alabama Press, Tuscaloosa.
- Gu, G. 2007. Shennong Bencaojing: The Classic of Herbal Medicine. Harbin Press, Harbin. (in Chinese)
- Gu, J. 2015. National History: Spring and Autumn. Shanghai Century Publishing, Shanghai. (in Chinese)
- Guan, L., Hu, Y., Tang, Z., Yang, Y., Dong, Y., Cui, Y. 2007. Stable isotopic analysis on sus bones from the Wanfabozi site, Tonghua, Jilin. Chinese Science Bulletin 52, 3393-3396.

- Guiry, E.J., Hepburn, J.C. and Richards, M.P. 2016. High-resolution serial sampling for nitrogen stable isotope analysis of archaeological mammal teeth. Journal of Archaeological Science 69, 21-28.
- Guo, W. 2015. The animal husbandry from Oracle bones. Jiannan Wenxue: Classical literature 5, 268. (in Chinese)
- Guo, Y., Hu, Y., Zhu, J., Zhou, M., Wang, C., Richards, M.P. 2011. Stable carbon and nitrogen isotope evidence of human and pig diets at the Qinglongquan site, China. Science China Earth Science 54, 519-527.
- Han, J. 2011. Huizhu, Taosi and Erlitou: The evolution of early Chinese civilization. Archarology 11,71-78. (in Chinese)
- Han, J. 2015. Early China: The Making of the Chinese Culture Sphere. Shanghai Guji Press, Shanghai. (in Chinese)
- Han, Z. and Zhao, G. 2010. Fifteen Talks about the History of Qin and Han. Phoenix Publishing House, Nanjing. (in Chinese)
- Hastorf, C.A. 1999. Recent research in paleoethnobotany. Journal of Archaeological Research 7, 55-103.
- Hastorf, C.A. and Popper, V.S. 1989. Current paleoethnobotany: Analytical methods and cultural interpretations of archaeological plant remains. University of Chicago Press, Chicago.
- Harvey, E.L. and Fuller, D.Q. 2005. Investigating crop processing using phytolith analysis: the example of rice and millets. Journal of Archaeological Science 32, 739.
- Hayers, I.M. 1982. Fractionation: an introduction to isotope measurement and terminology. Spectra 8, 3-8.
- Heaton, T.H.E. 1999. Spatial, species and temporal variations in the ¹³C/¹²C ratios of C₃ plants: Implications for palaeodiet studies. Journal of Archaeological Science 26, 637-649.
- Hedges, R.E.M., Clement, J.G., Thomas, C.D.L. and O'Connell, T.C. 2007. Collagen turnover in the adult femoral mid-shaft: modeled from anthropogenic radiocarbon tracer measurements. American Journal of Physical Anthropology 133, 808-816.
- Hedges, R.E.M., Stevens, R.E. and Richards, M.P. 2004. Bone as a stable isotope archive for local climatic information. Quaternary Science Reviews 23, 959- 965.
- Hobson, K.A. 1999. Tracing origins and migration of wildlife using stable isotopes: a review. Oecologia 120, 314-326.

- Hoefs, J. 2009. Stable Isotope Geochemistry. Springer-Verlag, Berlin.
- Hu, S. 2010. Yin Shan Zheng Yao. Guanglingshushe, Yangzhou. (in Chinese)
- Hu, Y., Ambrose, S.H., Wang, C. 2006. Stable isotopic analysis of human bones from Jiahu site, Henan, China: Implications for the transition to agriculture. Journal of Archaeological Science 33, 1319-1330.
- Hu, Y., Wang, G., Cui, Y., Yu, D., Li, G., Wang, C. 2007. Palaeodietary study of Sanxingcun site, Jintan, Jiangsu. Chinese Science Bulletin 52, 660-664.
- Hu, Y., Wang, S., Luan, F, Wang, C., Richards, M.P. 2008. Stable isotope analysis of humans from Xiaojingshan site: Implications for understanding the origin of millet agriculture in China. Journal of Archaeological Science 35, 2960-2965.
- Hu, Y., Luan, F., Wang, S., Wang, C., Richards, M. 2009. Preliminary attempt to distinguish the domesticated pigs from wild boars by the methods of carbon and nitrogen stable isotope analysis. Science in China Series D: Earth Sciences 52, 85-92.
- Huang, Z. 2004. On Ancient Human Immolation. Wenwu Press, Beijing. (in Chinese)
- Huang, X. 2014. The contribution of wheat flour in the north and rice in the south. Chinese Heritage 2, 4. (in Chinese)
- Huang, A. 2015. The History of Western Zhou. Shanghai Renmin Press, Shanghai. (in Chinese)
- Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS). 1989. Yinxu Fuhao Tomb. China Social Science Press, Beijing. (in Chinese)
- Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS). 1994. The Baijia Site at Lintong. Bashu Press, Chengdu. (in Chinese)
- Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS). 1999. Archaeology Report on the Excavations of the Years 1959-1978 at Erlitou, Yanshi. Encyclopedia of China Publishing House, Beijing. (in Chinese)
- Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS). 2003. Chinese Archaeology: Xia and Shang Volume. China Social Science Press, Beijing. (in Chinese)
- Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS). 2004. Chinese Archaeology: Western and Eastern Zhou Volume. China Social Science Press, Beijing. (in Chinese)
- Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS). 2007. Archaeological Excavation and Researches in the Yin Ruins. China Social Science Press, Beijing. (in

- Chinese)
- Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS). 2014. Erlitou: 1999-2006. Wenwu Press, Beijing. (in Chinese)
- Jia, S. 2009. Qimin Yaoshu. Zhonghua Book Company, Beijing. (in Chinese)
- Jian, B. 2001. The History of Qin and Han. Peking University Press, Beijing. (in Chinese)
- Jiang, H., Li, X., Zhao, Y., Li, C, and et al. 2006. A new insight into Cannabis sativa (Cannabaceae) utilization from 2500-year-old Yanghai Tombs, Xinjiang, China. Journal of Ethnopharmacology 108, 414-422.
- Jin, D. 2012. Qin Shi Huang and Qin Empire. Beiyue Literature and Art Publishing House, Taiyuan. (in Chinese)
- Jørkov, M.L.S., Heinemeier, J. and Lynnerup, N. 2007. Evaluating bone collagen extraction methods for stable isotope analysis in dietary studies. Journal of Archaeological Science 34, 1824-1829.
- Jun, S. 2005. Early Chinese Civilization: Zhouyuan Culture and Western Zhou Civilization. Jiangsu Education Press, Nanjing. (in Chinese)
- Katzenberg, M.A. 2000. Stable isotope analysis: a tool for studying past diet, demography and life history. In: Katzenberg, M.A and Saunders, S.A. (Eds.), Biological anthropology of the human skeleton. Wiley-Liss, New York, pp. 305-328.
- Katzenberg, M.A. and Weber, A. 1999. Stable isotope ecology and palaeodiet in the Lake Baikal region of Siberia. Journal of Archaeological Science 26, 651-659.
- Keeling, C.D. 1961. A mechanism for cyclic enrichment of carbon-12 by terrestrial plants. Geochimica et Cosmochimica Acta 24, 299-313.
- Keightley, D.N. 1978. Sources of Shang History: the oracle-bone inscriptions of Bronze Age China. University of California Press, Berkeley
- Krueger, H.W. and Sullivan, C.H. 1984. Models for carbon isotope fractionation between diet and bone. In: Turnlund J.S. and Johnson P.E. (Eds.), Stable Isotopes in Human Nutrition. American Chemical Society Symposium Series 258, 205-220.
- Lajtha, K. and Marshall, J.D. 1994. Sources of Variation in the Stable Isotopic Composition of Plants. In: Lajtha, K. and Marshall, J.D. (Eds.), Stable Isotopes in Ecology and Environmental Science. Blackwell Scientific Publications, London, pp. 1-21.
- Lanehart, R.E., Tykot, R.H., Underhill, A.P., Luan, F., Yu, H., Fang, H. 2011. Dietary adaptation

- during the Longshan period in China: Stable isotope analyses at Liangchengzhen (southeastern Shandong). Journal of Archaeological Science 38, 2171-2181.
- Lee, Y.K. 1993. Spatial Expression of Segmentary Organization: A Case Study of a Yangshao Settlement Site. Paper presented at the 58th Annual Meeting of Society of American Archaeology, Saint Louis, pp. 14-18.
- Lee, Y.K. 2002. Building the chronology of early Chinese history. Asian Perspectives 41, 15-42.
- Lee, G.A., Crawford, G.W., Liu, L., Chen, X. 2007. Plants and people from the early Neolithic to Shang periods in North China. Proceedings of the National Academy of Sciences, 104, 1087-92.
- Lee-Thorp, J.A. 2008. On isotopes and old bones. Archaeometry 50, 925-950.
- Lewis, M.E. 2007. Early Chinese Empires: Qin and Han. Belknap Press of Harvard University Press, Cambridge.
- Literature, History and Philosophy Editorial Office (LHP EO). 2011. Early China's Politics and Civilization. The Commercial Press, Beijing. (in Chinese)
- Li, Y. 1956. Western Zhou and Eastern Zhou. Shanghai Renmin Press. (in Chinese)
- Li, Y. 1975. First Emperor of China. International Arts and Sciences Press, New York.
- Li, X. 2002. The Xia-Shang-Zhou chronology project: Methodology and results.

Journal of East Asian Archaeology 4, 321-333.

- Li, Y. 2003. The Peiligang Culture. Wenwu Press, Beijing. (in Chinese)
- Li, X. 2005. Bronze Vessels and Ancient History. Linking Publishing, Taibei. (in Chinese)
- Li, J. 2007a. Anyang. Shanghai Renmin Press, Shanghai. (in Chineses)
- Li, J. 2007b. Archaeometallurgy. Wenwu Press, Beijing. (in Chinese)
- Li, F. 2007c. Bureaucracy and the State in Early China: Governing the Western Zhou. SDX Joint Publishing company, Beijing. (in Chinese)
- Li, F. 2007d. Landscape and Power in Early China: The Crisis and Fall of the Western Zhou 1045-771 BC. Shanghai Guji Press, Shanghai. (in Chinese)
- Li, X. 2007e. Eastern Zhou and Qin Civilization. Shanghai Renmin Press, Shanghai. (in Chinese)
- Li, F. 2013. Early China: A Social and Cultural History, Cambridge University Press, Cambridge.
- Li, Z., Brunson, K. and Dai, L. 2014. The zooarchaeological study of wool exploitation from the Neolithic Age to the early Bronze Age in the Central Plains. Quaternary Sciences 34, 149-157. (in Chinese)

- Liang, S. 2015. Xiaotun, Longshan and Yangshao. The Commercial Press, Beijing. (in Chinese)
- Linduff, K.M., Rubin, H. and Sun, S. 2000. The Beginnings of Metallurgy in China. The Edwin Mellen Press, New York.
- Ling, X., Chen, L., Xue, X., Zhao, C. 2010. Stable isotopic analysis of human bones from the Qingliang Temple Graveyard, Ruicheng County, Shanxi Province. Quaternary Sciences 30, 415-421. (in Chinese)
- Liu, X. 1994. The development of animal husbandry in the Shang Dynasty. China Agriculture History 4, 54-62. (in Chinese)
- Liu, L. 2004. The Chinese Neolithic: Trajectories to Early States. Cambridge University Press, Cambridge.
- Liu, X. 2007. Zhanguoce: Record of the Warring States. Zhongzhou Guji Press, Zhengzhou. (in Chinese)
- Liu, Q. 2010. The Chinese Archaeological Excavation and Researches (1949-2009). Renmin Press, Beijing. (in Chinese)
- Liu, Q and Bai, Y. 2010. Chinese Archaeology: Qin and Han Volume. China Social Science Press, Beijing. (in Chinese)
- Liu, L. and Chen, X. 2003. State Formation in Early China, Duckworth, London.
- Liu, L. and Chen, X. 2006. Sociopolitical change from Neolithic to Bronze Age China. In: Stark,M.T. (Eds.), Archaeology of Asia. Wiley-Blackwell, Malden MA, pp. 149-176.
- Liu, L. and Chen, X. 2012. The Archaeology of China: From the Late Paleolithic to the Early Bronze Age. Cambridge University Press, Cambridge.
- Liu, C. and Fang, Y. 2010. Analysis on the Floral Remains from Yuzhou Wadian Site, Henan Province. Cultural Relics in South China 4, 55-64. (in Chinese)
- Liu, G. and Xiang, A. 2005. The blended zone of North-Millet with South-Rice in prehistoric China and its formation. Agriculture Archaeology 1, 115-122. (in Chinese)
- Liu, L. and Xu, H. 2007. Rethinking Erlitou: Legend, History and Chinese Archaeology. Antiquity 81, 886-901.
- Liu, X., Jones, M.K., Zhao, Z., Liu, G., O'Connell, T.C. 2012. The earliest evidence of millet as a staple crop: new light on Neolithic foodways in north China. American Journal of Physical Anthropology 149, 283-290.
- Liu, X., Lightfoot, E., O'Connell, T.C., Wang, H., Li, S., Zhou, L., Hu, Y., Motuzaite-

- Matuzeviciute, G., Jones, M.K. 2014. From necessity to choice: dietary revolutions in west China in the second millennium BC. World Archaeology 46, 661-680.
- Loewe, M. and Shaughnessy, E.L. 1999. The Cambridge History of Ancient China: from the origins of Civilization to 221 B.C. Cambridge University Press, Cambridge.
- Longin, R. 1971. New method of collagen extraction for radiocarbon dating. Nature 230, 241-242.
- Lu, T. 1999. The Transition from Foraging to Farming and the Origin of Agriculture in China.

 British Archaeological Reports, Oxford.
- Lu, T. 2006. The occurrence of cereal cultivation in China. Asian Perspectives 45, 129-158.
- Lubell, D., Jackes, M., Schwarcz, H., Knyf, M., Meiklejohn, C. 1994. The Mesolithic-Neolithic transition in Portugal: isotopic and dental evidence of diet. Journal of Archaeological Science 21, 201-216.
- Luo, Y. 2009. Several issues in the study of prehistoric animal Archaeology in Guanzhong Region.

 Archaeology and Cultural Relics 5, 89-94. (in Chinese)
- Lv, S. 2005. The History of Qin and Han. Shanghai Guji Press, Shanghai. (in Chinese)
- Lv, S. 2009. The History of Pre-Qin. Shanghai Guji Press, Shanghai. (in Chinese)
- Lv, B. 2011. Lüshi Chunqiu. Zhonghua Book Company, Beijing.
- Lv, L. 2012. Geography of China. Science Press, Beijing. (in Chinese)
- Lv, H., Yang, X., Ye, M., Liu, K., Xia, Z., Ren, X., Cai, L., Wu, N., Liu, T. 2005. Culinary archaeology: Millet noodles in Late Neolithic China. Nature 437, 967-8.
- Lv, H., Zhang, J., Xu, D., Wu, N., and et al. 2016. Earliest tea as evidence for one branch of the Silk Road across the Tibetan Plateau. Scientific Report 6, 18955.
- Lyman, R.L. 1996. Applied zooarchaeology: the relevance of faunal analysis to wildlife management. World Archaeology 28, 110-125.
- Lynott, M.J., Boutton, T.W., Price, J.E., Nelson, D.E. 1986. Stable carbon isotope evidence for maize agriculture in Southeast Missouri and Northeast Arkansas. American Antiquity 51, 51-65.
- Ma, X. 2003. Emergent Social Complexity in the Yangshao Culture: Analyses of Settlement Patterns and Faunal Remains from Lingbao, Western Henan, China. Ph.D. dissertation, La TrobeUniversity, Melbourne.
- Makarewicz, C.A. and Sealy, J. 2015. Dietary reconstruction, mobility, and the analysis of ancient skeletal tissues: Expanding the prospects of stable isotope research in archaeology. Journal

- of Archaeological Science 56, 146-158.
- Masters, P.M. 1987. Preferential preservation of noncollagenous protein during bone diagenesis: Implications for chronometric and stable isotopic measurements. Geochimica et Cosmochimica Acta 51, 3209-3214.
- Mays, S. 2010. The Archaeology of Human Bones. Routledge, New York.
- McCutchan, J.H., Lewis, W.M.J., Kendall, C., McGrath, C.C. 2003. Variation in trophic shift for stable isotope ratios of carbon, nitrogen, and sulphur. Oikos 102, 378-390.
- Mcgovern, P.E., Zhang, J., Tang, J., Zhang, Z., Hall, G.R., Moreau, R. A., et al. 2004. Fermented beverages of pre- and proto-historic china. Proceedings of the National Academy of Sciences of the United States of America 101, 17593-8.
- Mencius. 2012. The Works of Mencius. Zhonghua Book Company, Beijing. (in Chinese)
- Michener, R. and Lajtha, K. 2007. Stable Isotopes in Ecology and Environmental Science. Wiley-Blackwell, New Jersey.
- Minagawa, M. and Wada, E. 1984. Stepwise enrichment of ^{15}N along food chains: Further evidence and the relation between $\delta^{15}N$ and animal age. Geochimica et Cosmochimica Acta 48, 1135-1140.
- National Bureau of Cultural Relics (NBCR). 1991. The Map of Chinese Culture Relics: Henan Province. Wenwu Press, Beijing. (in Chinese)
- National Bureau of Cultural Relics (NBCR). 1999. The Map of Chinese Culture Relics: Shaanxi Province. Wenwu Press, Beijing. (in Chinese)
- Needham, J. 2015. Science and Civilization in China. Science Press, Beijing.
- Nehlich, O. 2015. The application of sulphur isotope analyses in archaeological research: A review. Earth-Science Reviews 142, 1-17.
- Nehlich, O., Boric, D., Stefanovic, S., Richards, M.P. 2010. Sulfur isotope evidence for freshwater fish consumption: A case study from the Danube Gorges, SE Europe. Journal of Archaeological Science 37, 1131-1139.
- Nehlich, O. and Richards, M.P. 2009. Establishing collagen quality criteria for sulphur isotope analysis of archaeological bone collagen. Archaeological and Anthropological Sciences 1, 59-75.
- Newton, R. and Bottrell, S. 2007 Stable isotopes of carbon and sulphur as indicators of environmental change: past and present. Journal of the Geological Society 164, 691-708.

- Nielsen, H., Pilot, J., Grinenko, L.N., Grinenko, V.A., Lein, A.Y., Smith, J.W., Pankina, R.G. 1991. Lithospheric Sources of Sulfur. In: Krouse, H.R. and Grinenko, V.A. (Eds.), Stable Isotopes: Natural and Anthropogenic Sulfur in the Environment. John Wiley & Sons, Chichester, pp. 65-132.
- O'Connell, T.C., Kneale, C.J., Tasevska, N., Kuhnle, G.G.C. 2012. The diet-body offset in human nitrogen isotopic values: a controlled dietary study. American Journal of Physical Anthropology, 149, 426-34.
- O'Connor, T. 2004. The Archaeology of Animal Bones. The History Press, Stroud.
- O'Day, S.J., Ervynck, A. and Neer, W.V. 2003. Behaviour Behind Bones: the Zooarchaeology of Ritual, Religion, Status and Identity. David Brown Book Company, Oakville.
- O'Dowd, C.D., Smith, M.H., Consterdine, I.E., Lowe, J.A. 1997. Marine aerosol, sea-salt, and the marine sulphur cycle: a short review. Atmospheric Environment 31, 73-80.
- O'Leary, M.H. 1981. Carbon isotope fractionation in plants. Phytochemistry 20, 553-567.
- O'Leary, M.H. 1998. Carbon isotopes in photosynthesis. BioScience 38, 328-336.
- Osmond, C.B. 1978. Crassulacean acid metabolism: a curiosity in context. Annual Review of Plant Physiology 29, 379-414.
- Park, R. and Epstein, S. 1961. Metabolic fractionation of ¹³C & ¹²C in plants. Plant Physiology 36, 133-138.
- Pearsall, D.M. 2009. Paleoethnobotany: A Handbook of Procedures. Routledge, New York.
- Pearsall, D.M. and Hastorf, C.A. 2011. Reconstructing Past Life-Ways with Plants II: Human-Environment and Human-Human Interactions. In: Anderson, E.N., Adams, K., Pearsall, D.M, Hunn, E., Turner, N. (Eds.), Ethnobiology. John Wiley & Sons, New York, pp. 173-187.
- Pecci, A. 2014. Organic Residue Analysis in Archaeology. In: Smith, C. (Eds.), Encyclopedia of Global Archaeology. Springer, New York, pp. 5605-5611.
- Pechenkina, E.A., Ambrose, S.H., Xiaolin, M., Benfer, J.R.A. 2005. Reconstructing northern Chinese Neolithic subsistence practices by isotopic analysis. Journal of Archaeological Science 32, 1176-1189.
- Pei, A. 2014. Research on the Clustering Patterns of Chinese Prehistoric Settlements. The Commercial Press, Beijing. (in Chinese)
- Pei, D., Hu. Y., Yang, Y., Zhang, Q., Zhang, G., Tian, J. 2008. Paleodietary analysis of humans

- from the Neiyangyuan site of Xiangning, Shanxi Province. Acta Anthropologica Sinica 27, 379-384. (in Chinese)
- Pennington, H.L. and Weber, S.A. 2010. Paleoethnobotany: Modern Research Connecting Ancient Plants and Ancient Peoples. Critical Reviews in Plant Sciences 10, 13-20.
- Peres, T.M. 2010. Methodological Issues in Zooarchaeology. In: VanDerwarker, A.M. and Peres, T.M. (Eds.), Integrating Zooarchaeology and Paleoethnobotany. Springer, New York, pp. 15-36.
- Peters, J., Lebrasseur, O., Best, J., Miller, H., Fothergill, T., Dobney, K., Thomas, R.M., Maltby, M., Sykes, N., Hanotte, O., O'Connor, T., Collins, M.J., Larson, G. 2015. Questioning new answers regarding Holocene chicken domestication in China. Proceedings of the National Academy of Sciences, 112, 2415.
- Peterson, B.J. and Fry, B. 1987. Stable isotopes in ecosystem studies. Annual Review of Ecological Systems 18, 293-320.
- Petzke, K.J., Boeing, H. and Metges, C.C. 2005. Choice of dietary protein of vegetarians and omnivores is reflected in their hair protein ¹³C and ¹⁵N abundance. Rapid Communications in Mass Spectrometry 19, 1392-1400.
- Piperno, D.R. 2006. Phytoliths: A Comprehensive Guide for Archaeologists and Paleoecologists. AltaMira Press, Lanham.
- Platzner, I.T. 2012. Modern Isotope Ratio Mass Spectrometry. John Wiley & Sons, New York.
- Price, T.D. 2015. An introduction to the isotopic studies of ancient human remains. Journal of the North Atlantic Special 7, 71-87.
- Price, T.D., Schoeninger, M.J. and Armelagos, G.J. 1985. Bone chemistry and past behaviour: An overview. Journal of Human Evolution 14, 419-447.
- Qiao, D. and Liu, Y. 2006. Archaeological Discoveries of Hebei Province, Cishan Culture. Huashan Literature and Art Publishing House, Shijiazhuang.
- Qin, Z. 2013. Six Hundred Years of Eastern Zhou. China Workers Publishing House, Beijing. (in Chinese)
- Qiu, X. 2013. Chinese Writing. The Commercial Press, Beijing. (in Chinese)
- Rau, G.H. 1978. Carbon-13 depletion in a Subalpine Lake: Carbon flow implications. Science 201, 901-902.
- Rawson, J. 1995. Western Zhou Ritual Bronzes from the Arthur M. Sackler Collections. Harry N.

- Abrams, New York.
- Rawson, J. 1999. Western Zhou Archaeology. In: Loewe, M. and Shaughnessy, E.L. (Eds.), The Cambridge History of Ancient China: From the Origins of Civilization to 221 B.C. Cambridge University Press, Cambridge, pp.352-448.
- Rees, C.E., Jenkins, W.J. and Monster, J. 1978. The sulphur isotopic composition of ocean water sulphate. Geochimica et Cosmochimica Acta 42, 377-381.
- Reitsema, L.J. and Vercellotti, G. 2012. Stable isotope evidence for sex- and status-based variations in diet and life history at medieval Trino Vercellese, Italy. American Journal of Physical Anthropology 148, 589-600.
- Reitsema, L.J. 2013. Beyond diet reconstruction: Stable isotope applications to human physiology, health, and nutrition. American Journal of Human Biology 25, 445-456.
- Reitz, E.J. and Wing, E.S. 2008. Zooarchaeology. Cambridge University Press, Cambridge.
- Ren, S. and Wu, Y. 2010. Chinese Archaeology: Neolithic Volume. China Social Science Press, Beijing. (in Chinses)
- Richards, M.P. and Hedges, R.E.M. 1999. Stable isotope evidence for similarities in the types of marine foods used by late Mesolithic humans at sites along the Atlantic coast of Europe. Journal of Archaeological Science 26, 717-722.
- Richards, M.P., Pettitt, P.B., Trinkaus, E., Smith, F.H., Paunovic, M., Karavanic, I. 2000. Neanderthal diet at Vindija and Neanderthal predation: The evidence from stable isotopes. Proceedings of the National Academy of Sciences of the United States of America 97, 7663-7666.
- Richards, M.P., Fuller, B.T., Sponheimer, M., Robinson, T., Ayliffe, L. 2003. Sulphur isotopes in palaeodietary studies: a review and results from a controlled feeding experiment. International Journal of Osteoarchaeology 13, 37-45.
- Richards, M.P., Schulting, R.J. and Hedges, R.E.M. 2003b. Sharp shift in diet at onset of Neolithic. Nature 425, 366.
- Richards, M.P. and Trinkaus, E. 2009. Isotopic evidence for the diets of European Neanderthals and early modern humans. Proceedings of the National Academy of Sciences 106, 16034-9.
- State Administration of Culture Heritage (SACH). 2009. Early China: the formation period of Chinese Civilization. Culture Relics Press, Beijing. (in Chinese)

- State Administration of Culture Heritage (SACH), The Ministry of Science and Technology of PRC (MST), Shaanxi Provincial Government (SPG). 2011. Civilization of the Central Plain and Enlighten about Huaxia: The Origin of Chinese Civilization. Sanqin Press, Xi'an. (in Chinese)
- Scarre, C. 2007. Ancient Civilizations. Pearson Prentice Hall, Upper Saddle River, New Jersey.
- Scarre, C. 2013. The Human Past: World Prehistory and the Development of Human Societies. Thames and Hudson, London.
- Schirokauer, C. 1991. A Brief History of Chinese Civilization. Harcourt Brace Jovanovich, New York.
- Schoeller, D.A. 1999. Isotope fractionation: Why aren't we what we Eat? Journal of Archaeological Science 26, 667-673.
- Schoeninger, M.J. 1995. Stable isotope studies in human evolution. Evolutionary Anthropology 4, 83-98.
- Schoeninger, M.J. 2011. Diet reconstruction and ecology using stable isotope ratios. In: Larsen, C.S. (Eds.), A companion to biological anthropology. Wiley-Blackwell, Chichester.
- Schoeninger, M.J. and DeNiro, M.J. 1984. Nitrogen and carbon isotopic composition of bone collagen from marine and terrestrial animals. Geochimica et Cosmochimica Acta 48, 625-639.
- Schoeninger, M. J. and Moore, K. 1992. Bone stable isotope studies in archaeology. Journal of World Prehistory 6, 247-296.
- Schwarcz, H.P., Dupras, T.L. and Fairgrieve, S.I. 1999. ¹⁵N-enrichment in the Sahara: in search of a global relationship. Journal Archaeological Science 26, 629-636.
- Schwarcz, H.P. and Schoeninger, M. 1991. Stable isotope analyses in human nutritional ecology. Yearbook of Physical Anthropology 34, 283-321.
- Sealy, J.C. 1986. Stable carbon isotopes and prehistoric diets in the southwestern Cape Province, South Africa. BAR, Oxford.
- Sharp, Z. 2007. Principles of stable isotope geochemistry. Prentice Hall, Upper Saddle River.
- Shao, W. 2000. The Longshan period and incipient Chinese civilization. Journal of East Asian Archaeology 2, 195-226.
- Shao, W. 2005. The formation of civilization: the interaction sphere of the Longshan period. In Allan, S. (Eds.), The Formation of Chinese Civilization: An Archaeological Perspective.

- Yale University Press, New Haven, pp. 85-123.
- Shaughnessy, E.L. 1999. Western Zhou History. In: Loewe, M. and Shaughnessy, E.L. (Eds.), The Cambridge History of Ancient China. Cambridge University Press, Cambridge, pp. 292-351.
- Shelach-Lavi, G. 2015. The Archaeology of Early China: From Prehistory to the Han Dynasty. Cambridge University Press, Cambridge.
- Shuihudi Qin Bamboo Slips Group. 2001. Shuihudi Qinmu Zhujian. Cultural Relics Press, Beijing.
- Sima, Q. 1961. Shiji: Records of the Grand Historian: Qin Dynasty Volume. Wtson, B. (Trans.). Columbia University Press, New York.
- Sima, Q. 2006a. Shiji: Records of the Grand Historian: Yin Volume. Zhonghua Book Company, Beijing. (in Chinese)
- Sima, Q. 2006b. Shiji: Records of the Grand Historian: Zhou Volume. Zhonghua Book Company, Beijing. (in Chinese)
- Sima, G. 2009. Zizhi Tongjian: Comprehensive Mirror in Aid of Governance. Yuelu Press, Changsha. (in Chinese)
- Sino Maps Press. 2014a. Maps Show the History of China: Xia, Shang and Western Zhou Volume. Sino Maps Press, Beijing. (in Chinese)
- Sino Maps Press. 2014b. Maps Show the History of China: Spring and Autumn Volume. Sino Maps Press, Beijing. (in Chinese)
- Sino Maps Press. 2014c. Maps Show the History of China: Warring States Volume. Sino Maps Press, Beijing. (in Chinese)
- Sino Maps Press. 2014d. Maps Show the History of China: Qin Volume. Sino Maps Press, Beijing. (in Chinese)
- Smith, A.B. and Epstein, S. 1971. Two categories of ¹³C/¹²C ratios for higher plants. Plant Physiology 47, 380-384.
- Smith, C.I., Craig, O.E., Prigodich, R.V., Nielsen-Marsh, C.M., Jans, M.M.E., Vermeer, C., Collins,M.J. 2005. Diagenesis and survival of osteocalcin in archaeological bone. Journal ofArchaeological Science 32, 105-13.
- Song, Z. 1994. The social life history of Xia and Shang Dynasty. China Social Sciences Press, Beijing. (in Chinese)
- Song, Z. 1999. China diet history: Xia and Shang Dynasty. Huaxia Press, Beijing. (in Chinese)

- Song, Z. 2010. Social lives and rituals in Shang Dynasty. China Social Sciences Press, Beijing. (in Chinese)
- Song, Z. 2011. Outline of History in Shang Dynasty. China Social Science Press, Beijing. (in Chinese)
- Shaanxi Provincial Institute of Archaeology (SPIA) and Emperor Qin's Terracotta Warriors and Horses Museum (EQTWHM). 2007. Report on Archaeological Researches of the Qin Shihuang Mausoleum Precinct from 2001 to 2003. Culture Relics Press, Beijing. (in Chinese)
- Sponheimer, M. and Lee-Thorp, J.A. 1999. Isotopic evidence for the diet of an early hominid, Australopithecus Africanus. Science 283, 368-370.
- Stothers, D.M. and Bechtel, S.K. 1987. Stable carbon isotope analysis: An inter- regional perspective. Archaeology of Eastern North America 15, 137-154.
- Su, B. 2014. The Archaeology from Warring State to Qin and Han Dynasty. Shanghai Guji Press, Shanghai. (in Chinese)
- Sun, W. 2009. "Xi", "Liyi" and "Lishan Yuan": the function of Liyi for the Qin Shi Huang Mausoleum. Archaeology and Cultural Relics. 4, 67-71. (in Chinese)
- Sun, B. 2013. The Longshan culture of Shandong. In: Underhill, A.P. (Eds.), A Companion to Chinese Archaeology. John Wiley & Sons, New York, pp. 435-458.
- Sun, Q. 2015. Trace Back to Xia, Shang, Zhou. Shanghai Guji Press, Shanghai. (in Chinese)
- Sun, D., Liu, Y. and Chen, G. 1981. Cishan site, Wu'an, Hebei Province. Archaeological Research 3, 303-338. (in Chinese)
- Sun, Y. and Lin, H. 2010. Geography and States in Shang Dynasty. China Social Science Press, Beijing. (in Chinese)
- Sutton, M.Q. and Yohe, R.M. 2007. Archaeology: The Science of the Human Past. Pearson, New York.
- Tang, J. 2004. The social organization of Late Shang China: A mortuary perspective. Ph.D Dissertation. University of London, London.
- Tang, J. 2009. Yinxu: A View of the Dynasty's Back. Science Press, Beijing. (in Chinese)
- Tao, L. 2006. Study on the characteristics of agricultural ecological environment in each historical stage of China. Agriculture Archaeology 4, 52-56. (in Chinese)
- Tauber, H. 1981. ¹³C evidence for dietary habits of prehistoric man in Denmark. Nature 292, 332-

333.

- Teng, M. 2002. Qin Culture in Archaeological Perspective: From A Feudal State to Great Empire.

 Xueyuan Press, Beijing. (in Chinese)
- Thomas, K.D. 1996. Zooarchaeology: Past, present andfFuture. World Archaeology 28, 1-4.
- Thorp, R.L. 1991. Erlitou and the search for the Xia. Early China 16, 1-38.
- Thorp, R.L. 2005. China in the Early Bronze Age: Shang Civilization. University of Pennsylvania Press, Pennsylvania.
- Tian, X. 2009. Shaanxi Stories: Western Zhou Volume. Northwest University Press, Xi'an. (in Chinese)
- Tieszen, L.L. 1991. Natural variations in the carbon isotope values of plants: Implications for archaeology, ecology, and paleoecology. Journal of Archaeological Science 18, 227-248.
- Tiezen, L.L. and Fagre, T. 1993. Effect of diet quality and composition on the isotopic composition of respiratory CO₂, bone collagen, bioapatite and soft tissues. In: Lambert, J.B. and Grupe, G. (Eds.), Prehistoric Human Bone: Archaeology at the Molecular Level. Springer-Verlag, Berlin, pp.121-155.
- Tong, W. 1984. The agricultural remains from Cishan site and the related questions. Agriculture Archaeology 1, 194-207. (in Chinese)
- Tong, S. 2009. The History of Spring and Autumn. The Commercial Press, Beijing. (in Chinese)
- Treistman, J.M. 1972. The Prehistory of China: An Archeological Exploration. Wren Publishing, Melbourne.
- Tsutaya, T. and Yoneda, M. 2015. Reconstruction of breastfeeding and weaning practices using stable isotope and trace element analyses: A review. American Journal of Physical Anthropology 156 (Supplement S59), 2-21.
- Tuross, N., Behrensmeyer, A.K., Eanes, E.D., Fisher, L.W., Hare, P.E. 1989. Molecular preservation and crystallographic alterations in a weathering sequence of wildebeeste bones. Applied Geochemistry 4, 261-270.
- Twiss K. 2012. The archaeology of food and social diversity. Journal of Archaeological Research 20, 357-395.
- Twitchett, D. and Loewe, M. 2007. The Cambridge History of China Vol 1: The Qin and Han Empires, B.C.221-A.D.220. Yang, P. (Trans.). China Social Science Press, Beijing. (in Chinese)

- Underhill, A.P. 1997. Current issues in Chinese Neolithic archaeology. Journal of World Prehistory 11, 103-160.
- Underhill, A.P. 2002. Craft Production and Social Change in Northern China. Springer-Verlag, Berlin.
- Underhill, A.P., Feinman, G.M., Nicholas, L.M., Fang, H., Luan, F., Yu, H., Cai, F. 2008. Changes in regional settlement patterns and the development of complex societies in southeastern Shandong, China. Journal of Anthropological Archaeology 27, 1-29.
- van der Merwe, N.J. and Medina, E. 1991. The canopy effect, carbon isotope ratios and foodwebs in Amazonia. Journal of Archaeological Science 18, 249-259.
- van der Merwe, N.J. and Vogel, J.C. 1978. ¹³C content of human collagen as a measure of prehistoric diet in woodland North America. Nature 276, 815-816.
- van Klinken, G.J. 1999. Bone collagen quality indicators for palaeodietary and radiocarbon measurements. Journal of Archaeological Science 26, 687-695.
- Vogel, J.C. and van der Merwe, N.J. 1977. Isotopic evidence for early maize cultivation in New York State. American Antiquity 42, 238-42.
- Wada, E. 1980. Nitrogen isotope fractionation and its significance in biogeochemical processes occurring in marine environments. In: Goldberg, E. D., Horibe, V. and Saruhashi, K. (Eds.), Isotope Marine Chemistry. Uchida Rokakuho Publ. Co., Tokyo, pp. 375-398.
- Waley, A. 1994. The Way and Its Power: Laozi's Dao De Jing and Its Place in Chinese Thought. Grove Press, New York.
- Wang, G. 1985. An overview of the Agriculture in Shang Dynasty. Agriculture Archaeology 2, 25-36. (in Chinese)
- Wang, Y. 1994. Western Zhou. China Youth Publishing Group, Beijing. (in Chinese)
- Wang, R. 2004a. Fishing, farming, and animal husbandry in the Early and Middle Neolithic of the Middle Yellow River Valley, China. PhD thesis. University of Illinois, Urbana-Champaign.
- Wang, Y. 2004b. The Agriculture Changes at Guanzhong Plain during Eastern Zhou, Qin and Han Dynasties. Yuelu Press, Changsha. (in Chinese)
- Wang, Z. 2005. The social evolution of Proto-Shang. Chinese History Research 2, 3-23. (in Chinese)
- Wang, P. 2007a. Oracle Bone Inscriptions and Human Sacrifice during the Yinshang Period. Daxiang Press, Zhengzhou. (in Chinese)

- Wang, X. 2007b. Dietetic rules and regulations research in Zhouli. Master's Degree Dissertation. Yangzhou University, Yangzhou. (in Chinese)
- Wang, Y. 2011a. Countries and Society in Shang Dynasty. China Social Science Press, Beijing. (in Chinese)
- Wang, Z. 2011b. The origin of Shang Tribe and social changes in Proto-Shang Period. Chinese Social Sciences Press, Beijing. (in Chinese)
- Wang, Z. 2013a. The Origins of Chinese Civilization a Comparative Study. China Social Science Press, Beijing. (in Chinese)
- Wang, Z. 2013b. The Origin of the Ancient State and the Formation of the Royal China. China Social Science Press, Beijing. (in Chinese)
- Wang, J. 2015a. The History of Yin Shang. Shanghai Renmin Press, Shanghai. (in Chinese)
- Wang, X. 2015b. Shijing: Book of Songs. The Commercial Press, Beijing. (in Chinese)
- Wang, J. and Li, A. 2009. Geographical boundaries and differences between southern and Northern China. Geography Teaching 6, 16. (in Chinese)
- Wang, X. and Xu, X. 2003. A discussion on the rice-millet blended zone in the Neolithic Age. Agriculture History of China 3, 3-9. (in Chinese)
- Wang, Y., Wang, Z., Yang, S., Luo, K., Song, Z. 2007. The Formation of Ancient Civilization and State of China. China Social Science Press, Beijing. (in Chinese)
- Wang, F., Fan, R. and Kang, H. 2012. Reconstructing the food structure of ancient coastal inhabitants from Beiqian village: Stable isotopic analysis of fossil human bone. Chinese Science Bulletin 57, 2148-2154 (in Chinese).
- Wang, J., Liu, L., Ball, T., Yu, L., Li, Y., Xing, F. 2016. Revealing a 5,000-y-old beer recipe in china. Proceedings of the National Academy of Sciences 113, 6444-6448.
- Warnock, P. 1998. From plant domestication to phytolith interpretation: the history of paleoethnobotany in the Near East. Near Eastern Archaeology, 61, 238-252.
- White, W.M. 2015. Isotope Geochemistry. Wiley-Blackwell, New Jersey.
- White, T.D and Folkens, P.A. 2005. The Human Bone Manual. Academic Press, New York.
- Wilkinson, E. 2015. Chinese History: A New Manual. Harvard University Asia Center, Cambridge.
- Wright, P.J. 2010. Methodological issues in paleoethnobotany: A consideration of issues, methods, and cases. In: VanDerwarker, A.M. and Peres, T.M. (Eds.), Integrating Zooarchaeology and Paleoethnobotany. Springer, New York, pp. 37-64.

- Wu, F. 2012. The research of funeral furniture of Shang Dynasty. Master's Degree Dissertation. Zhengzhou University, Zhengzhou. (in Chinese)
- Wu, S. 2016. The Ritual Vessel During Zhou Period. The Commercial Press, Beijing. (in Chinese)
- Xi'an Banpo Museum. 1982. Xi'an Banpo. Wenwu Press, Beijing. (in Chinese)
- Xiang, H., Gao, J., Yu, B., Zhou, H., Cai, D., Zhang, Y. 2014. Early Holocene chicken domestication in northern china. Proceedings of the National Academy of Sciences of the United States of America, 111, 17564-9.
- The Xia-Shang-Zhou Chronology Project Group (XSZCP Group). 2000. The Xia-Shang-Zhou Chronology Project Report for the Years of 1996-2000. World Publishing Corporation, Beijing. (in Chinese)
- Xu, H. 2009. Earliest China. Science Press, Beijing. (in Chineses)
- Xu, Z. 2012. The History of Western Zhou. SDX Joint Publishing company, Beijing. (in Chinese)
- Xu, H. 2014. China: 2000 B.C. Sanlian Publishing House, Shanghai. (in Chinese)
- Yan, W. 1992. Origins of agriculture and animal husbandry in China. In: Aikens, C.M. and Song, N.R. (Eds.), Pacific Northeast Asia in Prehistory: Hunter-fisher-gatherers, Farmers, and Sociopolitical Elites. Washington State University Press, Pullman, Washington, pp. 113-123.
- Yan, W. 2000. The Origin of Agriculture and Civilization. Science Press, Beijing. (in Chinese)
- Yan, Z. and He, N. 2005. The excavation report on the Taosi Site in 2002, Xiangfen, Shanxi Province. Acta Archaeologica Sinica 3, 307-346. (in Chinese)
- Yang, S. 2003. The Social Changes during Eastern Zhou to Qin and Han. Shanghai Guji Press, Shanghai. (in Chinese)
- Yang, D. 2010. Duke of Zhou and the Rite Civilization of Western Zhou. Shaanxi Renmin Press, Xi'an. (in Chinese)
- Yang, T. 2014. Research on the Qin Shi Huang and the Qin Great Wall. Journal of Chinese Historical Studies 2, 12-20.
- Yang, D. 2015. The Rise and Fall of Dynasties: Qin Volume. Shaanxi Renmin Press, Xi'an. (in Chinese)
- Yang, X., Xia, Z. and Cui, Z. 2005. Quaternary science and Environmental Archaeology. Advances in Earth Science 20, 23-239. (in Chinese)
- Yao, W. 2011. Animal husbandry and fishing and hunting economy in ancient China. Social

- Science Front 5, 145-152. (in Chinese)
- Yao, X. and Wang, Y. 2015. Series of Books of Hundred Schools. Zhongzhou Guji Press, Zhengzhou.
- Ye, L. 2014. Study on the history of three major water conservancy project in Qin Dynasty. China West 8, 56-65.
- You, X. 2008. The Chinese Agriculture History: Primitive Society Volume. China Agriculture Press, Beijing. (in Chinese)
- Yu, K. 2015. The History of Warring States. Shanghai Renmin Press, Shanghai. (in Chinese)
- Yu, W. and Gao, M. 1978. The study of the system with the tripod at Zhou Dynasty. Journal of Peking University (Philosophy Social Science) 2, 84-97. (in Chinese)
- Yuan, Z. 1986. Excavation and Research of Qin Shi Huang Mausoleum. Shaanxi People's Press, Xi'an. (in Chinese)
- Yuan, Z. 2002. Archaeological finding and research of the Qin Shihuang Mausoleum. Shaanxi people's Publishing House, Xi'an. (in Chinese)
- Yuan, J. 2015. Chinese Zooarchaeology. Wenwu Press, Beijinng. (in Chinese)
- Yuan, J. and Flad, R.K. 2002. Pig domestication in ancient China, Antiquity 76, 724-732.
- Yuan, X., Knechtges, D.R., Yan, W., Li, L. 2012. The History of Chinese Civilization: Earliest Times-221 B.C.E. Cambridge University Press, Cambridge.
- Zhang, G. 1980. Shang Civilization. Yale University Press, New Haven.
- Zhang, G. 1983. China in the Bronze Age. Sanlian Publishing House, Beijing. (in Chinese)
- Zhang, G. 1986. The Archeology of Ancient China. Yale University Press, New Haven.
- Zhang, Z. 1998. The millet farming in Huanghe River during prehistory. Cultural Relics of Central China 3, 5-11. (in Chinese)
- Zhang, Z. 2000. An archaeological study of the formation of Chinese civilization. Palace Museum Journal 2, 5-27. (in Chinese)
- Zhang, Z. 2001. Archaeological data of offenders in Qin and Han dynasty. Historic Teaching 1, 5-8. (in Chinese)
- Zhang, J. 2004. The Archaeology of Neolithic. Wenwu Press, Beijing. (in Chinese)
- Zhang, Z. 2005. The Yangshao period: Prosperity and the transformation of prehistoric society. In: Zhang, G. (Eds.), The Formation of Chinese Civilization: An Archaeological Perspective. Yale University Press, New Haven, pp. 43-83.

- Zhang, G. 2007. The History and Civilization of Zhou Dynasty. Shanghai Scientific & Technical Publishers, Shanghai. (in Chinese)
- Zhang, Z. 2009. The General Theory of Chinese Archaeology. Nanjing University Press, Nanjing. (in Chinese)
- Zhang, B. and Fan, Z. 2007. The Chinese Agriculture History: Warring States, Qin and Han Volume. China Agriculture Press, Beijing. (in Chinese)
- Zhang, X. and Wang, S. 1993. Proceedings of International Symposium on 60th Anniversary of the Excavation of Chengziya Site. Qilu Press, Jinan. (in Chinese)
- Zhang, J. and Wei, J. 2004. The Archaeology of Neolithic. Wenwu Press, Beijing. (in Chinese)
- Zhang, X., Wang, J., Xian, Z., Chou, S. 2003. Study on the diet of ancient people. Kaogu 2, 62-75. (in Chinese)
- Zhang, G., Xu, P., Lu, L., Shao, W., Wang, Y., Yan, W., Zhang, Z., Xu, H., Wang, R., Ucko, P.J., Allan, S. 2005. The Formation of Chinese Civilization: An Archaeological Perspective. Yale University Press, New Haven.
- Zhang, X., Chou, S., Cai, L., Bo, G., Wang, J., Zhong, J. 2007. Improving the Xinzhai Erlitou and Erligang cultures' relative chronologies. Kaogu 1, 74-89. (in Chinese)
- Zhang, G., Hu, Y., Pei, D., Song, G., Wang, C. 2010. Stable isotope analysis of human bones from the Northern Wei Cemetery in Datong Nanjiao. Culture Relics South China 1, 127-131. (in Chinese)
- Zhang, G., Jiang, L., Hu, Y., Si, Y., Lv, P., Song, G., Wang, C., Richards, M., Guo, Y. 2015a. Carbon and Nitrogen stable isotope analysis on human and faunal remains from Tashan site. Huaxia Kaogu 2, 138-146. (in Chinese)
- Zhang, G., Hu, Y., Wang, L., Cao, C., Li, X., Wu, X. 2015b. A paleodietary and subsistence strategy investigation of the Iron Age Tuoba Xianbei site by stable isotopic analysis: A preliminary study of the role of agriculture played in pastoral nomad societies in northern China. Journal of Archaeological Science Reports 17, 699-707.
- Zhang, H., Paijmans, J.L.A., Chang, F., Wu, X., Chen, G. 2013. Morphological and genetic evidence for early Holocene cattle management in northeastern China. Nature Communications, 4, 2755.
- Zhao, J. 1995. Physical Geography of China. Higher Education Press, Beijing. (in Chinese)
- Zhao, H. 2002. The Archaeology of Qin and Han. Wenwu Press, Beijing. (in Chinese)

- Zhao, Z. 2005. Recent progress in Chinese archaeobotany. Kaogu 7, 42-49. (in Chinese)
- Zhao, Z. 2007. Study on the Central Plains agriculture from 2500 BC to 1500 BC. In: Institute of Archaeology, Chinese Academy of Social Sciences (IA CASS) (Eds.), Science for Archaeology 2. Science Press, Beijing, pp. 1-11. (in Chinese)
- Zhao, Z. 2009. Eastward spread of wheat into China: New data and new issues. Chinese Archaeology 9, 1-9. (in Chinese)
- Zhao, C. 2013. The Longshan culture in central Henan province, c.2600-1900 BC. In: Underhill, A.P. (Eds.), A Companion to Chinese Archaeology. John Wiley & Sons, New York, pp. 236-254.
- Zhao, C. and Guo, Y. 2004. The Archaeology of Western and Eastern Zhou. Wenwu Press, Beijing. (in Chinese)
- Zhao, Z. and Zhang, J. 2009. The flotation results of Jiahu Site in 2001. Archaeology 8, 84-93. (in Chinese)
- Zhou, K. 2007. Environmental Archaeology. Liberal Education, Beijing. (in Chinese)
- Zhou, L. and Garvie-Lok, S.J. 2015. Isotopic evidence for the expansion of wheat consumption in northern china. Archaeological Research in Asia 4, 25-35.
- Zhu, Y. 2013. The early Neolithic in the central Yellow River valley, c.7000-4000 BC. In: Underhill, A.P. (Eds.), A Companion to Chinese Archaeology. John Wiley & Sons, New York, pp. 172-193.
- Zhu, Y. 2007. The Origin, Migration and the Development of Shang Clan. The Commercial Press, Beijing. (in Chinese)
- Zhu, X. 2014. The Origins of China. Shanghai Literature Press, Shanghai. (in Chinese)
- Zou H. 1980. Studies of the Xia Culture: Essays on the Archaeology of the Xia, Shang, Zhou Dynasties. Culture Relics Press, Beijing. (in Chinese)
- Zuo, Q. 2001. Zuozhuan: Commentary of Zuo. Yuelu Press, Changsha. (in Chinese)
- Zuo, Q. 2015. Guoyu: History of Zhou Dynasty States. Shanghai Guji Press Shanghai. (in Chinese)