

A Tentative Review of the Studies on the Environmental History of Ancient China

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Abstract: The existing research findings of our environmental history fail to attach due importance to the environmental history of ancient China. The studies of China's environmental history should extend the time scope further to more ancient times and raise interdisciplinary research awareness. Such studies can help us trace our sources of culture and ecology, and better understand the current world and humanity itself. Studies on the environmental history of ancient China also need to be equipped with corresponding research concepts, orientation and approaches.

Keywords: ancient environmental history; environmental archeology; universal truth

It has been 40 years since the studies of environmental history emerged in the USA, and it has been over 20 years since such studies were introduced to China. Prominent achievements have been made in domestic theories and empirical research. In previous essays, the author of this paper made preliminary analyses, which however only touched upon the surface of this subject (Zhao, 2012). This paper attempts to find answers to the following questions: What is ancient environmental history? How does it develop now? What challenges are relevant studies faced with? Why is it necessary to carry out such studies? How should they be carried out? Fundamental as they are, such questions have not yet been systematically examined. The author of this paper presents the views concerning the studies of ancient environmental history to induce more genuine insights.

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1. The definition and status quo of ancient environmental history

Ancient environmental history, as its name suggests, is a sub-field of environmental history which centers on the interaction between humans and nature in ancient times. According to Wang Lihua's definition, "environmental history adopts the ideologies and theories of modern ecology and utilizes a multi-disciplinary approach to process historical data and examine the formation, development and evolution of human ecosystems in given space and time conditions" (Wang, 2006). In this sense, ancient environmental history targets "the formation, development and evolution of human ecosystems" in ancient times.

Ancient times here roughly refers to prehistoric or remote ages in a traditional historical sense, which means a period extending from the emergence of humans in China to the establishment of the Xia Dynasty in the 21st Century B.C. In fact, its endpoint should be further extended to sometime before the Shang Dynasty. In other words ancient times here refer to the period before China's recorded history. By different standards, there may be a 700-year time span difference. From the 1920s to the 1940s, the Ku-shih-pien School (also known as Doubting Antiquity School), represented by Gu Jiegang, started a large-scale movement of doubting the ancient to distinguish truth and false, used textual criticism to challenge traditional Chinese historiography and pushed the beginning of recorded Chinese history to a much later period (Gu, 1982). By contrast, scholars in the West are more cautious in this regard. Previously, many of them had doubted the very existence of the Xia and Shang dynasties before the discovery of the Yin ruins. In the preface of *History of Imperial China*, Ge Zhaoguang points out that of all four major changes in the studies of Chinese history, the first is the shortened time span

due to the "expelling of myths and legends from Chinese history." He gives much credit to the book's narrative approach, which "unfolds the Chinese history from the Qin and the Han dynasties, as opposed to many Chinese scholars' ancient times-originated approach" (Bu, 2016, pp.1-2). (Some even traced back to the Stone Age, or in Mao Zedong's words, "a very primitive period when all the primitives could do was grinding a few stones.") Excluding an excessive nationalism, the 700-year time span difference is not a real big deal. To ensure academic rigor, however, it is better to set the starting point of ancient environmental history at the beginning of the Shang Dynasty in the 14th Century BC.

Traditionally, the ancient part is a vulnerable spot in the studies of Chinese history. This is true of the studies of the history of politics, economy, culture, military affairs and society. The ancient era is covered by most general history-related works. However, it is only given limited descriptions, insufficient analyses and unconvincing argumentations. For the environmental history, even less effort has been made in the exploration of its ancient part. Regarding general history studies, domestic scholars Wang Yude and Zhang Quanming (1999) published a book on the exploration of China's several thousand years of ecological culture. The first part of the book is entitled *On the Eco-culture of China for Five Thousand Years*, which gives an 18-page description of the prehistoric ecology and culture. This accounts for 15.7% of the total 115-page pre-Qin part. By contrast, the part covering the period from the Xia Dynasty to the Warring States Period (some 1,800 years), which simply cannot compare with the long prehistoric age of million-years, accounts for 84.3% of the pre-Qin part. This fully exposes the weakness of prehistoric research. The search results of essays on domestic environmental history indicate that many scholars

focus on the environment of the Three Dynasties (Xia, Shang and Zhou), that the environmental conservation philosophy of the pre-Qin period is a particularly common theme of research,^① and that very few scholars are engaged in the studies on the environment before the Three dynasties.

Similarly, foreign scholars engaged in the studies of Chinese environmental history also tend to “move fast forward.” In his work the *Retreat of the Elephants: An Environmental History of China*, Mark Elvin (2014) points out that it goes back to 4,000 years of Chinese environmental history with emphasis placed on the past 1,000 years. The reason for this lies in the fact that there were more available resources concerning the situation over the past 1,000 years (p.1). According to Elvin, the environmental history refers to a recorded history, for only literature information can disclose the thoughts of ancient people (p.5). This suggests that ancient environmental history is almost excluded from the scope of environmental history studies. By contrast, Robert B. Marks studies this issue from a wider perspective and includes ancient environmental history in the overall studies of Chinese environmental history. In his book, *China: Its Environment and History*, Marks(2015) endeavors to start his narration from an ancient period hundreds of thousands of years ago and attaches due importance to ancient environmental history. As is noticed, however, his related argument remains weak. And this is manifested by the fact that of its 461-page text, only 24 pages (5.2%) cover prehistoric history.

Regarding the ancient environmental issue, in contrast to the traditional history studies and environmental history studies, other academic studies are striding forward. For example, scientific areas such as geology, climatology,

paleontology, paleoanthropology and archeology all have laid a solid foundation in ancient times-related studies. Scholars of those areas continue to work hard on their ancient times-related issue for new breakthroughs. It is worth mentioning that archeology has made particularly significant contributions in this regard.

In the discipline of China, archeology falls into the category of history studies and is closely related to the narrowly defined science of history. According to Zhang Guangzhi, “Archeology cannot be set apart from the science of history. An isolated research environment, in which there is no contact between archeology and history, should not be developed, for it demonstrates nothing but backward ideas” (Zhu, 2003). In real practice, archeology and history complement each other. In the studies of recorded history, archaeological research findings have been effectively used in confirming official history books (written in biographical style), examining historical facts, correcting errors and clarifying authenticity. Despite that, archeology only serves the function of replenishing historical materials. In fact, most fact-based pre-historic materials and views adopted in traditional history studies are from archaeologists. The studies on ancient environmental history require analyzing the long relationship over million years between man and nature, which spans from the beginning of humanity to the emergence of agricultural civilizations. Archaeological findings remain a primary facilitator for such an analysis.

However, the studies of ancient environmental history also require particular vigilance against the bias resulting from the inherent estrangement between history studies and archeology. For the Chinese history after the Shang and Zhou Dynasties (post-Qin & Han era in particular), history studies

^① Equating environmental history with environmental conservation history is a grievous misunderstanding in the studies on environmental history. Relevant analysis can be found in Zhao Jiuzhou’s paper “Cognitive Misunderstandings in the Studies on the Chinese Environmental History,” published in *Academic Research*, (8), in 2011.

have the final say. In a way, archeology arguably “serves” the former. As Zhu Fenghan (2003) put it, “studying history inside a study” is a time-honored tradition in China. Historians are used to sticking to historical documents and while there may be some of them paying attention to archaeological findings, but they mostly care only about specific items unearthed and whether they can be used to prove or consolidate their own academic views, instead of examining the conclusive evidence drawn by archaeologists, or the rationality and feasibility of their research process and means (probably due to a lack of relevant expertise and understanding).” It is perhaps the indifference of those historians that has triggered archaeologists’ dissatisfaction. According to Chen Chun (2001), “Right from the very beginning, Chinese archeology has regarded its support of history studies as its biggest accomplishment. This also explains why Chinese archaeologists tend to see the world from historians’ perspective and overlook archaeological materials’ huge potential value to other scientific areas.” Under such circumstances, many scholars call for the re-positioning of archeology, i.e. “archeology being independent from history studies.” In 2000, the new idea “archeology as archeology” was proposed by American archaeologists and was quickly echoed by the Chinese archaeological community (An, 2002). The Chinese archaeologists have not yet escaped the history studies framework in their archaeological work concerning the historical period after the Qin and the Han dynasties, but they are beginning to lead the research trend in pre-Qin studies, and have even built their own “territory” in the studies of ancient history, thus managing to call the tune.

When it comes to the environmental history of ancient times, history studies inevitably encounter the genuine challenge of discourse power from archeology. History studies cannot be conducted without historical materials. It is generally believed

that there are inadequate historical materials regarding ancient times, which is echoed by Mark Elvin’s view. It is imperative to broaden the academic horizon, abandon the obsessive clinging to the narrowly defined historical materials and include all useful materials in the category of historical materials. In doing so, history studies can make the utmost of abundant materials and in-depth interpretations from archeology. As a branch of archeology, environmental archeology pays special attention to the relationship between man and nature. Studies based on that are expected to generate significant achievements.

When ancient environmental history meets archeology, it should actively absorb the advantages of the latter and avoid the disadvantages of traditional history studies. According to Chen Chun’s penetrating analysis, traditional history studies “lack a binary fact-based critical thinking, prefer tangible materials to theories and underestimate the important role of abstract logic thinking in scientific research;” (such studies) “fail to explore possible solutions to particular problems and approaches to testing different assumptions;” “their analytic hierarchy tends to remain at the appearance level and seldom sees through the appearance to perceive the essence and subsequently explore a causal mechanism” (Chen, 2001). Of course the difference between the two studies should be highlighted to avoid full involvement with archeology. As Wang Lihua (2006) once pointed out, “Environmental historians cannot expect to cover all issues throughout the entire environmental history. Rather, they should know there are things that must be done and things that must not. Some tasks require multidisciplinary cooperation; while others need to be conducted solely by experts in a particular area. Only in this way can environmental historians be unconstrained by the restrictions of various highly subject-based questions.” In this regard, historians

cannot and should not meddle in the studies of ancient environmental history. It is better to leave the specialized archaeologist work to archeologists.

Yet at the same time, historians should also be careful not to blindly follow archeology. Rather, they should critically examine it. They should have their own theoretic framework and core ideas, respect archaeological achievements, but not take everything they are offered. For example, archeologists are used to analyzing stoneware, chinaware and metal ware to explore the production technology and social customs of a particular era. Those utensils can be easily preserved while many others cannot. Overlooking such a fact would make it hard to form a comprehensive and subjective understanding of a particular era. Utensils like woodware, unfired clay containers, plant fiber-woven tools are not inferior to the aforementioned wares in terms of social value. It is just that they are subject to decay and easily damage. Also, archeologists usually assume the social conditions of a particular period based on relevant sites already discovered. However, only those sites which were abandoned due to certain emergencies and were never used again have the chance to be preserved as they were. By contrast, sites in constant or repeated use are not likely to be preserved as they were in their early days. Facts like this are seldom noticed. Furthermore, one shared feature of archaeologists and historians lies in the fact that they work like “detectives” who try to establish facts based on limited evidence. In comparison, historians tend to be overcautious, rigidly adhering to relevant materials, while archeologists are much bolder, envisaging

subversive hypotheses.^① For the studies of ancient environmental history, combining the advantages of historians and archaeologists is conducive to more academic works.

Ancient environmental history concerns a long era of million-years comprising many periods, each with varied importance. Just like all types of history, it inevitably starts with vague descriptions and unfolds more and more detailed information as time goes by. It covers more information from the New Stone Age than that of the Old Stone Age, more information of the agriculture era than that of the pre-agricultural era, and more information of the myth era than that of the pre-myth era. In fact, I maintain that particular importance should be attached to the myth era, for it will be recognized as the most important part of ancient environmental history. Traditional history studies, particularly the Ku-shih-pien School, tend to set aside this era. By contrast, ancient environmental history will surly end the “doubting the ancient” trend and rediscover the unique charm of those ancient myths and legends. Regarding this, further discussion will be presented later in this essay.

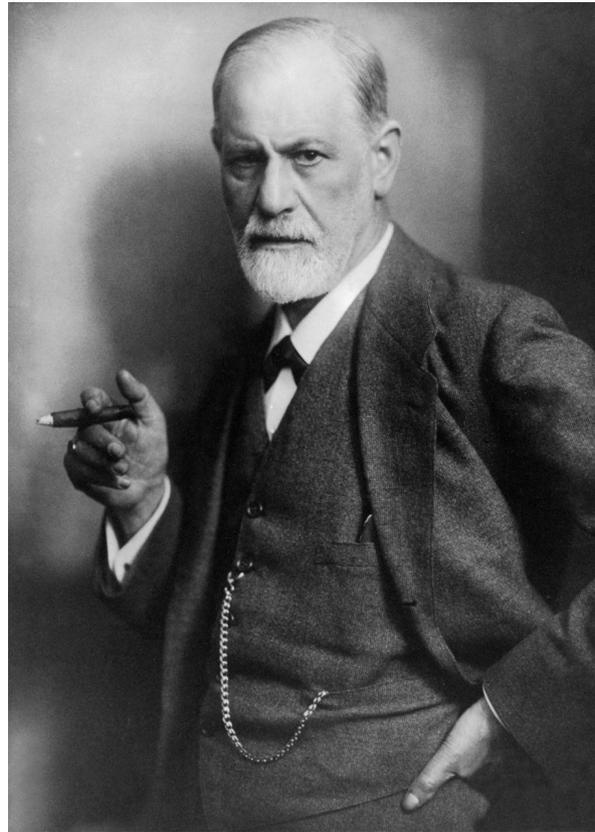
2. Significance of the studies on ancient environmental history

The purpose of ancient environmental studies is to balance the academic attention given to different periods of environmental history. Yet, such academic imbalance has been a chronic problem, which is hard to tackle due to insufficient information. However, studies on environmental history require scholars to

① For example, according to Fu Sinian, “the science of history is the science of historical data,” for “every achievement is based on certain amount of materials; in other words, no historical data provided, no achievement made. (Historians should) make the most out of available materials and avoid making groundless speculations beyond those materials.” (He Ziquan’s paper). “Fu Sinian’s historical thoughts and historical works”, published on *Study of History*, (5) in 2005. Such a rigorous attitude of course has its own merits but at the same time significantly restricts the academic freedom of historians. In fact, archeologists have a variety of peculiar assumptions. For example, regarding the extinction of Neanderthals, foreign scholars have countless dazzling arguments, such as Cannibalism, inbreeding and low linguistic capacity; and so far no consensus has been reached. Owing to the space of limitation, the paper here will not analyze it case by case.

rise to the challenge and strive to expand the studies of the ancient past. After all, from a perspective of traditional history studies, human culture has witnessed uninterrupted development and evolution. Through sustained construction, the impact of early human history seems to have long been covered up by agricultural and industrial civilizations. Or to put it in the words of Gu Jiegang and his fellow scholars, the ancient era seems to have been overshadowed by the overlaid latter eras. As far as I am concerned, however, this is only a representation. Seeing through the culture-constructed appearance to perceive the essence can unveil the fact that the ancient era is not as remote as we think. The studies of ancient environmental history are to justify the significance of the ancient era and prove it to be the “root” or “source” of later civilizations. In short, the studies on ancient environmental history are to get to the root of humanity.

As Sigmund Freud and other psychoanalysts have suggested, childhood experiences can have a far-reaching impact on one’s later life. The root cause of one’s misfortune (psychological illness in particular) can often be found in one’s childhood experience (Lin, 2001).^① Extending from abnormality to normality, psychoanalytic therapy attributes adult personality and behavior patterns to childhood experiences. Bearing a close analogy to individual growth, the entire history of human development is deeply influenced by its “childhood.” And such an influence is embodied in every aspect of human culture. In-depth deconstruction of childhood experiences can help clearly present the formation of an adult’s personality. Similarly, a thorough exploration of the interaction and mutual influence between ancient humans and their surroundings and a comprehensive interpretation



Sigmund Freud

of relevant information contained can help unveil human nature and the driving force behind the formation of social institutions. Excluding the totally different past-present illusions and the representations of “post-ancient civilization” and “super-ancient civilization” created in the agricultural and industrial eras, there are still numerous physical and psychological factors passed down from ancient ancestors in one continuous line. Often, cultural representations may change, while the essence remains. A further exploration of ancient environmental history can reveal that people of today are closely attached to their ancient ancestors both in terms of culture and physiology. The

^① More information on the studies of Freud’s theory of personality development can be found in Lin Jing’s paper “Comparison between Freud’s and Erikson’s Theories of Psychosocial Development”, published on *Journal of Fujian Normal University (Philosophy and Social Sciences Edition)* (4), in 1988.

ancient natural environment, along with the ancient ancestral interactions with their environments, still influences contemporary human life. As I mentioned earlier, “human inhabited in jungles and wilderness for a million years; by contrast, the agricultural era only lasted over ten thousand years and the industrial era only more than three hundred years; in terms of lasting marks ingrained in contemporary humans, the industrial era cannot compare with the agricultural era and the agricultural era cannot compare with the pre-agricultural era. If we carefully listen to it with patience, we may be able to hear the ever-beating rhythms left deep inside us by our ancestors” (Zhao, 2012).

Humans are inherently nostalgic, always missing and glorifying the past, which to some extent illustrates that the “childhood” of human history has a profound influence on the contemporary world. Such an influence can be found in the eco-environment, as well as in social life.^① The author of the paper divides revivalism into social revivalism and environmental revivalism (Zhao, 2012). Reviewing the ancient environmental history and exploring the human-nature relationship in the “childhood” of human history can help us better understand the contemporary world and ourselves.

Regarding the research objective, environmental history concerns the interactions and reciprocal relationships between man and nature, for which it must explore the essence of human culture-based eco-environments and the eco-context supported by human physical and psychological attributes. A thorough exploration of these issues means more than the coverage of situations in the industrial

and agricultural eras. More importantly, it is also imperative to extend the research further into earlier eras. Only when we learn more about the ancient times can we better understand what happens today; only when we learn more about our ancestors can we better understand ourselves; only when we learn more about the relationships between ancient humans and nature can we better understand the environmental history after the Three Dynasties. The studies of ancient environmental history can provide us with important background knowledge of and theoretical approaches to future environmental history studies. When it comes to the studies on environmental history of a particular era, much consideration should be given to the social and ecological conditions of the times. However, if relevant studies stay at the abovementioned level without further examining other aspects (particularly the view of ancient environmental history), there will be no way to access accurate knowledge. As I have previously stated, “For the studies on environmental history, the prehistoric environment should by no means be underestimated; through cultural evolution and physiological heredity, the ancient living environments profoundly influence the production and life of later generations; in fact, many of our likes and dislikes can find their roots in our ancestors’ environments” (Zhao, 2012).

To display how the relationships between man and nature in ancient times influence later generations, I will give two examples. The first is about the deep-rooted repulsion and fear people feel when confronted with a reptile, which indicates that people are deeply influenced by their ancestors’

① For example, many scholars engaged in environmental history studies strongly advocate environmentalism and are keen on the studies of environmental conservation history, particularly the pre-Qin part. Recent examples are listed as follows: Feng Tianyu’s paper “The Contemporary Enlightenment of the Ancient Eco-wisdom of China” published in *Social Science Front*, (1), in 2014; Shi Gehui’s master’s thesis “Studies on the Evolution of Environmental Protection in Pre-Qin Era”, of Bohai University in 2014; Chen Xuejin’s master’s thesis, “The Environmental Conservation Thoughts in the Qin and Han Dynasties”, of Hebei Normal University, in 2013; Li Jinyu’s paper, “Historical and Cultural Origins of the Eco-conservation Thoughts in the Zhou Dynasty”, in *Journal of Henan Normal University (Philosophy and Social Sciences Edition)*, in 2011 (3), etc. More information on the contrastive analysis of environmental history and environmental conservation history can be found in Zhao Jiuzhou’s paper, “Cognitive Misunderstandings of the Studies of Chinese Environmental History and Corresponding Solutions”, on *Academic Research*, in 2011 (8).

environmental cognition.

Most people are afraid of snakes, with an inborn abhorrence of them. Even people who have never seen a snake instinctively feel like that. And there is a more interesting discovery through observation: Almost all primates hate snakes. In fact, not only snakes, but also all reptiles, such as lizards, geckos and crocodiles, rouse repulsion almost immediately when they are seen by people. This abhorrence of reptiles is interpreted as biological inheritance^① by biologists. But I am more inclined to attribute it to the influence of the ancient environment, and interpret it as a phenomenon when the life of early humans has long been kept in later human genes. Amusingly, even psychologists trace fear back to early humans' reaction towards reptiles, pointing out that, "On seeing reptiles, human ancestors would maintain active vigilance. And the high mental tension in its wake might be the source of fear" (Wang, 2008).^② And that could be traced further back to the earlier pre-human era, when reptiles thrived. The earliest mammals came into being then, but they found it hard to escape from the reptiles' killing mouth and to survive, thus over the millions of years, it gradually became an instinct for mammals to abhor reptiles.^③ Though reptiles' rule ended by the Cretaceous-Paleogene extinction event and mammals got the chance to evolve, branch out and radiate, their bitterness against reptiles has never changed and has carried on in later human genes.

Humans' own experiences also attributed to their hatred towards reptiles. The early primates were mainly

tree-dwellers, and for them the ferocious. Snakes, which are good at climbing, must have been a deadly threat (the scenes of snakes attacking tree-dwelling birds can be used here as a reference), resulting in humans' extreme aversion to them. When man went out of the forest towards the marshes and wetlands, they were unfortunately attacked by crocodiles, also reptiles, and lost a presumably considerable number of the population. After they entered the agricultural era and relocated in lower wetlands from the mountain area, they were again confronted by crocodiles. Such confrontations, when long lasting, enormously strengthened human aversion to reptiles.

There is an interesting discovery concerning the Chinese dragon, the symbol of Chinese culture. Its source is also closely linked with reptiles though academia, still weighing and considering between snakes, crocodiles and thunder and lightning, has yet to achieve a consensus on the archetype. I think that in terms of its look it is reptilian, and its twisty shape indicates ties with the shape of lightning. If the obsession with a 100% accurate conclusion is abandoned, then a slightly vague assurance that the symbol is depicted based on ferocious reptiles like snakes and crocodiles will do.^④ How the reptiles abhorred by human beings ended up as the totem worshiped by the Chinese is unbelievable, though not beyond understanding. Hatred naturally turns into reverence when something is too powerful for man to tame. It was also a common logic of the ancient people.^⑤

The second example is about the behavioral

① More information about the biologists' interpretations can be found in the interesting report. Pan Zhi's article, "Man's Fear of Snakes and Spiders Might Be Inherited from Ancestors", on *Xinhua Daily Telegraph*, on October 21, 2003.

② The article mainly references views of Swedish psychologist Arne Öhman.

③ Many documentary films and works refer to the hostile environment mammals faced when reptiles, especially dinosaurs, ruled the world. There are BBC series "Life on Earth" for reference, and papers including: Zhang Yonglu, et al. *Paleontology*, published by Geological Publishing House, in 1988; Wang Haibo's paper "The Mystery of Mammalian Evolution" on *Life World*, (6) in 2007; Wang, Yuanqing's paper. "Mammalian Evolution in the Dinosaur Age". *Essay Collection of the 4th Global Science & Technology Forum in Anhui—Symposium on Geological Paleontology Relics and Ecological Environment Protection*.

④ Chen Weitao has a clear conclusion on the source of the Chinese dragon. Here is his paper for reference: "Identify the Source of the Chinese Dragon from Various Sayings", published on *Journal of Historical Science*, (10) in 2012.

⑤ The Chinese dragon, nowhere to be found in reality, turned out to be an important role in Chinese culture. The same thing happens to other made-up animals like phoenix, kylin and pixiu, which play a big role in environmental history. But they won't be discussed here.

differences between males and females, which reflect that not only human ancestors but also today's humans are shaped by the primitive ecological circumstances.

As to the reason for gender-based behavioral differences, psychologists have given their judgment from the psychological angle, namely "females are more dependent on relationships" while "males rely more on groups," and that deeply influences their self-positioning and behavioral patterns(Aronson Elliot, Timothy D. Wilson & Robin M. Akert, 2012). Sociology, on the other hand, acknowledges the influence of congenital factors, focusing more on the importance of socialization, thinking that the two genders take on their roles due to the influence of families and society, namely, "The collective expectation about the appropriate behaviors, attitudes and activities for males and females." I do not want to overemphasize the congenital factors here, but the influence of primitive history on gender-based behavioral differences can never be neglected.

Here are three obvious differences. First, boys are born warriors, all being fans of rougher toys and games, and literature themed on violence and adventures. In sharp contrast, girls love baby dolls, peaceful games and warm literature. These inborn quality last to their adulthood. Second, men tend to eat like a horse, while women are crazy about snack food and take lighter meals. Third, women love shopping, especially those self-service markets, while men are not tempted at all by that.

These three aspects, though seemingly unrelated to each other, are in fact all closely linked with the social division of labor when human ancestors adapted themselves to the primitive environment. Even in the days of hunting and gathering, there already had been a strict division of labor: Food gathering was for women, and hunting was for men. Thus, during the hundreds of thousands and even

millions of years, hunting became a male career testifying their power and glory. When man entered the agricultural society, hunting dwindled, and men turned their eyes to a copycat of hunting: Battle games. Hunting was a time-and-energy consuming job. Men could not eat while they were hunting. Only after the prey was captured and they returned to their tribes could men eat, and of course, eat like a horse. Plus, already worn out by a large amount of running when they were hunting, men were not enthusiastic about random walks in the woods.

Unlike men, women were mainly food gatherers and were spared the fate of bloody, ferocious killing, hence they are gentle and love for peace. The seeds and fruit they gathered easily found their way into the carry-on vessels, and frequently into their mouths, hence women's habit of eating snacks. In modern society, women need not gather food, but their love for gathering remains in their genes, hence the substitute: shopping, especially shopping in a supermarket. The process of roaming and taking things they like off the shelves to the shopping trolleys is very much like picking seeds and fruit from plants and placing them in the carry-on vessels.

In brief, the cognition of the environment and behavioral patterns of modern human beings can always be traced back to their ancestors millions of years ago. This is a feasible approach to history studies.

I would like to end this section of the paper with a question list: Why we are irresistibly drawn to nature? Why we are always longing for the sceneries far away from the hustle-and-bustle of the cities? Why we plant flowers on our balconies, in our yards, and find green so appealing? Why we have pets and love most bird-songs? Why we fear and abhor darkness from the bottom of our hearts? Why we are awe-struck by thunder and lightning? Why we believe in ghosts and gods? The list could run on and on. But given the limited space, it will stop here.

These questions, though briefly mentioned, may be solved with the help of the ancient environmental history. And what is more, as the study of ancient environmental history advances, the realm of environmental history will be expanded.

3. Methodology of research on ancient environmental history

3.1 Focusing on the universal truth

Chen Yinke, whose highly valued novels are important historical sources, once in referring to *Records from the Taiping Era* commented, “Novels can be referenced; they might be imprecise, but they could contain something true in general”(Chen, 2009, p.492). To be sure, exploring primitive history is not equal to reading a novel. However, the real history entwined with myths and the contradictory and confusing accounts of history often make it very hard for us to pin down everything precisely as it once was. Even when we are lucky enough to have sufficient documents and accurate records, we can get infinitely close to the real history but never really reach it, let alone when we are confronted by the distant past with a lack of useful documents and clear records. However, if we are obsessive about a precise reproduction of history, we may stumble upon a true big picture, though it is without accurate details.

Paul A. Cohen, an American scholar, when studying the Boxer Movement in China, noted that though they obviously can't recreate the entire history other people experienced, historians, as far as the relationship between actual history and the history in myths is concerned, can absolutely recreate part of it (Cohen, 2000, p.249). This theory also applies to the research on primitive history.

Since the 1960s and 1970s, traditional theories in the science of history have been doubted by some post-modern historians, who held that, “Texts are only what we have and only by comparing them can we seek a best possible description of the past. We must ask ourselves, when looking through those texts, which one could be best matched with the current historical evidence. But we can never truly compare the texts at hand with the “past” itself and thus cannot verify our inference (Ankersmit, 2016, p.191), especially research of primitive history, for there are too few texts available and the past is always too far away.

But studies of environmental history liberate us from this dilemma, for it prefers to delve into the relationships between nature and man rather than waste time in verifying details of people and time. What the environmental historians really take interest in is, within a certain period, on a certain spatial scale, how the ecological factors were distributed and how they interacted with each other. Environmental history is not obsessive about the “inner details” of history. Even in my recent theories of micro environmental history, the total precision about people, things and objects was in fact never the focus.^① When we focus on a specific scene in history, we do not struggle with tiny details like the names of the Yan Emperor, the Huang Emperor and Chi You, where they lived, who their wives were, how many friends they had, who their foes were and where they died, though we never allow ourselves to miss out on any document that can help us understand the interactions between nature and man during that part of history. The remoter the history, the lower resolution we will choose. And for ancient environmental history, we will be content if it can be roughly outlined.

① Zhao Jiuzhou's views on micro environmental history can be read from: “The Micro Turn of Environmental History Research—Comment on ‘the Environment and Civilization Co-shared by Man and Bamboo’” on *Agricultural History of China*, (6), in 2015.



HuangDi's Mausoleum

Take the stories about the Yan Emperor, the Huang Emperor and Chi You again as examples. Too many details about that part of history are beyond our grasp: Their life, the exact location of the Banquan and Zhuolu Battles, its concrete process, and why is it that the Yan Emperor and Chi You, both defeated by the Yellow Emperor, ended up with quite different reputations? There are no standard and convincing answers to these questions. As early as the 1930s scholars had confirmed that the time before oracle bone script was called the “prehistoric age,” or “protohistoric age,” and the Erlitou Culture, possibly no earlier than 1800BC, had yet to be sorted out in detail, let alone the Yan Emperor and Huang Emperor period, which was supposed to start around 2600BC and lacked reliable archaeological evidence.^① And as is often seen, if someone comes

out with an arbitrary explanation for a specific detail concerning Chinese history before the Three Dynasties, there is always controversy, and what is worse, academic debates might even turn into personal grudges.^②

3.2 Broadening the source of historical texts

Though it is all very well for us to hold up the banner of “focusing on the universal truth,” we can’t deny the existence of the weakest point of ancient environmental history: Lack of historical texts. As post-modern historians point out, the work of historians begins with texts and ends with nothing less, and “it can never go beyond the bounds of texts (Peng, 2016).” Though we may not need to get hung up on specific details, we cannot avoid the difficulties brought by the scarcity of historical texts. Therefore, the primary reason for us to study ancient

① Analysis of the relationship between early human history and Erlitou culture can be read from: Zheng Shiliang’s paper “Erlitou Archaeological Team Leader Xu Hong Talking about Early China from the Perspective of Archaeology” in *Oriental Morning Post: Shanghai Book Review* published by Shanghai Bookstore Publishing House, in 2016.

② There are many famous academic debates in history. The most typical case might be the debate between Zhang Guangzhi and Ping-ti Ho on the source of Chinese civilization, especially that of the Chinese agricultural civilization, which resulted in never-mitigated personal grudge between the two. Ping-ti Ho thought that Zhang Guangzhi “only used basic synthesis, lacked originality in his research, and gave very subjective prejudices due to his deficient accumulation in Chinese classics,” while Zhang Guangzhi contended that Ping-ti Ho’s book *The Cradle of the East* was too nationalistic and could not be counted as a pure and objective history book. The ferocious debate between the two can be found in Ping-ti Ho’s book *Sixty Years of Reading History and Living*, published by Guangxi Normal University Press on page 386–390 and 415–416. The latest well-known debate in history is caused by Olga Gorodetskaya’s book *Xia, Shang, and Zhou: From Myth to Historical Fact* (published by Shanghai Classics Publishing House, in 2013). Her views on several details in this book have been thrown into wide doubt, for example, Zhang Weijie wrote an article “Talking about the Problems Arising in the Xia, Shang, and Zhou Dynasties: From Myth to Historical Fact from the Perspective of Ancient Writing” (on *Historical Research*, 2016(1)) as a counterargument, to which Olga’s brief response (on *Historical Research*, 2016(1)) was very fierce.

environmental history is to broaden the source of historical texts, for which the most effective measure would be disciplinary intersection, converting research achievements in other disciplines to historical texts we could reference.

Academia has made useful efforts, though small and not deep enough, to include ancient environmental history in the environmental history books written from a general perspective, as is mentioned above. And most of these books have unanimously referenced texts of other disciplines, especially those of archaeology and geology, which played an important role in the analysis of the distribution of settlements, mountains and rivers, biological distribution, production patterns, belief characteristics and climatic features in human beings' living environments, in rock research and pollen analysis. The relationships between ancient environmental history and archaeology, since it has been analyzed in detail earlier in the paper, will not be repeated here. And there are also other disciplines that have largely benefited the studies of ancient environmental history, such as anthropology, paleontology, meteorology, geography, agriculture, astronomy, scientific dating, environmentology and ecology.

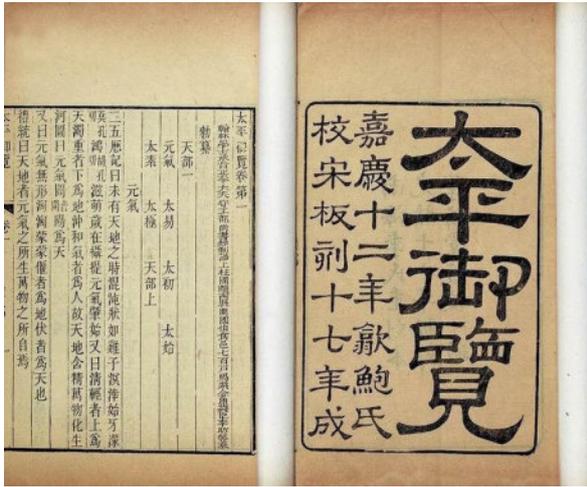
In fact, even before the idea of environmental history was raised, scholars had already realized the importance of drawing on other disciplines when they were studying the relationships between man and nature in early history. For example, Ho pingti(1969), when talking about the source of Asian agriculture, especially that of China, in his book, constructed his views through various disciplines and thus built a solid foundation for them upon reliable theories and texts. In 1996, the Xia-

Shang-Zhou Chronology Project was launched as one of the "9th Five-Year" national key projects of science and technology, and four years later in 2000 it was successfully concluded. A point worth mentioning here is that at the very beginning of the work, scholars broke down barriers between natural science and humanities, proceeded across disciplines and achieved a batch of important accomplishments to mark a glorious moment of pre-Qin Dynasty research.^① This may serve as a guide for the studies of environmental history, especially for ancient environmental history.

Future studies of environmental history must go further down the path of drawing upon other disciplines, promote dialogues between different disciplines and achieve disciplinary intersections in a real sense so as to push itself to a higher level.

Folk myths and legends are also worthy of attention. A wide array of books like *Shang Shu, Classic of Poetry, Commentary of Zuo, Verses of Chu and Records of the Grand Historian*(including later commentaries and sub-commentaries), as well as the categorized texts in *Readings of the Taiping Era and Extensive Records of the Taiping Era* must be made the best use of. As stated earlier in this paper, we need not be as particular about historical details as the Doubting Antiquity School. Instead, our goal is to sort out the "universal truth" in environmental history. Apart from traditional texts, oral folk literature is also a good source worthy of our attention, for example, for the studies on ancient environmental history concerning areas inhabited by ethnic minorities, the three greatest minority epics—the *Epic of King Gesar* from the Tibetans, the *Jangar Epic* from the Mongolians and the *Epic of Manas* from the Kirgiz people—would

① To be sure, the specific dating is still under controversy. But there is no doubt that the pre-Qin history was much pushed by this project. To shed light on more specific details of the project, Yue Nan has written an easy-to-understand book: *A Historically Rewarding Academic Case: Deciphering Xia-Shang-Zhou Chronology Project*, published by Commercial Press in 2012.



Readings of the *Taiping Era*

undoubtedly be of great value, alongside the *Ancient Songs of the Miao Minority*, the epic Genesis of the Naxi minority, Yao's epic *Mi LuoTuo* and Yi's epic *Meige*. These oral folk literature “features myths, which shed light on the birth of the world, man and all living creatures, and mythic legends, which relate to the migration, production and living of the earliest clans and tribes” (Zhong, 2010, pp.212-213). As “a record of the naive explanations of early humans for all kinds of occurrences in nature and all the hardship man experienced in conquering nature” (Yuan&Gu,2008,p.105), these could be counted as first-hand material for the studies of ancient environmental history. In that sense, the ancient environmental history of ethnic minority areas might be easier to pin down than that of the core areas of Chinese civilization.

The source of historical texts must be broadened. History may not be reproduced as true as it actually was with all the details, but it can be reasonably well outlined.

3.3 Infer the past from the present, from one

place to another with a quasi-static perspective

I once proposed the concept of a quasi-static perspective, which requires researchers to focus not only on the dynamic but also the static, not only on the environmental changes but also the constant environmental circumstances, which I named the “normal environment,” “having existed in stability for a long time and having been exerting a subtle influence on humans for a long time” (Zhao, 2012).^① In one of my books I wrote, “We can use the quasi-static perspective to get a deep insight into the interactions between man and the environment during the millions of prehistoric years and during the thousands of years spanning the early agricultural age” (Zhao, 2011), for during the whole pre-agriculture history, the ecology, human production mode and lifestyle were spared drastic changes, so the interactions between man and nature went at a very slow pace. Therefore, a quasi-static perspective, by focusing on the interactions between early humans and the normal environment, how the primitive ecology worked, how it influenced the humans then, and how humans adapted their production and life to a specific ecology, is most suitable for the studies of ancient environmental history.

Unfortunately, as much as we want to do our best, there are few materials available. It then becomes necessary for us to learn from anthropology to infer the past from the present in our research. Anthropology mainly “analyzes traces of ancient human living that persist to this day to explore the evolution and the general laws of human behavior and culture.” “In their research into man, history counts on books, archaeology on objects, and anthropology on man itself (i.e. inferring people in the past from today's people)” (Wang et al, 2002). There is indeed something consistent that is shared

^① The normal environment is discussed in another paper of Zhao named “On the Normal Environment in Environmental History.”

by the past and the present. Therefore, it is natural too for ancient environmental history to view the life of the ancient people on the basis of today, or, as post-modern historians typically advocate, “to make up stories.” “To be sure, the story a historian told contains something he ‘discovered,’ while it is also unavoidable that he ‘invented things,’” and the “invention,” or “made-up stories,” indicates the historians’ efforts to create, imagine and construct in their research (Peng, 2016, p.8). Traditional historians view post-modern historians’ theories, especially the “made-up stories,” as a formidable threat and get upset, while in fact they should be more tolerant and open-minded. With scarce historical materials at hand, historians who take to moderate “invention” and “made-up stories” may turn out to be more clear-eyed when outlining history. The studies on ancient environmental history require us not only to look carefully through historical materials but also to count on our imagination, just as anthropologists do.

Anthropologists emphasize horizontal ties, the core of which is profuse descriptions and local knowledge. They hold that “no one can get free from the geographical limitations” and “a social phenomenon should also be analyzed in a regional context” (Wang, 2008, p.322), but they also have a higher goal, namely to explore a place through the lens of others, to build horizontal ties, to infer from one place to another and finally attain a clear big picture. This also applies to the studies on ancient environmental history. It might be a feasible measure under certain circumstances to start from a place with abundant historical materials and to infer things about another places quite the opposite.

Anthropologists have made rewarding attempts at this and have reaped a bumper harvest. Edward Tylor’s academic masterpiece *Primitive Culture*, for

example, largely utilizes anthropological survey results to recreate the cultural panorama of primitive times. The method of making inferences about history from today can be seen in his core thoughts. For example, he contends that given the general consistence of human nature and human living environments, it is possible for us to track them through comparison. According to Taylor, we need not concern ourselves too much with the dates in history nor with the locations denoted on maps; what applied to the lake-dwellers in ancient Switzerland might also be all right with the Aztecs in the Middle Ages; it is the same with the Ojibwas from North America and Zulu people of South Africa. Despite the notable differences between different races and regions, we may still view human beings as a harmonious whole that is inside nature, and do our study based on all kinds of comparisons. Such a research methodology is of great reference value for our studies of ancient environmental history.

Conclusion

This paper proposes a set of ideas for the study of ancient environmental history, which specifies its definition, current situation, major significance and research approaches. Accordingly, ancient environmental history constitutes a very important part of environmental history and the current neglect of “ancient” must be altered. Meanwhile, I hold that if studies of ancient environmental history can draw upon the already existing achievements of environmental history and gather more support, the expansion of our knowledge of environmental history will be stronger and better formed.

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