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**Ding on Mostern, _The Yellow River_**

The Yellow River, which was dubbed the “mother river” of the Chinese nation and “China’s sorrow” in recent history, has become a focal point in the academic field of Chinese environmental history. In recent years, three monographs centered on the breaches and management of the river have been published in English. Micah Muscolino on the Huayuankou breach in 1937, David Pietz on the management of the river in the modern era, and Ling Zhang's award-winning book on the 1048 flood.[1] Though Pietz covers a longer historical period, all three focus on the lower stream of the Yellow River on the North China Plain. The river, however, traverses a bigger basin and longer history. Despite their compelling narratives and insightful analysis, it is hard to claim that we have harnessed a holistic and thorough understanding of the river and its history.

Ruth Mostern's new book, *The Yellow River: A Natural and Unnatural History*, is the latest addition to this flourishing field. Unlike the previous three books, Mostern provides a temporally *longue duree* and geographically holistic view of the river. In doing so, she aims to address a simple and yet fundamental question: How did the Yellow River become yellow? People with basic geographic knowledge would know that the sediment of the river mainly comes from erosion on the Loess Plateau. Yet, to elaborate on the phenomena and its historical evolution requires extensive historical data collection, synthesis, and interdisciplinary inquiry.

Epistemologically, Mostern introduces the concept of hydrosocial to underline the anthropogenic nature of the Yellow River. Unlike conventional river histories which focus on water/flooding on the floodplains and take sediment “as an inherent and permanent reality to manage,” Mostern takes sediment as the main subject of historical examination. In her words, sediment is “a manifestation of particular history and geography” (p. 6). It is the key to unlock the environ-
mental and human mechanisms behind major events unfolding on the Yellow River throughout history.

The book consists of four chapters. Each chapter chronologically covers a specific life span of the Yellow River. In chapter 1, based on the works of archaeologists, geographers, historians, and scientists, Mostern introduces the essential environmental and human factors in the making of the Yellow River history. According to her, the history of the Yellow River is the history of an entire hemisphere (p. 25). Traversing through a semi-arid zone renders the flow susceptible to climate variations. More importantly, Mostern highlights the nature of the Loess landscapes as the major element shaping the Yellow River. They retain moisture very well when they are intact, but they deteriorate rapidly when vegetation is removed. Generally speaking, human activity was responsible for the loss of ground cover. Mostern identifies four inflection points of human activity that led to intensive soil erosion on the Loess Plateau. The first occurred around about 7,000 to 7,500 years ago and coincided with the emergence of Neolithic agriculture in the region. The second happened as a result of state-directed Iron Age agricultural colonization around 300 BCE to 1 CE. The third, driven by population growth, military defense, and timber commodification, occurred between about 800 and 1100 CE and featured the most abrupt increase of sediment discharge of all. A final turn toward high erosion rates coincided with intensive dryland farming of maize and tubers in the seventeenth and eighteenth centuries and the population boom that accompanied it. Based on these inflection points, Mostern divides the history of the Yellow River into three major life spans. The following three chapters examine each life span respectively.

The second chapter covers the period from the Neolithic through the seventh century. Mostern attributes the main point of this book, the correlation between erosion on the Loess Plateau and the catastrophes on the floodplain, to the historical geographers and archaeologists, such as Tan Qixiang and T. R. Kidder. The first surge of erosion on the Loess Plateau came after the technological innovation of iron tools, agricultural intensification and state-sponsored settler colonization on the plateau during the Qin and Han Dynasties. However, most of the Loess Plateau remained sparsely populated. The eventful era of the river was still to come. Yet it was not simply a linear deforestation and declination process. Despite the culmination of erosion in the long term, Mostern unveils a more complicated process that featured climate variability, population migration, and the rivalry between pastoralism and agriculturalism.

The next chapter examines the second life span of the river, when it started to be called the Yellow River. This signified the unprecedented rise of sediment carried by the river. From the late Tang to the rise of the Mongol empire, the Loess Plateau was still a multiethnic frontier zone. Thus, rival states contested to expand and strengthen their presence in the area. Frequent battles, fortifications, and colonization had exacerbated the environmental degradation of the upper terrains in the river basin. As a result, unprecedented flood catastrophes devastated communities on the floodplain downstream. At the end of the chapter, Mostern points out the significance of north China’s ecological degradation in helping us understand the Tang-Song transition and the shift of China’s economic center to the south. It is true that most scholarship has been focusing on the emergence of the South. But it is worth mentioning that the decline of the North, including the environmental degradation, has been examined by scholars in China.[2]

The last chapter examines the most eventful life span of the Yellow River in the late imperial era. According to Mostern, the Ming defense priorities, the introduction of new world crops, and the collapse of the Mongols had made the entire Loess
Plateau an ethnically Chinese space. Sedentary agri-
culture had become the predominant mode of pro-
duction on the Loess Plateau. In the eighteenth and
nineteenth centuries, population growth and the com-
mercialization of the timber industry led to persistent soil erosion in the Yellow River basin. However, be-
cause state-led hydraulic engineering was premised on the Grand Canal-centered political economy, minimal attention was drawn to mit-
gating the erosion problem along the middle course. The welfare of the floodplain denizens was secondary to grain transportation to the capital city of Beijing. Mostern also challenges the as-
sumption among scholars about the relationship be-
tween hydraulic management and political le-
gitimacy by affirming its recent origin. I believe this would trigger further discussion in the field.

To scholars who are familiar with the Yellow River history, the main argument of the book is not new. However, no one has illustrated and sub-
stantiated it better than Mostern. In particular, the use of digital tools in making those charts and maps is innovative. Data collection and analysis are demanding tasks and can be tedious. Mostern and her collaborators presents us with the most comprehensive data of the Yellow River history so far. This alone should be applauded.

Above all, the book is a must-read for students and scholars who are interested in Chinese environ-
mental history or water history in general. Beyond the field of China studies and environmental history, general audiences may also find this book relevant. Mostern reveals that the history of the Yellow River could shed light on the current cli-
mate crisis. Throughout history, officials such as Zhang Rong, Ouyang Xiu, and Hu Ding pinpointed the erosion on the Loess Plateau as the root of the Yellow River problem. Yet the political economy of imperial China prevented states from taking effective action. Likewise, the current climate crisis poses another conundrum for the world today. The successes and failures in the Chinese people’s interactions with the Yellow River offer a historic-

Notes


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