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**Conquest or Compromise?**  
**Dealing with Nature along the Sino-Indian Road and Pipeline in World War II**

What are the forces that shape the relationship between old and new forms of energy? Many historians have argued that energy transitions were an evolutionary process influenced by complicated technological, political, and social factors. But environmental concerns also played a critical role shaping choices between energy sources as well as the techniques adopted to utilize energy. By examining the environmental history of the Sino-Indian Road and Pipeline during World War II, my paper explores how the introduction of a new form of energy--oil--into the China-Burma-India (CBI) border region interacted with the surrounding geographical and social landscapes and how the construction of the supply route altered people's understanding of their relationship with nature.

The Sino-Indian Road and its adjacent Calcutta-Kunming pipeline, the world's longest oil pipeline at that time, played an indispensable role in the extensive transportation network in the CBI region responsible for the supply of oil and other materials and personnel into wartime China. Built between 1943 and 1945 in order to relieve the burden on the perilous airlift over the Hump (eastern Himalayas), the road and pipeline became the "grand artery" for the CBI region as they resumed land traffic previously disrupted by the Japanese invasion of Burma in 1942. Scholars of military history have disagreed on the strategic value of the road and pipeline, but the construction project had a crucial environmental dimension that held long-term significance and reflected larger themes in the history of energy and technology. Geographically, the road and pipeline traversed arguably one of the most challenging terrains in the world. Reaching from the sea level to as high as 9,000 feet with steep slopes, they cut through jungles, rivers, gorges, and rice paddies.<sup>1</sup> American, Chinese, and Indian workers and engineers faced constant threats of malaria, wild animal attacks, and hostile weather. Demographically, engineers and laborers worked in places inhabited by "the wild people" (*yeren*) whom the Chinese viewed as part of nature. The labor force's need for food supply had further implications on agriculture

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<sup>1</sup> "China-Burma-India Pipeline," in *YANK, China-Burma-India Edition*, December 8, 1945.

and the environment. Though the Sino-Indian Road and Pipeline probably stood apart as an extreme case due to wartime exigencies and their particular location, they left an impact on the later technological development in China. Chinese engineers participated in the project with an eye to the postwar construction of infrastructure around the country, and they indeed dealt with similar environmental and social challenges elsewhere after the war.

Using primarily American and Chinese news articles and engineering reports, my paper examines how environmental challenges shaped the construction of the road and pipeline and how the project impacted the physical environment. In some cases, the ability of oil-powered machines to move mountains made people realize their immense power over nature; in other cases, the absence and/or futility of machines and fossil fuels due to natural constraints forced people to improvise by combining makeshift techniques with a more traditional form of energy: manual and animal labor. In the end, I argue that, largely due to environmental challenges, the intensive wartime transportation in the CBI region was not a linear process of technological advancement; instead, in a more circuitous process, non-industrial factors such as agriculture and muscle power interacted with industrial technology to shape the way people worked and dealt with nature. Rather than clearly opposing each other, organic and mineral energy complemented each other, resulting in the hybrid energy flow necessary to overcome severe environmental challenges and to create the infrastructure needed for wartime transportation.

My paper's environmental approach turns away from the prominent individuals studied extensively by military historians and instead focuses on engineers' and workers' everyday experience. In dialogue with historians of energy in China in different time periods, I situate the wartime transportation in the CBI region in the long-term development of energy and infrastructure in modern China. More generally, my paper seeks to participate in the scholarly discussion on the relationship among energy, technology, and the environment. As the case of the Sino-Indian Road and Pipeline suggests, the introduction of a new energy source may not necessarily alter old energy regimes. Rather, old techniques and energy sources may remain crucial even during the construction of infrastructure supporting the exploitation and usage of new energy sources, often as a strategy to resolve environmental and technological challenges.