


England: Stronghold of the Kings in the North

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Archaeologists excavate for the first time one of the walls that surround the ancient city of Co Loa, Vietnam's earliest urban center.

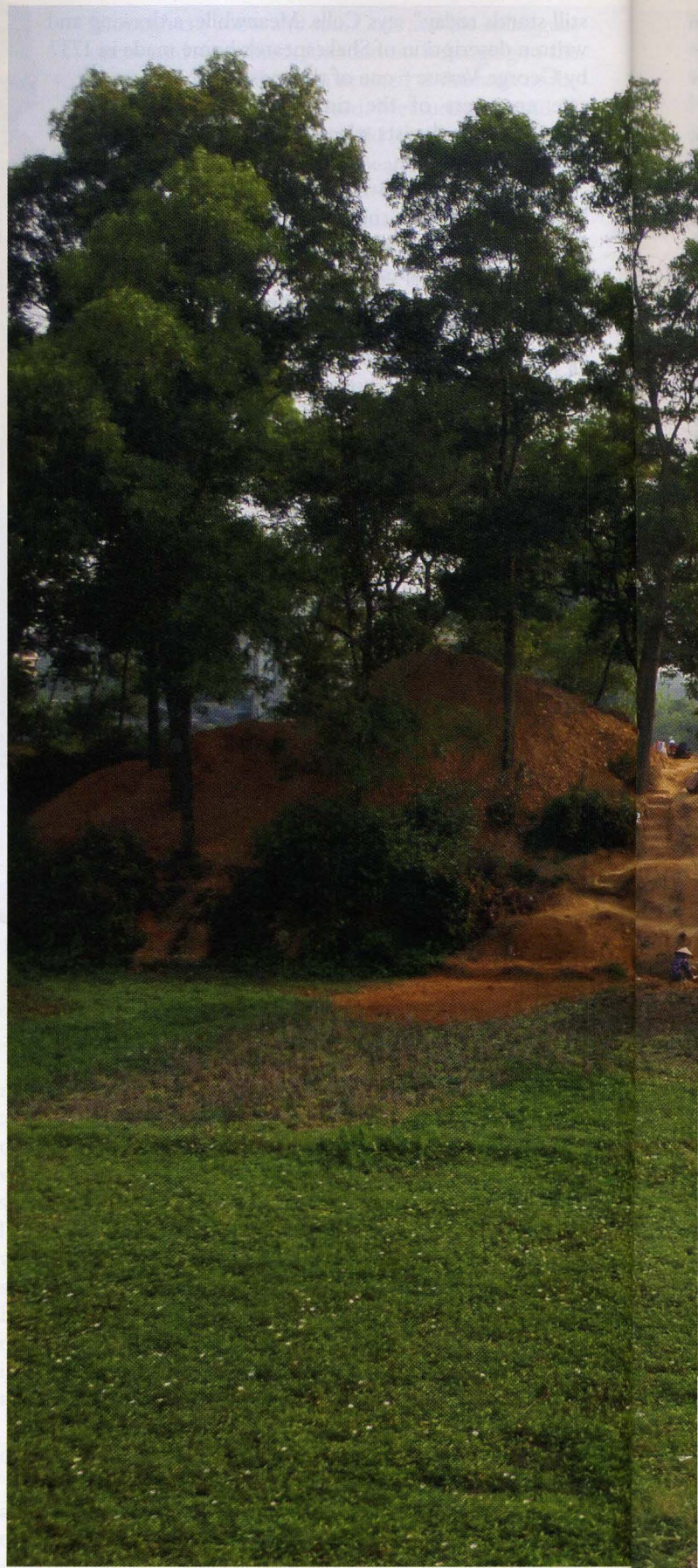
# Vietnam's First City

At the site of Co Loa, researchers are examining the foundations of power in Southeast Asia

by LAUREN HILGERS

**A**BOUT 10 MILES OUTSIDE of Hanoi's city center, where the urban environment gives way to rice paddies and vegetable stalls, a steep hill rises abruptly out of the landscape and runs adjacent to the road for half a mile before turning away. Closer examination reveals that it is man-made—substantial, certainly, and old. The rise is, in fact, the outer edge of the remains of Co Loa, Vietnam's earliest urbanized center, an earthen rampart that, more than 2,000 years after it was built, still defines the land it occupies. The structure, says Nam C. Kim, an archaeologist at the University of Wisconsin–Madison, represents a turning point in Vietnam's history, the moment when a powerful, centralized state evolved out of the region's protohistoric Iron Age culture.

Co Loa is a city that shouldn't have existed, at least not at the time and on the scale that its ramparts suggest. The lowest levels of Co Loa's walls have been dated as far back as 300 B.C., a period in which, according to many researchers, centralized states had not yet evolved in Southeast Asia. Instead, scholars have long believed that the region's only settlements were small, moated, and loosely organized at best. Such minor sites formed part of Vietnam's ancient Dongson culture, a society known for its impressive ceremonial bronze drums. The Dongson left behind no written records, and their scattered burials and archaeological sites are linked to one another only by the distinctive bronze work—drums, daggers, vessels—that suggests a shared cultural production.







In this satellite photo, miles of Co Loa's walls are visible as dark bands spiraling around the modern town at center. New research is examining when and how the walls were built.

It is now understood that from among this smattering of settlements, Co Loa grew into a polity the likes of which the region had never seen—and in a matter of just decades. The city featured large-scale earthworks, a complex system of water management, and an area large enough to hold a truly urban population. It drew upon a labor force large enough to build its ramparts, divert river water, and feed an expanding population. Significantly, according to Kim's research at the site, it became this urban center hundreds of years earlier than previously thought. Kim's timeline places the earliest rampart construction well before a Han Dynasty invasion that took place in 111 B.C. The city's development was long believed to be a result of this occupation, but it now appears, rather, to be a story of cultural exchange and emulation, drawing from both Dongson and Chinese influences and technologies, all of

which propelled northern Vietnam from an era of scattered rural settlements to one of centralized power and urbanization.

"Depending on the estimates, we're looking at maybe 500 to 600 hectares [approximately 1,500 acres] of space," Kim says of the area enclosed by the outermost wall. Most other settlements from the same time period are significantly smaller. "Co Loa," he says, "is simply unparalleled." The settlement is encircled by walls three times over, and inside the ramparts, archaeologists have discovered the remains of firing kilns, carefully decorated roof tiles, weapons, and large-scale bronze workshops.

Before Kim's work helped establish Co Loa's timeline, there were two accounts of when and how the city came to be: one from written foreign sources and another from Vietnam's folk history. According to Chinese historical texts, centralized power in Vietnam can be traced back to the influence of the Han Dynasty, which invaded and settled in the area in the second century B.C. It was the Han, these texts state, who brought advanced agricultural ideas, military expertise, and building techniques to a less-developed, "barbaric," part of Asia. The alternate version comes from Vietnamese legends. They suggest that a small empire—the Au Lac Kingdom—was united by an ancient Vietnamese army general, An Duong Vuong. He was a military genius and an astute ruler, who wielded a magic crossbow given to him by a golden

turtle. For his capital, he picked a location close to the Red River, flanked by mountains and thick forest.

"Vietnamese historians and archaeologists began to officially research these topics in the 1960s," says Trinh Hoang Hiep, an archaeologist at the Vietnamese Institute of Archaeology and Kim's collaborator at the Co Loa site. "But the local people living in the area of Co Loa have known about these stories for much longer due to the existence of folklore and oral traditions for many generations." Trinh learned about An Duong Vuong in high school. "It is something that every student learns about," he says, "even if they do not exactly know about the archaeology."

Kim's findings, which establish that some of Co Loa's walls predate Chinese presence in the area by centuries, appear to favor folktale over written history—that the city was founded

locally rather than by an invading force. Kim believes the truth to be somewhere in between. He thinks Co Loa's story is one of development that relied on cultural exchange, trade, and local ingenuity. The site can offer archaeologists a narrative more compelling than a simple timeline, one that provides insight into the galvanizing forces behind centralization and how a region might organize and urbanize.

**K**IM SPENT THE FIRST YEAR of his life in Vietnam, but grew up in the United States. He was evacuated from Saigon with his parents in 1975, by helicopter from the top of the USAID building, as American forces retreated. "I grew up knowing nothing about Co Loa and Vietnamese history," Kim says. "I knew about the recent history because my parents experienced it." It wasn't until he was a graduate student at the University of Illinois at Chicago that he started looking into Vietnam's ancient past. By the time he decided to return to the country of his birth, it had been 30 years since his family had fled.

Kim arrived, in 2005, with little more than a handful of contacts and a scheduled meeting at the Vietnamese Institute of Archaeology in Hanoi. He kept his expectations low. "I was a graduate student," he says. "No one knew me. I had gotten in touch with some folks in Hanoi, but we hadn't talked about anything specific." Nonetheless, he arrived with a wish list of archaeological sites in the

**A massive, 158-pound bronze drum (right), in the style of the Dongson culture, was excavated at Co Loa in 1981. Inside were more than a hundred bronze artifacts, including plowshares (below) and weapons.**

back of his mind. When archaeologists at the Institute asked him what he was interested in, Kim said Co Loa. "I was thinking, 'Shoot for the moon and see what happens.' I didn't expect they would say yes." He was offered a tour of the site later that week.

"The biggest change in our work, since the late 1990s, has been to include more foreign collaboration," says Trinh. "This was done because of a shift in objectives from pure research to include a greater sense of preservation and conservation. The hope was to begin making Co Loa better known outside of Vietnam."

The Institute had been conducting excavations at the site for nearly three decades before Kim arrived. The focus, however, had been primarily on the artifacts that had been uncovered within its inner walls. No one had excavated the ramparts themselves. Recalling his first visit, Kim says, "We went from one environment, downtown Hanoi, to a more rural environment. Going into the site itself through the main entrance, which is on the south side, you're going through rice paddies and you go across this bridge. I had seen

satellite photos," he adds, "but when you're on the ground you realize just how large-scale these constructions are and how much labor likely went into them."

Co Loa is defined by the three spiraling layers of packed-earth walls that form its ramparts. The second, irregularly shaped wall is the focus of Kim's research. It runs for four miles and stands about 30 feet in height. The innermost wall approximates a rectangle and is slightly over a mile in total length. The outer wall has a five-mile perimeter and measures only 10 to 12 feet high today, depending on local topography and modern disturbances. Archaeologists can only guess at





The middle wall of Co Loa, shown here after vegetation was stripped away, but before excavation, had been built in three stages and required the mobilization of a large, organized labor force.

the height of the wall at the city's apex—erosion, episodic refurbishments, and over a thousand years of continual human habitation make any precise calculations impossible. Likewise, researchers have been hard-pressed to determine the extent of a network of canals, moats, and reservoirs that run through the site. Today, depressions in the landscape still fill up with water during floods and downpours, and modern bridges cross them. In places, ditches run alongside the length of the ancient ramparts. It's likely, however, that many ancient reservoirs have been filled in over time.

“What we suspect is that they were taking earthen materials out of the ground [to build up the walls] and simultaneously making these ditches,” Kim says. “In the middle wall, the original shape of the ditch was sort of a V in cross-section. So we suspect that this was originally a dry ditch that might have had some kind of military purpose. Later, it could have served for water management or water transportation. There are many different possibilities.” And the ditches may have been intended to provide all—defense, irrigation, and the delineation of social space. Filled with the monsoon rains, they may have served as canals along which boats could move throughout the city.

Kim notes that a reservoir inside the settlement still fills today. “Depending on the time of year,” he says, “it sometimes looks like a lake. The suspicion is that the reservoir allowed access into the city, out to the Red River, and then up the river to modern-day China or downriver to the coast. It would have been pretty strategically located.”

When Kim arrived, Vietnamese archaeologists had already

made discoveries revealing the scope of production and wealth at Co Loa. In the 1980s, they uncovered an enormous bronze drum—158 pounds, 29 inches across, and 21 inches tall—near the inner wall. This find, its surface intricate with circular carvings of warriors, drummers, and people threshing rice, ties the site more closely to Vietnam's Dongson culture. Inside the drum itself, archaeologists found a trove of bronze artifacts: 96 plowshares, six hoes, and a variety of axes, daggers, and arrowheads. It is estimated that it would have required thousands of pounds of ore to manufacture the drum and its contents. In addition, the drum held a Chinese coin from 200 B.C. and an inscription in Chinese on the inner surface of the drum. Co Loa may have been built before the Han Dynasty annexed northern Vietnam, but it was not built in a vacuum.

“We know that these materials were being produced and used before the Han presence had come into the culture,” Kim says. “The emulation argument makes more sense [than annexation], given its proximity to what was happening in the north. It was the Warring States period [475–221 B.C.] in the north. You might have a lot of movement of people, taking their ways of life and their ideas with them.”

In addition to the drum, archaeologists had also previously uncovered a cache of 10,000 bronze-tipped projectiles near the southern entrance to Co Loa—arrow tips that bring to mind An Duong Vuong and his feared crossbow. And, in other areas of the city, archaeologists have uncovered roof tiles similar to those found during the same period in what is today southern China. These tiles, however, bear starburst patterns that more closely match designs on Dongson bronzes. This, Kim says, is another point of overlap between Chinese and Vietnamese traditions, and further evidence that the polity may have functioned as a hub of trade and cultural exchange.

**K**IM'S THESIS WAS STRENGTHENED when he began his own excavations in 2006, and began to put the previously excavated artifacts within a solid timeline. His intention was to address the question of cultural exchange versus annexation and to find out how quickly Co Loa had been established. Kim and Trinh chose to focus on the middle wall of the city and excavated a cross-section near the northern gate, where the wall runs generally east-west.

Kim was able to separate the rampart into three phases of construction: early, middle, and late. Using radiocarbon dating,

he placed the earliest, bottommost section sometime in the fourth century B.C., well before the Han Dynasty had annexed the territory at the end of the second century B.C. The middle phase of construction ran from 300 to 100 B.C., and shows how Chinese influence began to spread before the annexation. “In the initial phase of the construction we just have piled earth,” Kim explains. “The middle layers appear to be rammed earth, not all that different from what you would find in China.”

While many monumental structures around the world during this time period came together slowly—the result of accretionary building over centuries or millennia—Kim believes Co Loa’s construction went quickly. He estimates that the amount of soil moved, just for the middle phase, reached more than 30 million cubic feet. It also appears to have been done without substantial pauses in building, which would be represented by layers of natural fill. “Using rates of construction from case studies that other archaeologists have conducted worldwide, I suspect we’re looking at years or decades,” Kim says. “This is different from other large construction [projects], which took centuries or millennia. This happened much more quickly. It signals a much more centralized approach to labor and land management.”

The final phase of construction came much later. From

of construction into three stages that began with a layer of soil, sand, and clay placed in layers to form a kind of mound. At the top of this section, Kim discovered a depression that runs the length of the wall, and may have been used as a pathway for walking or pulling carts. Over that, rammed earth was added to create a strong, flat top surface. Atop that, Kim found another layer of dumped earth, but this one differed from the other because it contained the bulk of the artifacts his team uncovered, primarily ceramic roof tiles and stones. The tiles are similar to those already discovered by Vietnamese archaeologists. Kim theorizes that there was a roof running the length of the rampart at this stage, or that the tiles were placed there to protect the wall from erosion.

With all of this in mind, Kim has developed a number of theories about the speed and strategic importance of Co Loa’s construction. “What kind of labor force would it take?” he asks. Archaeologists have not uncovered buildings—they know very little about the size and scale of the settlements in and around Co Loa, and, on that basis, little about the size of the population in the area. Based on a five-hour workday for laborers and the quantity of earth that would have been moved, Kim estimates that more than five million individual workdays would have been required to complete Co Loa’s

early rampart system. This corresponds to a large labor force, spanning multiple generations, for construction and maintenance, and hence a stable, centralized power capable of directing and feeding them, as well as a military force capable of defending the city walls—a true polity.

Kim suspects that Co Loa’s founders had a military background, but he will not go so far as to say that general An Duong Vuong was involved. Folklore can only do so much. “Whether or not that person actually existed or that polity actually existed,” he says, “there was some kind of society that was centralized politically that had access to a lot of labor.”

The next step, according to Kim, will be to look at how the local environment changed as Co Loa was being built. Preliminary studies of pollen in

the earth used in the ramparts’ construction suggest the area was heavily forested before Co Loa was built, and not ideal for agriculture. The findings imply that large swaths of forest had been cleared and sweeping landscape changes took place as the city developed. “The research we are starting to do moving forward involves looking at the other aspects of the settlement itself—where everybody was living, and what types of changes were made to the environment over time,” he says. Dating the ramparts represents planting a stake in the ground. Kim says, “Here’s where we can start.” ■

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**Ceramic roof tile fragments, which combine Vietnamese and Chinese styles, were found within the walls of Co Loa. They may have been placed to prevent erosion, or may suggest that the wall once had a roof atop it.**

pottery fragments, archaeologists determined that the last, tightly packed layers of soil were deposited in the fifteenth or sixteenth century A.D.—perhaps an attempt at refurbishment by a later power.

Estimating the amount of labor required to build the ramparts is Kim’s approach to getting at population size and growth along the Red River over time. The construction began with a foundation of soil taken from the corresponding ditch, spread out to create a flat surface. Mixed with this foundation, Kim found topsoil from rice paddies, an indication that increased agricultural activity was already transforming the area when Co Loa was built. Kim separates the middle phase