

Landscapes of Pre-Industrial Cities
Garden and Landscape Studies Symposium
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Abstracts

Suzanne Preston Blier, Harvard University

“Walls that Speak: Landscape Factors in Early West African Urban Centers”

Beginning in the thirteenth and fourteenth centuries, in what is today Nigeria, central plan walled cities emerged, transforming both landscape and the various buildings within them. While the origins of this movement are still largely unknown (and too little discussed) there is no doubt that it shaped key communities in this region – northern Hausa centers (which by this time were Islamic) as well as southern urban polities, the Yoruba most importantly. The cities in question are distinguished by a central plan, with the palace, market, and key religious edifices located near the very middle at the intersection generally of four main avenues that lead outward through the city gates to other regions. These main gates generally are aligned with the cardinal directions. The ancient city of Ife is one of these centers; so too is Benin City, and Kano, Abeokuta, Ketu, Ilesha, and Abomey. In the centuries that followed, this plan was replicated. Some of these cities had circular walls (Ife, Ketu); others were square (Kano, Abomey) but the overall plan remained strikingly consistent. What is notably distinctive about each center is how both the original landscape and later built landscape featured in them. Many early Yoruba cities were positioned around mountains (the palace, main temple, and market near the height). In other cases, these sites were flat. Each had a different look and feel. Often certain kinds of trees were planted near certain kinds of structures – shrines among these. What is it about these pre-industrial West African cities that gave rise to the remarkable landscape factors? How do the unique sites themselves transform the basic plan? How do these centers relate to other central planned walled cities from the same era in Europe, the Middle East and elsewhere? This paper will present both an array of questions and possible answers.

J. B. Chevance, Archaeology & Development Foundation, Phnom Kulen Program, Siem Reap, Cambodia

“The Phnom Kulen’s capital: a singular and early case of urban planning in ancient Cambodia”

Since its rediscovery by Western scholars in the second half of the 19th century, the Angkorian landscape was mostly defined by its temples, remarkable architectural remains of the Khmer civilization, which spread across South-Est Asia from the 9th to the 15th century. Modern studies have included a territorial scale approach, enriching considerably the perception of these settlements. Recently, the LiDAR technology applied in Angkor and other archaeological complexes in Cambodia have profoundly advanced our comprehension of these sites. One of the most spectacular outcome is the discovery of an early urban network, on the top of Phnom Kulen, a massif located about 40 km North-East of Angkor, identified by inscriptions as the *Mahendraparvata*, where *Jayavarman II* resided and ruled the Khmer empire for some time at the beginning of the 9th century.

The presentation will reveal the genesis of this large and open urban landscape, covering more than 20 square miles and its spatial organization. Archaeological features composing this urban settlement (mountain-temple, royal palace, temples, reservoirs, roads, plots...) and their interaction with the natural environment will be highlighted (dikes, canals, dams...). Despite the implementation of a strict geometric design, the builders of the Phnom Kulen capital, located at the source of the Angkorian hydrographic network and on the only important mountain in the region, have adapted to and modified their natural environment with ingenuity. The result is an ambitious, early and rather quickly abandoned landscape, preserving it from further modification, as opposed to the Angkor agrarian plain. It represents a unique example of an urban landscape in a constraining environment and allows understanding the further evolution of the Angkorian urban model. Recent studies indicate also that such an important urban planning in this particular environment must have had an important impact on natural resources. Apart from political reasons, environmental control, natural resource management and more generally land use might have been, in Phnom Kulen, responsible for the abandonment of the capital. Interestingly, a similar phenomenon is repeating itself today with some equivalent consequences.

Hendrik Dey, Hunter College, City University of New York

"Landscape Change and Ceremonial Praxis in Medieval Rome: From the *Via Triumphalis* to the *Via Papalis*"

Well into the high Middle Ages, the monumental corridor through the Campus Martius in Rome most closely associated with ancient Roman triumphal processions maintained much of its architectural cohesion, along with its role as a privileged axis of processional ceremony. Only during the twelfth and thirteenth centuries was this remarkably durable urban armature superseded by a new processional route, the so-called *Via Papalis*, which ran roughly parallel to the old road, only a few hundred meters to the north. This rather sudden shift is best explained in relation to a complex interplay of environmental and human factors that together transformed much of Rome, especially the low-lying Campus Martius in the Tiber floodplain, into a distinctly 'medieval' city less rooted in surviving remains and lingering memories of the ancient city. A combination of flooding and intensifying human activity that caused ground-levels to rise precipitously in the twelfth century helps to account for the disappearance of the old route, but it does not explain why subsequent generations of popes chose to follow a different itinerary through the Campus Martius on their way between the Vatican and the city-center. This break with centuries of precedent reflects a series of choices made by human actors seeking to reconcile their narrow political and ceremonial agendas with systemic changes in a vast urban landscape over which they had, at best, limited control.

Michael Heckenberger, University of Florida,

"Xingu Garden Cities: Domesticated Forests of the Southern Amazon"

Anyone who has tended a tropical forest garden knows it is 'weeds,' invasive plants, not soil manipulation, fertility or water, which are the most palpable obstacles to 'taming' the land. Gardens must be carved out of forest, and almost overnight are a bloom again in new growth. Not all weeds are bad and are quickly overshadowed by sapling trees, used as industrial crops and working forests for posts and beams, walls, furnishing for houses and settlements and fences. Tropical landscapes were more woven than hammered or cleaved, nudged through minor manipulations, entwining the forest into houses and settlements, reworking the myriad and inexorable ebbs and flows of water, and knitting these together through human aesthetics and organic industries. Nothing is made of stone, no terra cotta nor even planking, no metal tools, despite the delusions of Europeans who for centuries searched in vain for lost cities. In the Xingu, dense networks of roads linking towns and villages were hyper-planned and cycled and recycled trees on scale seldom rivaled in the ancient world. In fact, in terms of networks and connectivity, traffic patterns, they seem almost sublime in the sophistication of their regional planning, and how it was designed to work with the forest, to nurture rather than tame it. The planning echoes the alternative model of urban sustainability put forth by Ebenezer Howard in *Garden Cities of To-morrow* (1902). The idea seems almost custom-fit for the Amazon, tropical garden cities. Indeed, their alternative variety of pre-modern urbanism, excavated over the course of two decades through participatory work and partnerships, worked with nature not against it, and is a living example, of how to deal with Amazon today in terms of biodiversity, sustainability, climate and indigenous heritage.

Alan L. Kolata, University of Chicago

"The Autopoietic City: Landscape, Science, and Society in the Pre-Industrial World"

Autopoietic structures have definite boundaries, such as a semipermeable membrane, but the boundaries are open and connect the system with almost unimaginable complexity to the world around it. –John Briggs and F. David Peat

We often think of cities as bounded physical and sociological phenomena. In some sense, all cities have perceptible boundaries: municipal signs denoting city limits, visible transitions to dense concentrations of populations, marked massing of buildings and infrastructure. A city is a palpable thing; we know it when we see it, hear it, move through it, smell it. The walled cities of medieval Europe that materially and symbolically delimited urban centers from the surrounding countryside are emblematic of this image of the city as a closed, inward-oriented, self-governing and self-reproducing system. But cities are never autarkic in economic, social or phenomenological senses. All cities are enmeshed in dynamic webs of instrumental, communicative and symbolic connectivity with their sustaining

hinterlands, and, of course, with other cities. The material success of pre-industrial cities turned on their capacity to effectively identify, develop and integrate natural resources and social processes of production on an expansive, landscape-scale. This talk explores the pre-industrial city as an autopoietic structure along four related axes of system connectivity: the material, the relational, the performative and the perspectival. The analysis will concentrate explicitly on the landscapes of material and social production in the indigenous cities of the Americas, but will also explore analogous autopoietic structures in preindustrial cities elsewhere.

J. Cameron Monroe, University of California, Santa Cruz

“Seeing the Forest for the Trees: Cities and Their Hinterlands in Tropical West Africa”

For centuries, sub-Saharan Africa was seen as lacking the potential for autochthonous urban development, and Near Eastern and European contact provided ready explanations for the emergence of cities across the continent. Adopting a *functional* model of the city, in which cities are defined in relation to broader countrysides, archaeological research has successfully identified deeply rooted urban traditions in all corners of the continent. However, despite the antiquity of a number of urban traditions across Africa, long-distance forces clearly had wide-reaching impacts on urban developmental trajectories, and proponents of the functional model have yet to explain the role of long-distance forces in the process of urbanization. Additionally, for most of Tropical West Africa applying this paradigm has been hampered by the problem of identifying sites, both large and small. This difficulty arises from the combined effects of dense vegetation, poor site preservation, and farming practices that generate low-density blankets of artifacts around sites. This paper wrestles with these two issues. On the one hand, I examine how *multi-scalar* forces shaped urban trajectories in Tropical West Africa specifically, exploring how the constraints and opportunities provided by local, inter-regional, and global forces coordinated in the making of a heterogeneous set of urban traditions over the past millennium. On the other hand, I examine how the application of state-of-the-art survey methodologies in Southern Bénin, specifically, is opening new windows onto the nature of urban settlement systems in Tropical West Africa in the past.

Tim Murtha, The Pennsylvania State University

“Landscape and City in the Ancient Maya Lowlands: Regionalism, Settlement, and Ecology”

Archaeologists exploring the dynamics of preindustrial cities have long been influenced by modern conceptualizations of urbanism. Such perspectives focus on urban traits and emphasize engineered solutions to challenges posed by population, climate and environment. This has advanced critical thinking about past urbanism, but obscures the complexities of human-natural systems expressed in archaeological regions. Critically, these evaluations don't fully integrate region and rural, assigning regional resources and rural actors to the nearest city. This paper offers a qualitatively different approach to studying the design and planning of Classic Maya cities, by emphasizing the role of landscape and region. Comparing regional information from Tikal, Guatemala and Caracol, Belize, I first detail how region is expressed in these cities. I describe how differing spatial patterns of land, water and agrarian systems are tightly linked to the sustainability of these cities, especially through intensive household landscapes. Intensive landscapes may vary in form and distribution, but are clear expressions of region. Collectively, Maya cities are best described as landscape mosaics. My approach deemphasizes normative perspectives on preindustrial urbanism that artificially link population density to sustainability and reemphasizes the roles of household and landscape when considering sustainability and resilience of cities and regions.

Timothy R. Pauketat, University of Illinois, Urbana-Champaign

“What Constituted Cahokian Urbanism?”

Once thought an undesirable, illogical location for a city, Cahokia's floodplain setting—especially the incorporation of waterlogged marshlands in its core—appears to have been designed by people who related to water and watery life-forces in distinctly non-modern ways. A millennium ago in the Mississippi valley, environment was an affective field of vital materials, substances, and phenomena, some of which pulled human beings into novel relationships. This is especially the case given the regional climatic conditions of the early 1000s. The result was a city that can be difficult to delineate, though the core components of its three primary precincts—separated by water bodies—

reveal cosmically aligned axial plans. Aspects of Cahokian urbanism—a dense cluster of ritual-residential precincts, shrine complexes, and nodal sites within a greater Cahokia region—extended into and thus ruralized farmlands. Such a design—implemented rapidly via a series of large-scale earthmoving projects, coordinated architectural constructions, and distant shrines or colonies—appears to have been possible owing to the diversity and non-kin organizational basis of a surging human population drawn together via a veritable politico-religious movement. But make no mistake, Cahokia was not simply a city of people founded on western political-economic motivations, with monuments built merely to commemorate something or somebody. Rather, it was likely a city of transcendental-monumental portals to unseen spiritual energies. It was occupied by as many noisy amphibians, insects and waterfowl as by people. Some portion of its sizable human population may have been part-time residents; the interiors of many of its temples and halls were occupied primarily by spirits. Viewed in the aggregate, the historical effects if not intention of such a place and its outliers—built with non-durable materials—was a city that might be periodically reoriented and, in the end, forgotten.

Jordan Pickett, University of Michigan,

“Hydraulic Landscapes of Roman and Byzantine Cities”

Control over water is a long-lived conceit of imperialism: this talk explores the development of technologies, practices, and ideologies of water management in cities of the Roman empire (1st- 3rd centuries), before considering the causes and consequences of shifts in urban water management during Late Antiquity (4th – 8th centuries). Romans in the first centuries CE were committed practically and ideologically to the possibility of total landscape transformation, typified by control over water. The water management of imperial Roman cities was organized around household-scale utilization of rain- and ground-water, buttressed by state-managed water imported via aqueducts and intended for purposes of display and conspicuous consumption in fountains and baths, where endlessly flowing water was weighted with ideological investments that bound cities to hinterland springs, and springs to empire. During Late Antiquity, a new pragmatism set in: cities plagued by problems of water drainage or scarcity became subject to resettlement rather than transformation through engineered solutions. Traditional Roman hierarchies for the preferential potability of water sources were reshuffled. High-cost, long-distance aqueduct systems were, if not heavily modified, gradually abandoned as sources of vulnerability rather than strength. Large-scale urban water storage – rationalized by novel ideas of water conservation – was implemented by local and state authorities. Water distribution and consumption patterns within cities changed quickly, thanks especially to new large-scale construction for episcopal complexes and emergent industrial complexes after the fourth century, which facilitated the evolution of Roman ‘cities of monuments’ as they became Byzantine ‘cities of people and production’.

These hydraulic shifts – visible from wide-ranging archaeological and literary evidence, surveyed here – crystallized in a more simplified, resilient, and decentralized palette of urban water supply and consumption behaviors that facilitated the survival of Byzantium for another millennium.

Christophe Pottier, Ecole française d’Extrême-Orient, Paris

“Uncovering Ancient Landscapes in Angkor”

Traditionally, scholarship on the Angkor period has focused on three main areas: architecture, inscriptions, and art history. In recent years, however, there has been increasing interest in the human and environmental context of the temples. Research started to step outside of the sacred temples enclosures and to focus on non-monumental remains of the urban context they fit into, of the settlements they were linked to, of the materiality of the infrastructures that surrounded them, of the networks that connected them. Integrating new methodologies and larger spatial perspectives, including geosciences and recent paleo-environmental data, archaeologists are now revising the historiography of Angkor and are investigating new aspects of the Angkor civilization, i.e. habitat densities, operation of hydraulic features, agrarian areas, road and economic networks, material culture, production sites etc. Even though the cities that surrounded the temples were made of wood, and the water management systems were mostly made of earth, we can still identify and map the traces that remain on the surface of the landscape using remote sensing techniques such as aerial photos, satellite imagery, and more recently airborne laser scanning or “lidar”. A diachronic perspective now shows how the spectacular temples of Angkor stand out of an even more massive and largely engineered environment constructed over centuries with

diverted river courses, deforested and flattened lands, geometrical patterns of banded rice fields and dispersed settlements. This complex construction consists of an impressive addition of repetitive features but also an interesting change of patterns, evolving from an open urban layout to an enclosed grid frame. This presentation will outline recent findings on the archaeological landscape in Angkor, and show how they reveal the resilience of a large low-density urbanism in contrast with the historically accepted sequence of monumental but ephemeral centers of secular and religious powers.

Priyaleen Singh, School of Planning and Architecture, New Delhi

“The Weave of Natural and Cultural Ecology: Ekamrakshetra—The Historic Temple Town of Bhubaneswar, India”

Historic settlements are repositories of knowledge systems and contain lessons of immense relevance in planning and design. This paper will focus on one such ‘living’ historic settlement of Bhubaneswar in east India. Remembered in ancient Sanskrit literature as Ekamrakshetra or mango forest, named after the mango groves in the area, it was the prolific building activity from the sixth to the ninth centuries CE, when it developed as a major pilgrimage centre, which gave the town most of its present urban form. The narrative will explore the intricate weave of the natural ecology with the cultural ecology, with the geology and water regimes helping locate over a thousand temples and tanks around which the rest of the urban form evolves. The sacred and the secular come together when these water tanks become a very important part of the open space structure of the town, for daily use by the local community. The management of the uses within the open spaces, ranging from sacred groves to paddy cultivation, in order to sustain livelihoods connected with the temple activities, further illustrates the connect between nature and culture within the settlement. The paper in analyzing the form of the city, with special emphasis on the ‘blue’, ‘green’ and ‘brown’ open space typologies will contrast its urban fabric with the adjoining new capital of Bhubaneswar, planned by Otto Koenigsberger in the 1950’s, and illustrate how the new capital, a symbol of a newly independent India, willfully turned its back to the historic town, both literally and metaphorically by undermining the ‘traditional’ planning principles and adopting spatial forms rooted in the ‘western’ vocabularies of town planning, as understood at the time.

Monica L. Smith, University of California, Los Angeles

“Monsoon Landscapes and Flexible Provisioning in the Early Historic Cities of the Indian Subcontinent”

The monsoon belt of Asia presents a dramatic landscape of environmental variability that includes long, hot summers followed by seasonal deluges of rain. Variability on this scale, while challenging to manage, nonetheless provided distinct opportunities for landscape management and agricultural production in the Indian subcontinent tied to the development of urbanism in the first millennium BC. The annual anticipation of high water, what B.K. Paul (*Human Ecology* 1984:3) terms “normal floods,” enabled people to strategically utilize routine and expected seasonal high-water events to intensify agricultural production through rice cultivation. The resultant infrastructure for food provisioning included both fixed and ephemeral forms of landesque capital: some features such as reservoirs were permanent, but others such as land boundaries and field bunds were scoured from the landscape during the summer monsoons and were in need of continual replacement. In this dynamic, labor-intensive agricultural landscape, South Asian urban centers were stable points of economic interaction both at their inception and throughout their long centuries of occupation. This paper will examine three case studies of Early Historic urbanism in which excavation and survey data provide information about both the core and hinterlands of ancient sites: Kausambi, one of the largest cities on the Ganges plain and intensively investigated throughout the 20th century; Sisupalgarh, a walled city in eastern India that is located within the Mahanadi River Delta and the region of the author’s fieldwork with R.K. Mohanty of India’s Deccan College; and Anuradhapura, where extensive research on the urban center and its hinterland have been conducted by an international team led by Robin Coningham and Prishanta Gunawardhana.

Jason Ur, Harvard University

“Space and Structure in Early Mesopotamian Cities”

The most vibrant recent research on early cities has demonstrated the great diversity of urban form across time and space, often in contradistinction to the “classic” model of early cities derived from ancient Mesopotamia. The classic model, most famously employed by Childe, does not even apply to Mesopotamia, the cities of which were also variable in time and space, and it is quickly approaching Straw Man status. Long-unchallenged ideas about urban planning, settlement density, irrigation-based economies, and urban-rural dichotomy have been undermined by new research in the past two decades. This paper will review recent research at “proto-urban” and early cities in Syria and Iraq from the late fifth to the early first millennium BC, and propose new models for Mesopotamia, drawing on intensive archaeological field surveys and satellite imagery analysis of sites and their hinterlands.

Speaker Biographies

Suzanne Preston Blier is Allen Whitehill Clowes Professor of Fine Arts and of African and African American Studies, Harvard University. Her new book, *Picasso's Demoiselles: Africa, Sex, Origins, and Creativity* appears in 2018. *The Image of the Black in African and Asian Art* (Harvard University Press, 2017) is co-edited with D. Bindman and H.L. Gates, Jr.. Her *Art and Risk in Ancient Yoruba* (Cambridge University Press, 2015) won the 2016 Prose Prize in Art History and Criticism. Other books include: *The Anatomy of Architecture* (Cambridge University press, 1987; Arnold Rubin Prize); *African Vodun* (University of Chicago, 1995; Charles Rufus Morey Prize); *Royal Arts of Africa* (Abrams, 1998), and *Butabu: Adobe Architecture in West Africa* (Princeton Architectural Press, 2003). Blier is current President of the College Art Association, the professional association of art historians and artists. Two of her essays appeared among the 33 top articles over the past century in the *Art Bulletin's Centennial Anthology*.

J. B. Chevance graduated in 1997 from the Ecole du Louvre, Paris, and later obtained a master's degree from the University of Sorbonne in 2005 followed by a PhD on Khmer archaeology in 2011. Simultaneously, he worked for various institutions in Cambodia such as the Ecole Française d'Extrême-Orient (EFEO), the Institut National de Recherches Archeologiques Preventives (INRAP) and the Cambodian APSARA National Authority. In 2007, he founded and has continued to direct the Archaeology and Development Foundation (ADF). This charity focuses on the Phnom Kulen archaeological sites with a humanitarian aspect: it ensures that the Cambodian people living around the sites are directly involved in their protection, and that their livelihoods are improved in the process. For the last twelve years, he has conducted with the ADF team many archaeological studies on the Phnom Kulen, which have had a significant impact on the knowledge of the Angkor region and, more generally, of the Khmer empire.

Hendrik Dey is Professor in the Department of Art and Art History at Hunter College, CUNY. He received his BA in Classics from Middlebury College and his Ph.D. in Classical Art and Archaeology from The University of Michigan. His research centers on urbanism and urban history in Europe and the Mediterranean from late antiquity through the Middle Ages. He is the author of *The Aurelian Wall and the Refashioning of Imperial Rome, AD 271-855* and *The Afterlife of the Roman City. Architecture and Ceremony in Late Antiquity and the Early Middle Ages*, both from Cambridge University Press, and co-author (with P. Squatriti and D. Deliyannis) of *Fifty Early Medieval Things: Materials of Culture in Late Antiquity and the Early Middle Ages*, forthcoming from Cornell University Press. He co-directs the Caesarea Coastal Archaeology Project, an underwater excavation at the city of Caesarea Maritima in Israel.

Michael Heckenberger, Associate Professor at the University of Florida, has worked with indigenous peoples for over 20 years, focusing on the Upper Xingu region of Brazil. Work by him and his team reveals unique patterns of late pre-Columbian settlement and land use, based on long-term participatory research in collaboration with the Kuikuro indigenous peoples. The context-sensitive and placed-based approaches also inform work on urban landscapes in São Paulo. In addition to numerous articles, his books include *The Ecology of Power* (2005, Routledge); a forthcoming co-authored book, *Archaeology of the Amazon* (2017, Cambridge World Archaeology), with fellow archaeologist Eduardo Neves; and two edited volumes, *Os Povos do Alto Xingu* (2001, Universidade Federal do Rio de Janeiro) with linguist Bruna Franchetto; and *Time and Memory in Indigenous Amazonia* (2007, Florida) with ethnographer Carlos Fausto. He is currently working on *Tropical Garden Cities* and *Heart of the City: Centro, São Paulo*.

Alan L. Kolata is the Bernard E. and Ellen C. Sunny Distinguished Service Professor of Anthropology at the University of Chicago. Prof. Kolata received his Ph.D. from Harvard University in 1978. Subsequently he was a Fellow at Dumbarton Oaks, before joining the Field Museum of Natural History and the University of Illinois at Chicago. He moved to the University of Chicago in 1987 where he has served as Professor and Chair in the Department of Anthropology. He currently serves as a Member of the Board of the Center for Khmer Studies, an American Overseas Research Center based in Siem Reap and Phnom Penh, Cambodia. He conducts ongoing interdisciplinary research projects studying human-environment interactions in the Lake Titicaca basin of Bolivia, on the north coast of Peru and, for the past decade, in Thailand and Cambodia. His archaeological research has focused on urban and agricultural systems in the preindustrial Andes.

J. Cameron Monroe is Associate Professor of Anthropology and the founding Director of the Archaeological Research Center at the University of California, Santa Cruz. Specializing in the Archaeology of urban landscapes and state formation in West Africa and the African Diaspora, Professor Monroe has led since 2000 a major research project on the archaeology of Dahomean Urbanism in West Africa, and launched a new research project on the early 19th century Kingdom of Haiti in 2015. He serves on the editorial board of *Azania: Archaeological Research in Africa* and has published in various journals, among them *African Archaeological Review*, *Historical Archaeology*, *Journal of African History*, *Journal of Social Archaeology*, and *Current Anthropology*. His recently published book, *The Precolonial State in West Africa: Building Power in Dahomey* (Cambridge University Press, 2014) was selected as a Choice Outstanding Academic Title for 2015.

Timothy Murtha is director of the Hamer Center for Community Design and an Associate Professor of Landscape Architecture in the Stuckeman School of Architecture and Landscape Architecture at the Pennsylvania State University. He is an environmental anthropologist and landscape archaeologist specializing in land use change and environmental modeling using geospatial tools. His research investigates the long-term dynamics of decision making with an emphasis on coupled natural and human system dynamics. Murtha has conducted sponsored research in Mexico, Central America, Northern Europe, and North America over the last twenty years, with an emphasis on households, landscape, and community.

Tim Pauketat is an archaeologist and Professor of Anthropology and Medieval Studies at the University of Illinois. He earned his doctorate at the University of Michigan (1991) and taught previously at the University of Oklahoma (1992-1996) and SUNY-Buffalo (1996-1998). He has researched pre-Columbian eastern North America for 25 years, with a special interest in the city of Cahokia, its immigrant farmers, and its historical connections across the Mississippi Valley and into Mesoamerica. More generally, his research examines the relationships of religion, material culture, and non-human phenomena to human history by focusing on the objects, substances, and phenomena through which people realize their humanity. Tim is the author and editor of a dozen books, including *An Archaeology of the Cosmos* (2013), *Medieval Mississippians* (with S. Alt, 2014), and a forthcoming textbook (with K. Sassaman, 2018), *Native Histories: North American Archaeology for the 21st Century*.

Jordan Pickett received his Ph.D. from the University of Pennsylvania in 2015 and is a Post-doctoral Research Fellow and Lecturer at the University of Michigan for the Kelsey Museum of Archaeology and the Departments of History and Near Eastern Studies. Jordan researches the historical landscapes and environments of the eastern Mediterranean, with particular emphasis on the transformation of Roman cities during Late Antiquity and the early medieval period. He has worked with survey and excavation projects across the Mediterranean for nearly a decade – in Italy, Ukraine, Jordan, Greece, and Turkey – with resultant publications for the *Journal of Archaeological Science*, the *Quaternary Science Reviews*, and chapters in several edited volumes. Jordan is currently preparing a monograph for Oxford University Press Studies in Byzantium series concerned with the survival, adaptation, and abandonment of Roman water infrastructure during Late Antiquity; an article related to this topic recently appeared in the *Dumbarton Oaks Papers*.

Christophe Pottier is an Associate Professor at the Ecole Française d'Extrême-Orient (EFEO). After his first professional experiences in India and Thailand, he reopened the EFEO center in Siem Reap – Angkor (Cambodia) in 1992, which he directed until 2009. After a sabbatical at the University of Sydney, he was appointed head of the EFEO research center in Bangkok in 2012. He received his architect's degree in 1990 and directed restoration and conservation works at Angkor, in particular at the Royal Terraces in the center of Angkor Thom, while also pursuing research on ancient architecture, urbanism, and mapping. His 1999 PhD thesis in history and archaeology (Sorbonne University, Paris III) fundamentally transformed the understanding of the residential and social organization of Angkor by mapping fields and house mounds, redefining the debate about urban studies and water

management. Since 2000, he has been director of the Cambodian-French Archaeological Mission on the Angkor Region (Mafkata), and a co-director of the Greater Angkor Project at the University of Sydney. He has authored more than fifty book chapters and scholarly papers, and contributed to numerous conferences, exhibitions, archaeological missions, and conservation programs.

Priyaleen Singh is Professor in the Department of Architectural Conservation at the School of Planning and Architecture, New Delhi. She has master's degrees in both landscape architecture and architectural and urban conservation. She was awarded the Charles Wallace India Trust scholarship to do her MA in conservation from the Institute of Advanced Architectural Studies, University of York, U.K., and subsequently got the Commonwealth Scholarship to pursue her D.Phil. from the same institution on "Changing Attitudes to Design with Nature in the Urban Indian Context." As a practicing conservation architect and landscape architect she has worked on several urban conservation and historic landscape conservation projects. She is presently researching the lesser known Indian landscape design traditions from the sixteenth to eighteenth centuries. She is also compiling a National Register of Historic Gardens of India and at the same time continues to be involved in contemporary landscape design and urban conservation issues in India.

Monica L. Smith is Professor of Anthropology at the University of California, Los Angeles, and holds the Navin and Pratima Doshi Chair in Indian Studies while serving as the Director of the South Asian Archaeology Laboratory in the Cotsen Institute of Archaeology, UCLA. Her primary fieldwork region is in India and Bangladesh, with additional field experience in Egypt, England, Italy, Tunisia, Turkey and Madagascar. Her prior books include *A Prehistory of Ordinary People* (University of Arizona, 2010), *The Social Construction of Ancient Cities* (edited, Smithsonian, 2003), and *Abundance: The Archaeology of Plenitude* (edited, University of Colorado, 2017).

Jason Ur is Professor of Anthropology in the Department of Anthropology at Harvard University, and director of its Center for Geographic Analysis. He specializes in early urbanism, landscape archaeology, and remote sensing, particularly the use of declassified US intelligence imagery. He has directed field surveys in Syria, Iraq, Turkey, and Iran. He is the author of *Urbanism and Cultural Landscapes in Northeastern Syria: The Tell Hamoukar Survey, 1999-2001* (2010). Since 2012, he has directed the Erbil Plain Archaeological Survey, an archaeological survey in the Kurdistan Region of northern Iraq. He is also preparing a history of Mesopotamian cities.