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The Archaeology of South Asian Cities

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Abstract Urbanism in the Indian subcontinent occurred in three distinct time periods in which cultural cohesion over large regions is archaeologically demonstrated through the architecture and artifacts of social, ritual, and economic activity. In the Indus (2500–1900 B.C.) and Early Historic (3rd century B.C. to 4th century A.D.) periods, cities were not necessarily tied to political territories or guided by strong political leaders, but by the Medieval period (after the 9th century A.D.), urban zones were the base for political growth, warfare, and aggrandizement. The comparison of these three eras is undertaken within a framework for defining cities that balances quantitative criteria such as population size and areal extent with two types of qualitative criteria: internal specialization on the basis of materials found within archaeological sites, and external specialization on the basis of data recovered through regional analysis. Cities from the three eras also are evaluated from the perspective of the ordinary inhabitant through the examination of the social, religious, and economic factors that prompted and rewarded urban residence. While the Indus and Early Historic cities were attractive because of the networks of opportunity found there, Medieval cities additionally benefitted from a "push" factor as ordinary inhabitants allied themselves to urban areas in times of political stress and uncertainty.

Keywords Archaeology · South Asia · Urbanism · Social complexity · Warfare

Introduction

The analysis of ancient cities is enjoying a revival, with new archaeological investigations providing data from large sites and their immediate hinterlands (e.g., Anderson and Rathbone, 2000; Cowgill, 2004; Manzanilla, 1997; M. E. Smith, 2005; M. L. Smith, 2003a). Long-term research projects, new techniques of remote sensing ranging from satellite

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imagery to noninvasive subsurface mapping, and reanalysis of previously collected data sets are providing information about ancient cities in a more comprehensive way. These new approaches would be fairly limited, however, if it were not for new understandings about the workings of those ancient sites that bring the archaeology of urbanism into a vibrant contemporary dialogue about the role of concentrated population centers in the development and maintenance of social complexity.

One of the most important current foci of research is the potential for decoupling our understanding of cities from our assessment of early states. The equivalence of cities and states as a mode of inquiry traditionally intertwined them as entities that depended upon each other for success (e.g., Adams, 1966, p. 90; Childe, 1950; Fox, 1977, p. 24; Trigger, 1972, p. 592). In the last twenty years, new archaeological investigations have provided data to question the relationship of population centers to territorial political authority. In West Africa, for example, clustered cities appear not to have been integrated with a larger political realm (McIntosh and McIntosh, 1993, 2003). In the pre-Columbian Maya area, when political integration did exist it could be highly volatile and subject to change (Adams, 1999, p. 12; see also Golden, 2003; Haviland, 1997). Crumley (1995, p. 29) has similarly questioned the state – urban equation in the development of early urbanism in Europe. Even for the ancient Near East as a focus of much early theorizing about the apparent coeval relationship between cities and states, scholars are now suggesting that for the earliest cities such as Uruk, "urbanism occurred in the absence of a strong centralizing state" (R. Wright, 2002, p. 7). South Asia presents another well-documented region where we can use archaeological data to examine the relationship between cities and larger territorial units, as well as the role of cities for their inhabitants and the way in which cities were lived in and constructed from the "bottom up."

By looking at cities as functioning population centers apart from state-level ties, we can evaluate why and how urban centers grow and thrive. In many ways, cities constitute an environment with significant negative effects such as increased biological parasite load (Storey, 1992, pp. 42–44), fire, flooding, and pollution (Chaudhuri, 1990), and the risks that occur when households remove themselves from direct control of food resources (Redman, 1999). Both the archaeological and the modern record show, however, that cities are internally coherent population centers with internally driven trajectories, and that the urban form appeals to a wide variety of potential inhabitants as they seek to build economic and social networks for themselves (Andersson, 2001; O'Meara, 1999; Smith, 2003a). These strong networks, created and maintained at the household and neighborhood levels, illustrate how and why cities can exist before the development of state-level polities and how they survive when political systems collapse.

The archaeological realm of South Asia

South Asia's archaeological record indicates human adaptation to a variety of regions. Even the simple outlines of the subcontinent show a tremendous range of variation, from the Thar Desert in the northwest to the Himalayas in the north and the extended humid littoral of the Indian Ocean to the west and south. The heart of the subcontinent is equally diverse: west-central India is a dry upland composed of volcanic-derived soils, while the Indus River in the far west and the Ganges and Brahmaputra Rivers in the east provide vast alluvial plains. Hill ranges throughout these regions are the sources of significant raw materials, including gold, silver, and semiprecious stones. All regions of South Asia, however, share two characteristics: extremely hot summer weather in all but the highest elevations and a

monsoon regime that results in heavy seasonal rainfall in the summer and winter. In much of the subcontinent, the frostless winter permits annual double-cropping, a style of cultivation that has been practiced since the late third millennium B.C. in the northwestern subcontinent (Fuller and Madella, 2002; Weber, 1999), and at least as early as the first millennium B.C. in central India (Kajale, 1988).

Nearly all the countries in South Asia share long-term historical ties, having been consolidated in different regional configurations over the past three millennia by indigenous and foreign groups (most recently the British empire). As such, the cultural and linguistic boundaries of the modern nations of India, Pakistan, Bangladesh, and Sri Lanka often cross one another. Nepal and Bhutan also are considered part of South Asia, though they retained their independence throughout the colonial period. In all these countries, both foreign and local archaeologists have worked to bring the region's extraordinary archaeological heritage to the attention of the scholarly world (Chakrabarti, 2003; Lahiri, 2000; Possehl, 2002). In the past century, hundreds of archaeological sites have been explored and analyzed; since English remains the shared academic language of the subcontinent, research from the region provides an easily accessible, robust, and comprehensive data set for comparative archaeological analysis ranging from the Palaeolithic through the Medieval periods.

One of the best measures of the impact of a geographic region in general archaeological visibility is the amount of literature suitable for an undergraduate-level audience. Only recently has it been possible to find works about the development of South Asian complex societies that are broadly accessible and that have an inclusive approach. Popular histories published in the Indian subcontinent include Irfan Habib's *The Indus Civilization* (2002) and Shereen Ratnagar's *Understanding Harappa* (2001). In the United States, textbooks for upper-division courses (Possehl, 2002), exhibition catalogs (Kenoyer, 1998a), and articles in popular magazines such as *Archaeology*, *Discover,* and *Scientific American* (Kenoyer, 1998b, 2003a; Menon, 1998) constitute the type of writing that is instrumental in bringing a wider focus to complex societies in South Asia (see also Sinopoli, 2002; M. L. Smith, 2003b). Written in the same spirit as undergraduate and lay-audience writings known more numerously from the Maya, Inka, and Roman realms, these recent publications will go a long way toward familiarizing students and scholars with the types of research carried out in South Asia and the way in which an anthropologically informed perspective can yield synthetic and comparative assessments of urban life and social complexity.

Defining the South Asian city: A comparative approach

In the Indian subcontinent, the development of population centers to a considerable size with social, economic, and ritual importance, and with measurable effects on material goods and space consumed by comparatively large numbers of people, occurred numerous times in the past 5000 years (Table 1). Traditionally, scholars of South Asia have identified two phases of early urbanism: the Bronze Age Indus (Harappan) period, c. 2500–1900 B.C., and the Early Historic period (c. 3rd century B.C. to 4th century A.D.; e.g., Allchin, 1995; Champakalakshmi, 1996; Ghosh, 1973; Jansen, 1993a; Sharma, 1991). To this can be added a distinct Medieval period (c. 9th–16th centuries A.D.), with its substantial fortified population centers at sites such as Agra, Delhi, and Vijayanagara. Heitzman (1997, p. 82) inserts an additional phase of urbanism, defined as ritual sites with central places such as Khajuraho, starting c. 400 A.D. However, most writers evaluating South Asian urbanism have not defined what they mean by "city," and as a result a number of archaeological and historical sites in the subcontinent have been called "cities" without specification of the basis on which they should be analyzed as urban entities.

Table 1 Characteristics of Indus (Harappan), early historic, and Medieval periods in South Asia

	Indus/Harappan period	Early Historic	Medieval
Time period	Mature Harappan 2500–1900 B.C	c. 3rd century B.C. to 4th century A.D	c. 9th century A.D. to 16th century A.D
Data set type	Archaeological; undeciphered script	Mostly archaeological with some history	Mostly historical with some archaeology
Data set size	At least five sites in the 60–150-ha range; broad excavations at Mohenjo-daro and deep excavations at Harappa; regional surveys with limited excavation of hinterland sites	60 + sites in the 50–200-ha range; many have had exploratory excavations but mostly for stratigraphic sequences rather than horizontal exposures; few regional surveys	20+ sites at least 5–10 km^2; hundreds of towns/small cities; few excavations or surveys
Largest sites	Dholavira, Ganweriwala, Harappa, Mohenjo-daro, Rakhigarhi	Chandraketugarh, Kausambi, Mahasthangarh, Mathura, Paithan, Pataliputra, Sisupalgarh, Ter, Ujjain	Bijapur, Delhi, Fathepur Sikri, Gaur, Madurai, Vijayanagara
Urban characteristics	Gridded street pattern, walled precincts within sites, large-scale public architecture of a practical nature (including baths, sewers)	Many sites have rampart walls that are repeatedly augmented; diverse material culture and architectural types, extensive habitation zones	Religious sites located within the urban zone; craft quarters in which guilds are active
Subsistence base	Grains and pulses (wheat, barley, millets); animal husbandry (cattle, sheep, goats, water buffalo)	Grains and pulses (wheat, barley, millets in north; rice in south); animal husbandry (cattle, sheep, goats, water buffalo)	Grains and pulses (wheat, barley, millets in north; rice in south); animal husbandry (cattle, sheep, goats, water buffalo)
Reach of long-distance exchange	Limited contact with Mesopotamia, Bahrain	Limited contact with Mediterranean, Central Asia, Southeast Asia	Limited contact with Mediterranean; extensive contact with central Asia and Southeast Asia
Social characterization	Strong cultural links as indicated by uniform material culture and iconography and a shared script	Strong religious links (Buddhism, Jainism); similar material culture and iconography over broad regions but diverse languages and scripts	Strong hierarchical religious tradition with implications for social order in the form of caste and occupational specialities; diverse languages and scripts
Political characterization	Hierarchical rule implied by uniform seals, city planning, and some ritual symbolism but probably not a unified regional political system as traditionally understood by the word "state"	Regional dynasties with shifting allegiances that resulted in restructured power balances nearly every generation, with corresponding changes in territorial extent	Strong religious-political links between Hindu temples and secular authorities in the south; in the northern subcontinent, repeated invasions and installations of Islamic leadership and centralized but weak states

As Shaffer (1996) has observed, this lack of rigorous definitions means that some discussions of archaeologically known South Asian cities depend on the reader's willingness to follow an author's unspecified vision of what constitutes a city. Heitzman's addition of a fourth urban era illustrates just one of the difficulties of evaluating South Asian urbanism, in that some locations were specialized ritual, defensive, or economic places without being densely occupied or being the seat of political authorities. Rather than calling them cities, these specialized activity centers might be more appropriately described by other terms such as "temple-centered village economies." A second difficulty is that modern administrative criteria for defining a city can condition expectations about the past. In an essay on Indian's urban history, S. Misra (1991, p. 1) proposes that the earliest cities "emerged in history with two primary characteristics: first, a high density of population concentrated within a limited space and secondly, a predominantly non-agricultural, particularly non-cultivating nature of its population." Although the significance of a threshold of nonagriculturalists as a criterion for urbanism can be raised for many ancient cultures (Trigger, 1972), Misra's definition unwittingly reflects modern Indian definitional criteria for cities, which stipulate a population density measure (5000 people at a density of at least 1000 per square mile) and a minimum of 75% of the adult males engaged in nonagricultural occupations (Potter, 1985, p. 20).

The difficulty of identifying archaeological population centers as "urban" is not unique to South Asia. Childe opened his influential 1950 article on urbanism with the comment that "The concept of 'city' is notoriously hard to define" (p. 3). Classification, however, is a necessary first step in understanding scientific phenomena and enables researchers to compare data sets and identify points at which change occurred in diachronic sequences. With the intent of identifying the origins, purpose, and impact of premodern cities, anthropological archaeologists working elsewhere have generally defined cities using either quantitative or qualitative criteria. Quantitative criteria include measurable physical components such as areal extent, population size, and population density, three measures that also are typically used to distinguish modern cities from towns and smaller population centers (Potter, 1985). Applied to archaeological cases, the quantitative or "demographic" definition of cities (M. E. Smith, 2002, p. 5) has the advantage of enabling hierarchical ranking within societies and comparative structure among societies. Any quantitative assessment, however, also presents intrinsic difficulties for comparison. The threshold for distinguishing cities from towns in the modern world varies from country to country in a highly arbitrary fashion (O'Meara, 1999; Potter, 1985); within the United States, minimum population thresholds for cities even vary from state to state (see U. S. Department of the Census, 1997). Archaeological cases have the added difficulty of assessing site sizes on the basis of material remains, the visibility of which can be diminished by site formation processes that erode or obscure deposits (Schiffer, 1987) or expanded by ancient cultural practices such as "manuring" nearby fields with household refuse to produce an extensive artifact scatter that can be mistaken for actual occupation (Wilkinson, 1982).

In contrast, qualitative measurements avoid the problems of absolute numbers and stress the relative complexity of the site for ancient periods in which "the first cities must have been more extensive and more densely populated than any previous settlements, although considerably smaller than many villages today" (Childe, 1950, p. 9). There are two types of qualitative criteria: those that measure *internal* specialization and those that measure *external* specialization. Of the qualitative criteria used for determining internal specialization, Childe's (1950) list of ten characteristics provides one useful rubric by which sites can be classified as "urban" when ascertained on the basis of materials found within them (see also Jacobsen's (1986) list of 12 indices, some of which subdivide Childe's categories).

Scholars have tended to conflate Childe's urban criteria with a rubric for defining the state and "civilization" as territorial entities either by explicitly equating these three phenomena (e.g., Coningham, 1995, p. 55; Redman, 1978, pp. 218–219) or implying their necessary coexistence (e.g., Adams, 2004, p. 45; Sherratt, 2004, p. 93). An examination of Childe's (1950, p. 9) original statement, however, shows that his explicit intent was to provide a classificatory scheme for archaeologically recovered information: "ten rather abstract criteria, all deducible from archaeological data, serve to distinguish even the earliest cities from any older or contemporary village." These criteria provide clear physical correlates that can be elicited from the archaeological record: comparatively large settlement size, full-time economic specialists, tithe or taxation, monumental architecture, a ruling class exempt from manual labor, a recording system, predictive sciences (such as geometry) as well as artistic endeavors, long-distance exchange, and residence based on economic interaction rather than kinship.

The increase of significant urban research projects since Childe's time (the long-term study of archaeological sites such as Teotihuacan, Monte Albán, Cuzco, Rome, and Medieval London) has, interestingly, not resulted in any better criteria for defining ancient cities on the basis of materials found within them. His list remains useful because it is specific about the implications of archaeologically recoverable evidence (e.g., monumental architecture or recording systems) that can be used to point to large-scale social organization, administrative control, and economic specialization based on data collected from within the site. Comparisons to other sites can remain unstated, an aspect that is particularly appreciated when large sites are the only ones yet investigated in a cultural region. Site classifications based on qualitative criteria of internal specialization are particularly well suited to archaeology because the typical excavation strategy for large sites, in which only a small portion of the entire site is investigated, will usually provide enough data to enable the positive identification of specialized activities on the basis of architectural remains, manufacturing debris, and seals, stamps, or other recording devices. When sites fulfill these qualitative criteria, then we at least enable cross-cultural comparison of cities from one part of the world to another (see R. Wright, 2002, p. 4, who similarly suggests Childe's list as a useful heuristic device). The limitation of using such a list to compare population centers of different time periods is that there are often significant changes in the types of data set. In South Asia, the data for each period are variable. If we were to use Childe's list as the only basis for comparison, we would find that the nature of the data could result in quite different assessments of the workings of population centers, making it unclear whether the changes that we see are the result of actual cultural changes or merely the result of the type of data to which we have access (Table 2).

Another liability to the use of internal specialization as the sole definitional rubric for urbanism is the potential for overemphasizing the role of elites in urban activities, especially in the economic realm. The recovery of even a small amount of labor-intensive crafts or those made with nonlocal and therefore "rare" materials provides evidence for both political specialization (in access to raw materials and control over labor) and economic specialization (inherent in the amount of time required to make certain types of goods). These striking objects, often recovered in contexts such as special-purpose buildings and tombs, results in archaeologists' heightened attention to the links between political elites and the control of craft production. If we look at the distribution of ordinary goods (something that archaeologists traditionally have downplayed relative to "elite" goods), we find that the vast majority of economic activity is not controlled by elites but instead is driven by consumption at the level of the many thousands of households that make up a population center (M. L. Smith, 1999a). In sum, Childe's internal specialization criteria overemphasizes the hierarchy of social organization within a population center, meaning that its utility as a

Table 2 Comparison of Indus (Harappan), Early Historic, and Medieval sites in South Asia on the basis of Childe's (1950) ten archaeological criteria for determining the presence of urbanism

	Indus (c. 2500–1900 B.C.)	Early Historic (c. 3rd century B.C. to 4th century A.D.)	Medieval (c. 9th–16th centuries A.D.)
Comparatively large settlements	Yes	Yes, although there are few small sites that are archaeologically documented	Yes
Some full-time economic specialists	Yes, as assessed through archaeological remains of crafts such as beadmaking that required sophisticated knowledge of physical properties	Yes, as assessed through textual records of guilds and archaeological remains of mass production (coinage, beads)	Yes, as assessed through texts including temple records, reports from foreign visitors
Tithe or taxation	Unknown	Prescribed in texts such as the *Arthasastra* but actual practice unknown	Yes, but could vary widely from textual prescriptions to actual practice
Monumental architecture	Yes (e.g., walls at Harappa and Dholavira, Great Bath at Mohenjo-daro)	Yes (encircling ramparts at many northern sites; massive reservoir at Sringaverapura, see Lal, 1991)	Yes (massive fortifications, elaborate temple compounds)
Ruling class	Unclear (no massive tombs, but there is some differentiation in burial; differentiation in material culture *may* signal status; seals may correspond to social rank)	Yes (iconography and texts that specifically identify elites; presence of different hereditary specialists although "caste" is probably limited to a distinction between the highest ritual specialist group and the rest of society)	Yes (textual evidence for leaders at the top of an organizational hierarchy; in addition, textual evidence for hereditary distinction and limited social mobility among occupational groups throughout the society)
Recording system	Unclear (Indus script may be a recording system or a validating system or a ritual series of signs)	Yes (multiple languages represented in stone inscriptions, on pottery, and in texts that record specific events as well as general precepts such as religious texts)	Yes (multiple languages and scripts; see, e.g., Morrison and Lycett, 1997)
Exact and predictive sciences	Standardized weight system	Mathematics, grammar, calendrics	Mathematics, calendrics, astronomy
Artistic/stylistic expression	Yes (limited stone and metal sculptural tradition, but abundant terracotta arts including pottery; highly developed ornament manufacturing)	Yes (representational sculpture in the round and in relief; adoption of Roman coin motifs as jewelry)	Yes (sculpture, architectural embellishments)

Table 2 Continued

	Indus (c. 2500–1900 B.C.)	Early Historic (c. 3rd century B.C. to 4th century A.D.)	Medieval (c. 9th–16th centuries A.D.)
Long-distance exchange	Yes (limited trade with Near East, see Ratnagar, 1981; significant regional trade for durable goods and raw materials)	Yes (trade with Roman Mediterranean and Southeast Asia documented by goods and texts; trade within subcontinent suggested by similarities of style and material composition of goods such as pottery)	Yes (textual and archaeological evidence of exchange with the Near East, Southeast Asia, China)
Resident craftsmakers subservient to political authority	Unclear (location of crafts manufacturing areas suggests possibility of some control)	Doubtful, though evidence is limited (e.g., distribution of coin molds suggests that even minting is not controlled by political authorities)	Some craftsmakers such as smiths were directly attached to the military, while others were controlled by political authorities through taxation (e.g., weavers at Vijayanagara; see Sinopoli, 2003)

classificatory rubric renders it less useful as an explanatory framework for understanding the workings of cities.

The second type of qualitative measurement generally identified by anthropological archaeologists characterizes the relationship of the site to what is *beyond* it by evaluating external specialization at the local, regional, and supraregional scale. The resulting "functional definition" of cities refers to the function that they perform for the larger sociopolitical entity: ritual, economic, political, and/or cultural (M. E. Smith, 2002). This definition for cities may be the most reductionist and easiest to fulfill; as Trigger (1972, p. 577) has noted, "... whatever else a city may be it is a unit of settlement which performs specialized functions in relationship to a broader hinterland." The application of functional definitions, which requires a sophisticated understanding of the relationship among sites, has been operationalized most successfully when regional survey data permit archaeologists to evaluate an extensive cultural landscape. Functional definitions in a regional perspective are particularly useful in identifying the economic and administrative roles held by central places (Blanton, 1976). A regional perspective also enables us to avoid the game of quantification, allowing us to focus not on what the city is but what it *does*, as advocated by McIntosh and McIntosh (2003, p. 106).

The potential for applying functional criteria is limited in South Asia, where there are few regional surveys that provide comprehensive data on a landscape of sites and the potential administrative, economic, and ritual functions specialized among them. But even were we to achieve comprehensive data sets, there would still be serious limitations of the functional approach as the only criterion for identifying or understanding the presence of cities. First, functional definitions are a mechanistic interpretation of landscape nodes, often failing to assess the human actions that enable cities to grow and develop. Extolling the virtues of central place theory, Blanton (1976, p. 253) proposed that "any community that is a central place is a city or town ... irrespective of its form or population size," a characterization that

clearly would label religious sites and raw material source zones, no matter how small or remote, a city. Functional definitions based exclusively on such landscape parameters fail to capture the notion of critical mass in an urban area, the synergy and liveliness that are the product of population density and interconnectedness. Secondly, functional definitions and regional approaches are often accompanied by an implicit assumption of a hierarchical arrangement based on differential site sizes (e.g., Blanton, 1976; H. Wright, 1977, p. 390; R. Wright *et al*., in press a). The implied hierarchy, measured archaeologically by site sizes and the presence of economic indicators such as specialized goods or architecture, is often equated with an implied political hierarchy, and the resultant and circular assumption in the application of the functional definition is that there is a symbiotic link between cities and states in a political territory.

M. E. Smith (2002, p. 4) has proclaimed that "Cities are only found in state-level societies," a succinct summation of an equation long held by scholars of social complexity (e.g., Adams, 1966; Crumley, 1976, p. 59; Fox, 1977, p. 24; Storey, 1992, p. 28; Trigger, 1972, p. 592; Zeder, 1991). What these authors mean is that a city is always embedded in a larger unit. Unfortunately, this conflates the inescapable *economic* relationship between cities and their hinterlands with the idea that there is a necessary *political* relationship as well. A brief examination of the definition and workings of states (and other complex political configurations) illustrates why cities and states often coincide, although we should be more cognizant about the distinction between cities as physical places in the landscape and states as abstract, territorially shifting political constructs. Ancient states are defined as a complex form of human spatial integration achieved through political means and maintained through administration and bureaucracy (Feinman and Marcus, 1998; Flannery, 1972; Fried, 1967; Service, 1975; Spencer, 1997; Wright, 1984, 1986). In comparison to smaller-scale units of political organization such as tribes and chiefdoms, states are generally regarded as large entities regardless of the element measured and are characterized as "regionally organized societies whose populations number in the hundreds of thousands or millions and often are economically and ethnically diverse" (Johnson and Earle, 1987, p. 246). Beyond that, there is a dizzying array of state forms and nomenclature (see Feinman, 1998, pp. 103–104, for an extensive list).

However one defines them, states are political entities with territorial impacts, whose purview is larger than one individual can manage alone, and in which the uppermost tier of leadership directly supervises military and administrative activities. Political leaders also directly manage some aspects of ritual and the economy directly (especially those pertaining to the production and consumption of goods that identify elite status) or indirectly through actions such as taxation, tribute, or distribution (Zeder, 2003). States can be organized in a variety of ways, ranging from a strict hierarchy to collaborative arrangements of authority. Although leadership is always required for any suprahousehold activity, the development of leaders and their impact can be variable, and leadership can be either permanent or task-specific. As a result of observations about modern states as well as theorizing about state forms that may no longer be represented in contemporary societies, anthropologists have crafted a variety of state interaction rubrics that highlight numerous types of political authority and how they are achieved. For the Old World at least, two types of authority principles are identified: hierarchy and heterarchy (Stein, 1998).

Hierarchical authority, as exemplified in standard business organizational charts, is a pyramidal chain of command in which power is controlled through a branching network of successively smaller units. For archaeological cases, this idealized chain of command is often understood to have an intertwined economic component, in which goods, raw materials, and services flow "up" the hierarchy and commands along with rewards such as gifts flow "down"

the hierarchy (e.g., Earle, 1997; Earle and D'Altroy, 1982; Welch, 1991; Wright, 1984). But as Adams (2001, p. 354) notes with reference to the inherent instability of early states, "Neatly 'conical' models of concentrated ruling authority are unlikely to have persisted for long without being internally as well as externally challenged, perhaps especially at moments of dynastic succession." The cycling of political authority through larger and smaller territorial configurations is apparent in many regions for which we have evidence of political complexity, and as Adams predicted, the larger territorial configurations tend to be relatively short-lived (Feinman, 1998; see also Brun, 1995; Marcus, 1998; A. Smith, 2003; Spencer, 1990). The intervals between moments of crystallized hierarchical organization are marked by the presence of numerous smaller groups, interactions between which condition the development of any subsequent hierarchy.

Heterarchy describes the fluidity of those interactions in "a system in which elements are unranked relative to one another or ranked in a variety of ways depending on conditions" (Crumley, 1995, p. 30; see also Ehrenreich *et al*., 1995). Heterarchy provides an insight on the flexibility of power relationships and the dynamics of interaction among competing groups, showing "those places *within* a society where social change can originate" (Stein, 1998, p. 7; emphasis in original). Since each competing group in a heterarchical arrangement also would have been characterized by hierarchical leadership and subgroup tensions and fissioning, the concept of heterarchy enables us to see how the process of state organization was a dynamic one subject to repeated changes of direction as leaders struggled to control many forms of competition. Heterarchy also describes the stable interactions among polities when no overarching territorial state is formed. One particularly dynamic form of heterarchy is found when a regional landscape is composed of small polities such as city – states. With each such polity consisting of a relatively small territory surrounding an urban center, the inevitable result is a constant series of contacts and competition manifested in trade and political alliances (Kenoyer, 1997b, p. 65).

Both hierarchies and heterarchies require nodal points, fixed places in the landscape that are the physical repositories of political power (A. Smith, 2003). Population centers are also the focus for many other pursuits: ritual activities, economic interactions (such as markets), and the materialization of judicial, social, and personal actions. The theoretical understanding of states as cycling through larger and smaller configurations can be juxtaposed with the relative stability of cities that continue to be inhabited whether or not they are actively incorporated into a larger political territory (an observation substantiated by archaeologically known cities with deep stratigraphy as well as modern cities in "failed" states). Any equation of urbanism with the state mistakenly presumes that the long-lived urban sites that we see archaeologically can be taken as a proxy for long-term and stable states. In fact, our concentration on large (urban) sites to understand and document state formation probably obscures our ability to completely assess the cycling of premodern political domains, since the sites themselves tend to be occupied for hundreds of years while states can coalesce, fragment, and disintegrate within one or two generations.

Because the relationship between cities and states is thus a nonequation at a theoretical level, the definition of a "city" remains key for analytical and cross-cultural comparison. Although population centers are a continuum along a sliding scale (Trigger, 2003, p. 120), the identification and comparison of cities as a human phenomenon still requires some definition to be made. The goal here is to compare cities diachronically as well as cross-culturally, an analysis rendered difficult by several realities in the archaeological study of population centers. First, the archaeological evidence from the Indian subcontinent, as from most regions of the world, rarely enables us to compare exactly the same types of data from different sites even within single time periods. Second, there may be different types of sites

active at the same time, for example, specialized port cities whose activities are mostly in the economic realm and ritual cities whose genesis and livelihood are based primarily on religious activities; applying the same definitional criteria to these population centers will obscure their shared characteristics. Finally, we are probably hampered considerably in our definition of cities because we lack a good definition of towns. Unlike the discussion of different stages of sociopolitical complexity in which bands, tribes, and chiefdoms can be matched with archaeological correlates, our definitions of population centers focus almost exclusively on the largest site type. For archaeological cases, it seems clear enough that the largest sites, if they also contain monumental architecture or other indicators of massive labor investment by suprahousehold groups, are cities. The smallest sites, even if they have some evidence of labor investment such as monumental architecture, are not cities. The great difficulty is in defining the sites that are in the middle range of sizes; often these are the sites that have had little archaeological investigation, so that both their quantitative and qualitative aspects are not fully known.

Rather than using a single set of criteria to define cities, we may best be served by using a combination of demographic, Childean (internally specialized), and functional (externally specialized) criteria to determine whether sites can be compared as "urban." To expand beyond the internal specialization specified in Childe's list and to attempt to mitigate the effect of differential data sets, I propose a triaxial graph with axes of quantitative and qualitative criteria to determine whether archaeological sites can be analyzed as "cities" (Fig. 1). One qualitative axis is based on the functional definition, emphasizing the site's externally specialized function relative to the larger landscape. The second qualitative axis is based on Childe's list of ten criteria emphasizing the site's internal specializations. The third axis is a quantitative one, emphasizing demographic variables such as areal size, population size, and population density.

The simultaneous use of qualitative and quantitative criteria permits us to define cities as necessarily containing (1) a relatively high proportion of at least one qualitative or quantitative characteristic and (2) at least some of the other two. This means that archaeological sites with evidence of a high demographic can be considered "cities" even if their functional component is low. Similarly, sites with high functional specificity and high internal differentiation should also be considered "cities" even if demographic variables such as population size or areal extent are low. The triaxial scale enables us to make use of whatever data we do possess on ancient sites, as well as acknowledge that even within a single geographic region, there may be different types of cities (such as economic hubs without a political component, political centers with small populations, and densely populated areas with little internal specialization). As Figure 1 shows, any site "above" the shaded triangle can be termed a city for the purposes of analysis and comparison. The triaxial diagram also permits us to compare urban phases diachronically, since urban sites may not look identical in different chronological phases but can nonetheless be compared as population centers.

Before large-scale political consolidation, and even during periods of strong states, urban centers functioned in the same way, i.e., as stable population nodes. Although a full discussion of this point is beyond the scope of this article, an additional benefit of the triaxial approach is that we can see exactly where changes occur for a population center to become transformed into a city from smaller antecedents. Since most population centers do start as smaller entities, the transformative interrelationship of demographics, external specialization, and internal specialization enables us to track their development into cities that are diverse, dynamic, and self-perpetuating. The approach enables us to make use of the disparate data that archaeologists typically have about urban origins, from narrow sondages in deep underlying strata to regional surveys that identify the location of the earliest population centers and other

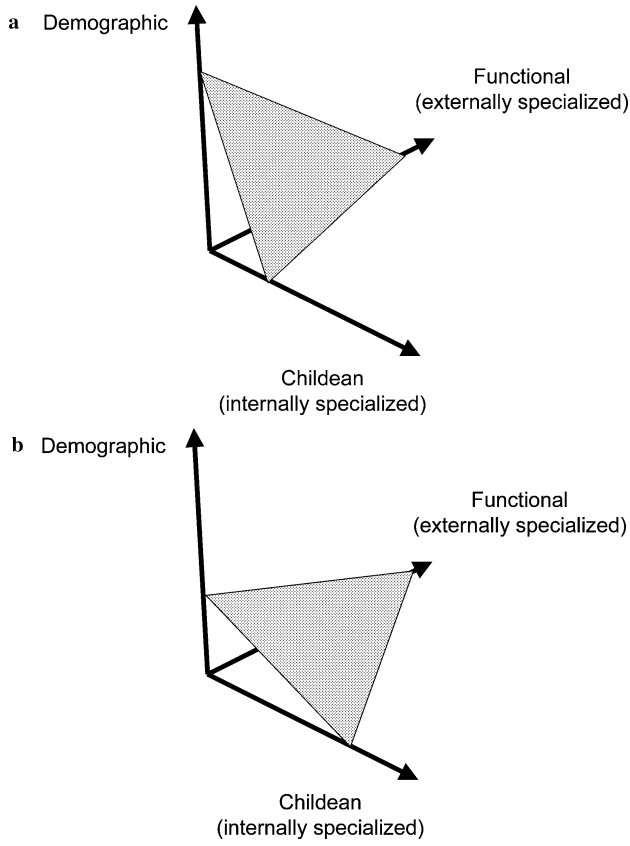

Fig. 1 (**a**) Triaxial diagram for defining a city based on archaeological remains. The shaded triangle represents the minimal elements needed but can touch the three axes at any point. In this view, a site with high demographics and high functional values but low internal specialization can be analyzed as a city. (**b**) In this view, a site with high functional values and high internal specialization but low demographics can be analyzed as a city.

sites in their landscapes. When multiple data types are available, the triaxial graph captures the relationship among data types; for example, functional definitions that rely on regional analysis for information about external specialization and other qualitative characteristics inevitably convert field data that has a quantitative component (the most famous example is the conversion of site sizes into a notion of political hierarchy; Wright and Johnson, 1975; see also Billman, 2002; Johnson, 1977; Wright, 1977). The triaxial graph also enables us to see why cities can experience demographic collapse, and even the loss of internal specialization, but still retain their status as urban centers if their level of external specialization remains high (e.g., the depopulated post-Black Death cities of Medieval Europe).

In this article, I examine the role of cities as centers of social and economic networks that remained stable in politically fragmented landscapes and in which urbanism was not always connected to territorial political activities. Complex societies consisted of a set of interactions among stable points in the landscape, in which population centers and other fixed locations were the basis for both hierarchical and heterarchical interactions. Any network's principal actors required physical locations as a base for political actions, whether they governed a

larger hierarchical state or a smaller polity subject to the give-and-take of regional heterarchy. Political and religious leaders became focused on the actions undertaken in these places as a means of materializing abstract notions of large or diverse landholdings. This may be the most important observation that we can make about the relationship between cities and states in South Asia: Cities were long-lived regardless of the political configuration in which they were located.

There has been a tendency to view cities as being primarily inhabited and directed by elites in which the city's physical attributes "stressed the insignificance of the ordinary person, the power and legitimacy of the ruler, and the concentration of supernatural power" (Trigger, 2003, p. 121). But the willing presence of a population is a necessary component of political action. Longevity in occupation was due to cities' role as a focal point for social, economic, and ritual networks sustained and invested in by the hundreds and thousands of people who lived in them and who were not elites, and cities permitted the efficient development of networks that enabled inhabitants to increase their individual success or to work toward a perception of increased success (M. L. Smith, 2003b). In considering the appeal to ordinary inhabitants, I propose that the workings of urban centers were the product of negotiation, compromise, and consensus among many different individuals and groups. The archaeologically demonstrated longevity of cities, contrasted with the cycling of political power, provides another means by which the role of population centers as the physical locus of social and economic networks can and should be separated from their role in the cycling of state development.

Urban developments of the Indus (Harappan) period (2500–1900 B.C.)

The significance of the urban form for understanding the Bronze Age Indus (Harappan) culture is formulated into the very substance of the archaeological record: We first knew of the Indus culture from excavations at Mohenjo-daro and Harappa in 1924, on the basis of which Sir John Marshall proclaimed a new civilization (Fig. 2; Possehl, 1998, p. 261). Since that time, three equally large Indus centers have been identified and investigated: Dholavira (Bisht, 1989–1990, 2000), Ganweriwala (Mughal, 1990, 1997), and Rakhigarhi (Nath, 1997–1998, 1998–1999). These sites, located in the western part of the subcontinent in what is now India and Pakistan, were centers of economic and social activity on a considerable scale from c. 2500 B.C. to c. 1900 B.C. (Fig. 2).

How are Indus sites considered "urban"? Certainly, the areal size of Indus sites and their cumulative tell-like prominence in the landscape indicate that they were the center of reference for large numbers of people: At its maximum, Harappa measured over 150 ha, with accumulations of deposits that still measure up to 17 m above the original plain (Kenoyer, 1997a, p. 266). Size estimates for other large Indus culture sites are subject to margins of error, because the sites' ancient edges may have been covered by subsequent alluvium, but in any case the minimum sizes are equally large. Estimates for Rakhigarhi, whose cultural accumulation is also about 17 m high, varies between 80 ha (Possehl, 2002, p. 72) and 105 ha (Nath, 1997–1998, p. 40); a survey of Ganweriwala has yielded a measurement of 81.5 ha (Mughal, 1997, p. 51). Dholavira has been assessed from 60 ha (Possehl, 2002, p. 67) to 100 ha (Kenoyer, 1998a, p. 49). Estimates for Mohenjo-daro, possibly the largest of the Indus cities and the most extensively excavated, range from 100 ha (Possehl, 2002, p. 65) to 200 ha (Kenoyer, 1998a, p. 49).

Large in size, these sites are not just the product of accumulation of many human generations but also exhibit significant internal specialization. Labor investment in monumental

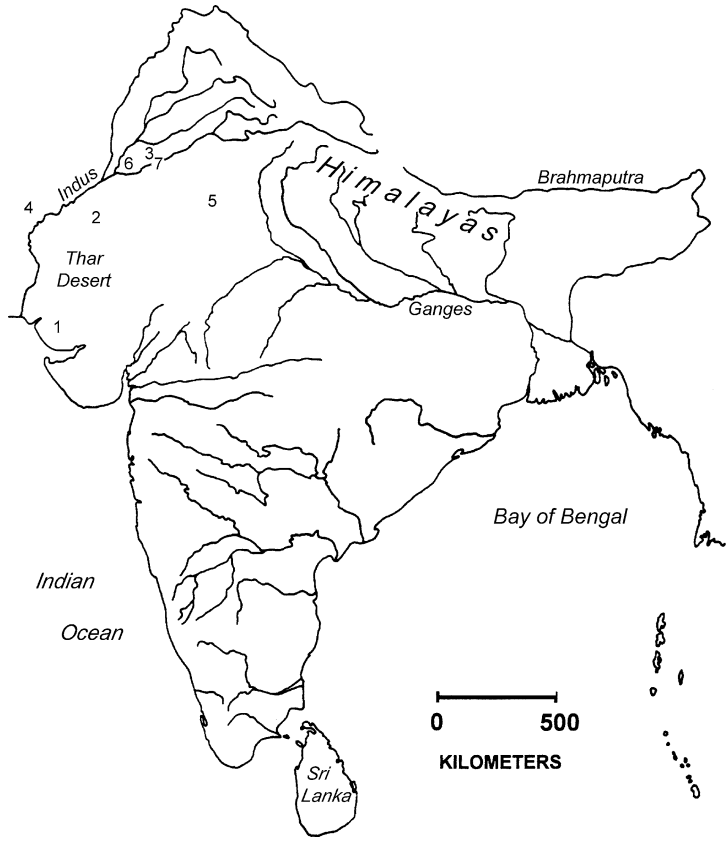

Fig. 2 Cities of the Indus period (1 = Dholavira; 2 = Ganweriwala; 3 = Harappa; 4 = Mohenjo-daro; 5 = Rakhigarhi) and other sites mentioned in text (6 = Lahoma Lal Tibba, 7 = Vainiwal), and major rivers of the Indian subcontinent.

constructions is seen in large encircling walls at Harappa and Dholavira and large public buildings such as the Great Bath at Mohenjo-daro. Other archaeological indicators of complexity and differentiation include elaborate drainage and water supplies, a standardized system of weights and measures, and a writing/marking system consisting of stamp seals with as-yet undeciphered characters. These population centers also were externally specialized; the distribution of distinctive pottery, iconography, and technology in the Indus Valley and beyond suggests that there was a robust interchange of people, goods, and/or styles in a region measuring over 500,000 km^2. In a diverse landscape stretching from the Indian Ocean to the Himalayan foothills, Indus cities were demonstrably concentrated areas of technical and cultural knowledge.

More than 1500 Indus settlements have been identified (Kenoyer, 1998a, p. 17), and 95 of the known 1022 Mature Harappan sites have had some excavation (Possehl, 1998, p. 261). Still, the two types of data we require for evaluating urban origins (i.e., deep excavations that reach the earliest habitation levels of large sites and regional surveys around large sites to identify diachronic developments) are limited. The principal regional surveys of urban hinterlands have been undertaken around Harappa and Ganweriwala, both of which owe their inception to M. Rafique Mughal, who has assembled and encouraged numerous teams

to document the range of archaeological sites that are fast-disappearing due to modern cultivation practices and population growth (Mughal, 1997; Wright *et al*., 2004, 2005a, 2005b). In particular, the surveys around Harappa have identified the environmental parameters of population growth in the region, in which the early inhabitants of the area took advantage of a relatively diverse environment with a rich agricultural potential. Starting around 3300 B.C., Harappa and other settlements were located on raised uplands above a surrounding floodplain capable of supporting agriculture and animal husbandry as well as having populations of wild fish and game (Belcher and Belcher, 2000; Schuldenrein *et al*., 2004).

Of the five exceptionally large sites (Harappa, Mohenjo-daro, Dholavira, Ganweriwala, and Rakhigarhi), all have had some excavations except for Ganweriwala. These excavations have provided information principally about the last phases of occupation (c. 2500–1700 B.C.), meaning that we can assess their activities at the time of greatest population, as well as some components of their internal organization and the characteristics that disappear during the period of decline. The sites of Harappa and Mohenjo-daro in Pakistan have been the most extensively excavated, and each have sustained at least two significant long-term research programs. Harappa was first systematically investigated in 1920, although the site had been noted by scholars and archaeologists for nearly a century before (Possehl, 2002, pp. 10–12). Excavations in the following two decades revealed a large structure with parallel walls (the so-called "Granary") and nearby circular baked-brick platforms, as well as cemeteries, habitation areas, and hundreds of portable artifacts including Indus seals and ornaments (Kenoyer, 1998a; Possehl, 1991). Since 1986, a multinational team has conducted excavations and systematic surface collections at Harappa, resulting in the recovery of occupational sequences from c. 3300 to 1700 B.C. and with a particular focus on craft specialization, city walls, internal social organization, and the development of writing systems (Kenoyer, 1998a; Kenoyer and Meadow, 2000; Meadow, 1991).

Mohenjo-daro's first systematic excavations took place in 1924–1925, and the site received the principal share of attention in the early days of Indus studies; initial field seasons of broad horizontal exposures revealed the monumental structure known as the Great Bath as well as numerous habitation areas (Mackay, 1938; Marshall, 1931; Possehl, 2002). Starting in 1979, renewed investigations at the site have provided detailed documentation of over 10 ha of exposed architectural remains (Jansen, 1993a; Jansen and Urban, 1985). These combined investigations revealed the presence of a massive retaining wall around the elevated "citadel" portion of the site, platform mounds under individual buildings and groups of buildings, extensive drains, and over 700 wells.

The site of Dholavira in India, located on high ground in the otherwise marshy region known as the Rann of Kutch, was undiscovered until 1967–1968 (Bisht, 1989–1990). Excavations began in 1990, revealing that the site's 15-m accumulation of cultural deposits contained over 1500 years of occupation (Bisht, 2000; Patel, 1997). Stratigraphic investigation shows that even in the first settlement phase, portions of the settlement were already surrounded by a wall up to 11 m wide (Bisht, 2000). Subsequent building phases added residential areas and at least 16 water reservoirs, and the city was marked by massive repairs after a disturbance that the excavator links to earthquakes (Bisht, 2000). The excavations revealed typical Indus artifacts, such as seals, ornaments, and distinctive pottery types, as well as a remarkable "signboard" bearing ten characters of the Indus script and constituting one of the longest sequences of text known to date (Bisht, 2000). Rakhigarhi, located in northern India, also was discovered relatively recently, with the first investigations taking place in 1964 (Possehl, 2002, p. 71). The site's five distinct mounds contain surface suggestions of walls surrounding distinct sectors, and excavations revealed drainage systems, a pillared corridor with associated room cells, domestic architecture made of mud bricks, and

interments in wooden coffins (Nath, 1997–1998). Excavations also recovered Indus seals and terracotta figurines, while craft production indicators included brick-lined hearths, marine shell fragments, and lithic debitage (Nath, 1997–1998, 1998–1999).

These investigations show that by the Mature Harappan period (2500–1900 B.C.), cities throughout the Indus area were extensive population centers in which the built environment included markers of social stratification and craft specialization as well as evidence for sophisticated engineering and technology (Possehl, 1998, p. 274). The earliest phases of occupation appear to have been relatively modest. The earliest Ravi occupational phase at Harappa (c. 3300–2800 B.C.) consisted of a village of only 7–10 ha (Kenoyer and Meadow, 2000, p. 58). Rather than beginning as a large planned city, Harappa more likely followed a trajectory related to incremental growth of social and economic activities. Although few of the earliest occupation levels at other Indus sites have been investigated, some appear to have been more deliberately created and designed. Mohenjo-daro's initial settlement appears to have been achieved by large-scale population movements and city planning in a formerly unoccupied portion of the western subcontinent (Jansen, 1993a; Possehl, 2002, p. 56). Dholavira's elaborate water supply and city walls, present from the first period of occupation, similarly suggest a new development on previously unoccupied ground; the elaborate reconstruction undertaken after an earthquake further suggests an authority with control over planning and labor management (Bisht, 2000).

Indus cities were an economic focal point, with an ability to draw in a disproportionate amount of nonlocal materials; some types of craft production were seen only in the largest sites. Indus cities appear, however, to have been relatively unspecialized in cultural or ritual activities. Monumental architecture and settlement planning were probably cultural markers rather than an exclusively urban aspect of Indus society, as indicated by the discovery of an encircling wall, networked pattern of streets, and a possible platform construction at the site of Vainiwal, a 4–7-ha site located 100 km away from and contemporaneous with Harappa (Wright *et al*., 2005b, see also Shaffer, 1992). Similarly, the division of sites into different zones (often characterized as "upper town/citadel" and "lower town") is seen at the largest sites such as Dholavira (Bisht, 2000) but also at much smaller sites such as Lothal which is only 7 ha (Possehl, 1980; see also Kenoyer, 1998a, pp. 44, 52 for more examples). Similarities in portable artifacts also indicate that items likely to have been associated with specialized (e.g., elite) usage were not the exclusive preserve of urban dwellers. Wright *et al*. (2005a) note that their survey recovered pottery from Lahoma Lal Tibba impressed with a stamp seal identical to seal-impressed vessels at Harappa, while the excavations at Vainiwal produced fragments of unworked lapis lazuli, a nonlocal stone (Wright *et al*., 2005b). Finally, some iconographic representations have been found only in smaller sites and not in the biggest urban centers (e.g., Kenoyer, 1998a, p. 117), indicating that urban centers were not the exclusive generator of cultural traditions.

The political relationship between Indus cities and the surrounding hinterlands is difficult to trace on the ground, since there are no extremely large residences or elaborate tombs. Such authority, however, is suggested by monumental architecture, urban organization, and the presence of seals with Indus script. The presence of a coordinating authority, whether political or religious (or both), is demonstrated in labor-intensive structures that are much larger than could have been built by a household or family group: city walls, massive artificial ponds such as the "Great Bath" at Mohenjo-daro, elaborate water storage at Dholavira, and the foundations of large structures at Harappa and Mohenjo-daro (the so-called "granaries"). Divisions in Indus cities might not have been solely hierarchical but also may have formed a heterarchical component in which "separate walled mounds with associated suburbs may represent the houses and workshops of competing merchant communities who were

united in a single settlement by common language, culture and religion" (Kenoyer, 1998a, p. 99).

A second measure of suprahousehold authority is the presence of gridded street patterns in some areas of urban sites such as Mohenjo-daro. Regularized street patterns may have resulted from a variety of levels of coordination, from consensus during the period of initial layout to coercion if streets were regularized after initial habitation, so that what appears to us as evidence of elite authority instead may be merely the result of temporary purpose-specific leadership. The level of ongoing control may also be overstated by the presence of large recognizable thoroughfares; as Kenoyer (1998a, p. 53) cautions, the layout of major streets and buildings may be along cardinal directions, but smaller streets and passageways were irregular (a pattern of selective control that is also visible in Mesopotamian cities; see Keith, 2003).

The Indus seals are a third potential index of authority and administration. About 3000 seals have been found throughout the Indus region, the majority at Harappa and Mohenjo-daro (that these sites have received considerably more excavation may account for the high proportion of seals recovered there; Possehl, 2002, p. 127). The seals, usually made of fired steatite and ranging up to 5 cm, bear a combination of script and animal, human, and plant motifs. Seals were presumably used by only a small category of persons, but the resultant seal impressions were widely distributed in forms as varied as stamped impressions on clay tags and pointed-base goblets that are found in many urban contexts (Kenoyer, 1998a; Parpola, 1994). Like other Old World Bronze Age cultures, the Indus peoples lacked coined money, but the use of seals indicates the complexity of an economic system in which administrative and political authorities probably had a significant impact.

The evidence of Indus cities' internal specialization in both architecture and portable goods has been used to evaluate their external specializations. Speaking of Dholavira, Kenoyer (1998a, p. 100) suggests that the presence of shared economic markers within sites is sufficient to propose a model of territorial administrative control in which "the presence of unicorn seals and pottery identical to those found at Mohenjo-daro and Harappa indicate that this site and many other walled towns were probably colonies or regional capitals with governors appointed from one of the larger cities." However, the motivation and mechanisms of control appear elusive, as would have been the incentives for different population centers to group themselves together and agree to be led by distant counterparts at cities several hundred kilometers away. Another suggested rubric for understanding the relationship of cities to their hinterlands is that they were independent "city – states" in which each of the five known major Indus sites had some political and economic claim to a surrounding territory (Kenoyer, 1997b), a model that supposes a smaller territory around each city and leaves open the possibility of much greater independence for smaller population centers.

A paucity of indicators for warfare further suggests that leaders were focused on ritual performance, economic activities, and urban cohesion rather than territorial expansion or military activities. The Indus culture lacks an iconography of warfare or dominance aside from a few rare scenes of humans subduing animals in a heraldic style. Scholars have cautioned that we should not interpret the Indus culture as a utopia of harmonious interaction and that we may be missing the archaeological evidence of combat, for example, if records were made in perishable materials (Kenoyer, 1998a, p. 82). Kenoyer (2003b) also notes that other indicators of combat may be found away from population centers; the size of cities may have rendered them imposing enough to ward off attack, or conflicts that did occur may have been played out in the hinterlands rather than in the cities. The cities themselves, however, appear not to have been constructed or inhabited in response to defensive needs. Although

city walls were a prominent feature of Indus sites including Harappa, Mohenjo-daro, and Dholavira, Kenoyer (1998a, pp. 15, 81, 99) has strongly argued for a link with trade and civic control instead of warfare.

The study of craft traditions at Indus sites provides an important means to further evaluate social and political relationships. Given the disparity between abundant craft-making evidence and elusive elites, creative-thinking archaeologists have sought to turn information about crafts into a way to evaluate social organization (e.g., Kenoyer, 1983, 1997a, 1998a; Kenoyer *et al*., 1994; Miller, 2000, in press; Roux, 2000; Vidale, 1990; Vidale and Miller, 2000). Through ethnographic approaches, experimental replication, and technical analyses of ancient goods, Kenoyer and his colleagues have proposed that the elaborate networks of raw material acquisition, as well as the considerable technological knowledge required to transform those materials into finished goods, indicate the presence of a well-organized social and political hierarchy that affected all aspects of the production and consumption process. Although monumental arts such as life-size sculpture are unknown in the Indus region, elite patronage is suggested by the technical achievements exhibited in portable manufactured goods such as stone beads, shell ornaments, and ceramics. Stone beads would have required hours of patient drilling with specialized stone or copper drills, shell ornaments represented careful work with a brittle material, and ceramics included very high-temperature products such as stonewares. Since many Indus sites, including Harappa and Mohenjo-daro, are located in alluvial regions devoid of stone resources, most of the raw materials for the manufacture of both tools and finished products would have been imported, an observation with considerable implications for the understanding of economic and political organization (Kenoyer, 1998a; Law, in press).

Archaeological evidence for the production and consumption of craft goods at Indus sites suggests diverse economic and social groups. At Harappa, Miller (2000, p. 93) has suggested that the organization of craft production, traced on the ground through surface surveys and excavations, can help us evaluate whether there was elite control over the location of workshops and hence an indicator of administrative control over the daily life of the city. Although there are some areas of debris that suggest a higher input of labor that could help identify them as elite-linked (if not elite-dominated) crafts, such as chert weights and steatite seals, Miller found little evidence for actual control. Kenoyer (1997a, p. 272) has further suggested that distinctions in craft production techniques may signal producer groups of different ethnicities, or workshops producing for different clienteles. Consumers were presented with a diverse array of material goods. Red beads, an ornament of distinction, were made of high-quality stone but also of much cheaper materials such as painted steatite and even terracotta (Kenoyer, 1998a, p. 143; Miller, in press). In addition to durable goods, consumption disparities also included comestibles. At Dholavira, for example, faunal analysis revealed differential use of wild and domesticated animals in different parts of the site, leading the investigator to propose that different consumption patterns represented different social and economic groups (Patel, 1997).

What was the appeal of cities from the perspective of the ordinary inhabitant? Economic and social opportunities appear to have been the key factors drawing populations in from the surrounding areas to urban zones. Population centers of all sizes exchanged goods and ideas through economic networks that moved relatively mundane goods such as dried fish (Belcher, 1998), raw materials for specialized crafts, and finished goods. Biological studies of human skeletal materials from Harappa and Mohenjo-daro show low incidences of stress-related conditions such as Harris lines and enamel hypoplasia, suggesting that food supplies were adequate and steady (Lovell and Kennedy, 1989). Thus cities were places in which people could acquire a large and diverse variety of goods and raw materials and maintain biological

viability. But cities also contained other attractors beyond mere survival. They were the springboard for the transfer of styles found throughout the Indus region such as decorations on ceramic vessels and the shapes of commonly used pottery such as cooking pots (Kenoyer, 1998a). They were also the source of some new traditions that did not radiate out to the hinterlands; for example, Kenoyer (1998a, p. 146) notes that some styles of bangles and hairstyles appear only in the largest cities. These signs of "urban style," along with the ready availability of cheaply manufactured status markers (such as the imitation carnelian beads mentioned above), may have been the economic and social incentives that proved irresistible to the ordinary inhabitant. The presence of a semblance of authority (manifested in walls, streets, and seals) and a strongly shared ritual ideology involving water and cleanliness (Possehl, 2002, citing Jansen, 1993b) probably greatly enhanced the idea of "community" as an intangible but significant factor in maintaining the urban ethos and sustaining the urban population.

Although the appearance of standardized goods such as seals, beads, and terracotta figurines over the 500,000-km^2 Indus region suggests a high degree of cultural uniformity, recent archaeological work has revealed that Indus culture was not the stultified, homogeneous configuration found in older descriptive accounts. There were differences in the immediate hinterlands of different Harappan cities, with environmental catchments that permitted different ecologic adaptations. Sites such as Dholavira and Mohenjo-daro were relatively close to the Indian Ocean and convenient to long-distance trade routes (e.g., Ratnagar, 1981), but they also may have suffered from greater exposure to malaria (Lovell, 1997). Patterns of craft production appear to have varied significantly among sites; for example, pottery manufacture at Mohenjo-daro produced a large number of wasters (misfired vessels), while such production at Harappa did not (Miller, 2000, p. 97). Large urban centers also seem to have exchanged some of their speciality wares disproportionately; for example, stoneware bangles are found only at a limited number of Indus sites (Vidale, 1990). Among these samples, neutron activation analysis indicates that only bangles manufactured at Mohenjo-daro are found there, while Harappa has bangles made at both Harappa and Mohenjo-daro (Blackman and Vidale, 1992; Miller, 2000, p. 97). Other patterns of consumption illustrate that while the Indus tradition is marked by similarities in material culture throughout a large region, there were some distinctions among sites. For example, stone sculptures and copper tablets have been found at Mohenjo-daro but not at Harappa, while female figurines and composite human – animal figurines are much more common at Harappa than at Mohenjo-daro (Kenoyer, 1997b, p. 61).

Although Possehl (1998, p. 290) has characterized the Harappan period as a "fleeting moment of Bronze Age urbanization," it should probably instead be viewed as a relatively long-lived phenomenon: The cities had five to seven centuries of occupation, which translates into something like 25–30 generations of continued occupancy (a longevity that compares well to many Bronze Age Mesopotamian urban periods as well as New World configurations such as Teotihuacan and many Maya cities). The thriving Harappan networks began to decline around 1900 B.C., when cities were abandoned and population dispersed into the countryside. The decline of Indus cities was accompanied by the development of diverse regional cultures in a complex devolution (Possehl, 2002; Shaffer, 1992; Weber, 1999). Today, scholars have largely discounted the theory of an "Aryan invasion" to account for the decline of the Harappan civilization, citing instead a variety of push-and-pull factors: climate change, environmental exhaustion, social or religious change, tectonic shifts that altered river courses away from population centers, and the development of new agricultural innovations such as wet-rice agriculture that enabled settlement further to the east (Fairservis, 1961; Kenoyer, 1998b; Schuldenrein *et al*., 2004; Weber, 1999). One of the more comprehensive

explanations for the decline is outlined by Belcher and Belcher (2000), who read in the geologic record of the Indus region a series of tectonic shifts that caused the flooding of some rivers and the drying up of others. The displacement of people from dry areas may have resulted in a refugee population at a time of diminished agricultural capacity, a burden that overwhelmed the remaining intact cities of the region and prompted a population dispersion (see also Kenoyer, 1998a).

The study of the Indus culture has accelerated in the past two decades, the results of which show the numerous promising contributions that can be made to the comparative study of other archaeologically known regions of social complexity: the paradox of a strongly shared material culture combined with regional diversity; the potential for understanding cities without state-level hierarchies in which very different rubrics of social organization may have prevailed; and the threshold at which environmental change cannot be mitigated by even the best-organized urban configuration. The apparent lack of a single dominant hierarchy within cities (at least by the standard archaeological measures of elaborate tombs, centralized palaces, and public monumental iconography of rulers) may be comparable to the early population centers of West Africa, where McIntosh and McIntosh (2003) have argued that "clustered cities" such as Jenne-Jeno were created and maintained by a balance of authority among groups and with a deliberate avoidance of hierarchy. In the Indus region, trade considerations, social networks, and flood avoidance may have led to "clusters" of occupation that were more concentrated, with a balance of authority that maintained separate but closely packed settlements in a single city. Other nonhierarchical models that could be considered for the Indus data are a consensus model with an emphasis on local power relationships (cf. Stone and Zimansky, 1995) or a model based under the currently popular rubric of "self-organizing systems" in biology (Camazine *et al*., 2001). The largest Indus sites were quantitatively large and internally specialized, with limited external specialization that principally appears connected to economic activities. Regardless of whether the Indus tradition is perceived as a state-level society, its urban centers were concentrations of social and economic activity whose inhabitants had a strongly shared perception of ritual and iconography.

Urban developments of the Early Historic period (3rd century B.C. to 4th century A.D.)

More than 1000 years separate the end of the Harappan urban phase from the next fluorescence of cities in the Indian subcontinent.[1] Starting around the 6th century B.C. in the Ganges Valley and far to the east of the Indus area, populations began to coalesce in centers along the many large rivers that make up the Gangetic system (Allchin, 1995; Erdosy, 1988; for a summary of sites, see Lahiri *et al*., 2002). Towns and cities also developed throughout the remainder of the subcontinent, providing a large-scale network of urban areas that shared economic and social ties but relatively few and ephemeral political connections (Fig. 3). This circumstance of strong economies in a relatively weak political environment again highlights the potential for the study of urbanism before and in the interstices of regional state-level consolidations.

[1]On the basis of archaeological evidence, Kenoyer (1997b) and Shaffer (1992) have both argued that the Early Historic cities did exhibit a kind of continuity from the Indus tradition. However, the presence of similarities in cultural traditions such as shell bangles and carnelian beads cited by Kenoyer and the continuity of occupation at a few archaeological sites cited by Shaffer is a different matter than the configuration of people into cities for which there was at least a 1000-year hiatus.

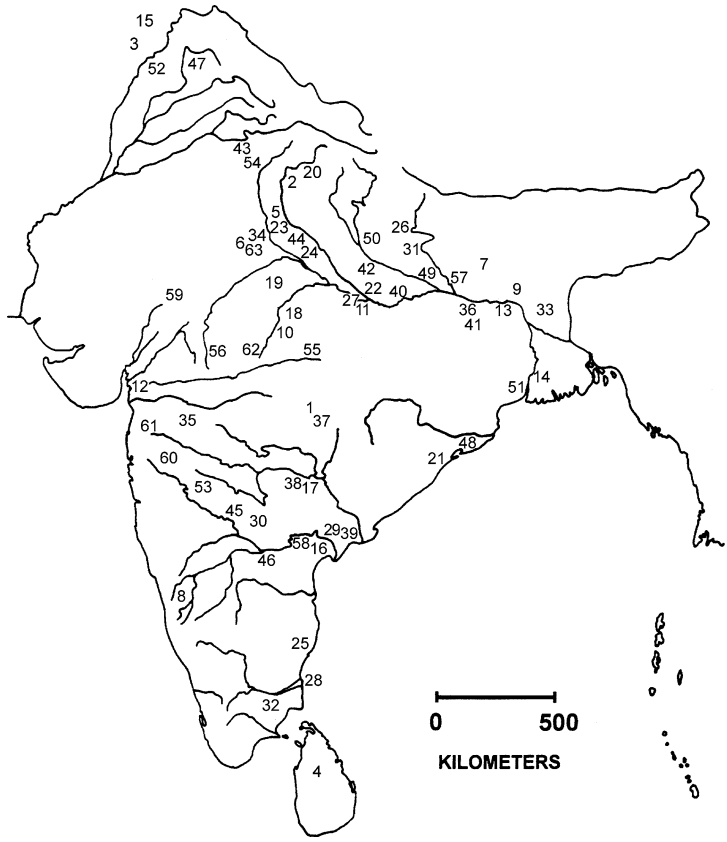

Fig. 3 Cities of the Early Historic period (1 = Adam; 2 = Ahichchhatra; 3 = Akra; 4 = Anuradhapura; 5 = Atranjikhera; 6 = Bairat; 7 = Balirajgarh; 8 = Banavasi; 9 = Bangarh; 10 = Besnagar (Vidisa); 11 = Bhita; 12 = Broach; 13 = Campa (Champa); 14 = Chandraketugarh; 15 = Charsada; 16 = Dharanikota; 17 = Dhulikatta; 18 = Eran; 19 = Erich; 20 = Hastinapura; 21 = Jaugadh; 22 = Jhusi; 23 = Kampilya; 24 = Kanauj; 25 = Kanchipuram; 26 = Kapilavastu; 27 = Kausambi; 28 = Kaveripattinam; 29 = Kesarapalle; 30 = Kondapur; 31 = Kusinagara; 32 = Madurai; 33 = Mahasthangarh; 34 = Mathura; 35 = Paithan; 36 = Pataliputra; 37 = Pauni; 38 = Peddabankur; 39 = Peddavengi; 40 = Rajghat; 41 = Rajgir; 42 = Saketa; 43 = Sanghol; 44 = Sankisa; 45 = Sannathi; 46 = Satanikota; 47 = Semthan; 48 = Sisupalgarh; 49 = Siswania; 50 = Sravasti (Saheth-Maheth); 51 = Tamluk; 52 = Taxila; 53 = Ter; 54 = Thaneshwar; 55 = Tripuri; 56 = Ujjain; 57 = Vaisali; 58 = Vijayapuri) and other sites mentioned in text (59 = Balathal, 60 = Inamgaon, 61 = Jogalthembi, 62 = Sanchi, 63 = Sonkh).

Textual sources, primarily grammatical and religious treatises, suggest that there were two periods of political consolidation in the Early Historic period. By the middle of the first millennium B.C., the first consolidation took place in the northern subcontinent in the form of sixteen *mahajanapadas*, a term that has been variously translated as "great states," "territorially organized polities" (Erdosy, 1995, pp. 115–116), or "tribal kingdoms" (Kulke and Rothermund, 1998, p. 385). Each of the mahajanapadas had at least one population center identified as its capital (with names that can still be traced to some of the largest sites in the Ganges Valley), prompting their evaluation as a form of "city – state" (e.g., Chakrabarti, 2000, Kenoyer, 1997b). The second consolidation occurred when one of the mahajanapadas, the kingdom of Magadha, overcame its rivals and captured a large portion

of the northern subcontinent c. 321 B.C. (Erdosy, 1995). The region's subsequent expansion under the Mauryan dynasty is the subject of the subcontinent's earliest inscriptions, and the third and second centuries B.C. are frequently described as a time when virtually the entire subcontinent was incorporated into the Mauryan "empire" (e. g., Allchin, 1995; Chakrabarti, 1992; Thapar, 1966). Based on the relatively limited impact of the Mauryans beyond the areas in which their inscriptions are found, the appellation of "empire" has been treated with some skepticism (Sinopoli, 2001, p. 159; M. L. Smith, 1999b; Sugandhi, 2003). However it may described, the Mauryan polity was short-lived and came to a definitive end in 185 B.C. The political landscape before and after the mahajanapada and Mauryan consolidations was highly fragmented as suggested by coins, inscriptions, and other texts that mention numerous dynasties throughout the subcontinent, many of which are known only in name and with little other information (Chakrabarti, 1995a).

South Asian textual and numismatic records often mention that dynastic rulers were associated with particular cities, and we have accounts of named leaders for cities such as Taxila, Ujjain, and Pataliputra (Patna), among others. The *Periplus* also mentions that Indian cities were associated with kings and other leaders (Casson, 1989, pp. 77–85). Rulers' activities ideally included the deputation of a city superintendent to organize urban life, according to the prescriptive political treatise known as the *Arthasastra* (Sastry, 1915, pp. 163–168), while the Mauryan dynasty's emperor Asoka in the 3rd century B.C. described how he had built wells and stopping places along roads (Thapar, 1997, p. 265). Textual sources also indicate the presence of other groups with financial and social authority. Corporate groups such as guilds and traders' groups appear in inscriptions as donors to religious institutions, along with nuns, monks, and landowners (Thapar, 1992; see also Ray, 1986). As only one type of donor among others, royalty did not claim sole sponsorship of ritual activity. Nor did rulers necessarily have firm control over economic activities. An ungoverned countryside is suggested by references to "guild-armies" who protected merchants' caravans and pilgrims in transit (Mirashi, 1981). Evidence from Early Historic coinage also indicates a fluid dynamic of control; while it is often asserted that coinage could have been issued only by political rulers (e.g., Chakrabarti, 2000), a modern understanding of the relationship between minted money and royal power may overstate the case for political authority on the basis of coinage alone (see, e.g., Cribb, 2003; Papadopoulos, 2002; M. L. Smith, 2001b, pp. 8–10). The recovery of Early Historic coin molds in contexts of small-scale production and the plethora of different symbols that were punched onto metal strips and disks indicate that coins may have been produced with little direct control or intervention of political leaders.

With the advent of a textual tradition, the study of Early Historic urban life faces the same opportunities and constraints as in other global regions where texts and archaeology must be reconciled. In South Asia, there is considerable interplay between history and archaeology, with the result that excavations are often undertaken to "confirm the literary evidence" (Tripathi, 1998, p. 122; see also Lal, 1991; Murthy, 2002). In general, the literature of this era gives us a highly idealized portrait of urban centers, and we lack detailed accounts of land use, taxation, tribute, market regulations, and other transactions of daily life. What the documents do provide is a lively sense of *urbanitas* that cannot be captured from archaeological data alone. Descriptions of Early Historic cities include literature from South Asia itself, such as the Tamil-language Sangam courtly poetry of the southern subcontinent (e.g., Chelliah, 1985, p. 129).

Descriptions of cities also are found in ritual literature and art. Busy street scenes depicted on reliefs at Buddhist sites far in the hinterland show that the iconography of urban life was widely understood even among those who did not themselves dwell in cities. South Asian

cities also were known and described by outsiders, such as the anonymous Greek-language author of the merchants' itinerary *The Periplus of the Erythrean Sea*. This 1st century A.D. document describes the western Indian cities of Ter and Paithan as the "two most outstanding trading centers" from which originated the cloth, cotton garments, and onyx that were of particular interest to Mediterranean traders (Casson, 1989, p. 83).

By the time we see Early Historic cities in either the literary tradition or the archaeological record, they were already flourishing, leaving us little evidence for the evaluation of how and when these population centers first came into existence. Texts describe thriving, populous locales but lack information about the earliest urban phases. The physical evidence of urban origins is also elusive. Unlike large Indus sites were that generally abandoned and not subsequently reoccupied, the archaeology of Early Historic cities is complicated by many successive stratigraphic layers, including modern habitation. Even when sites are unobstructed, quantitative assessments of population size and density of settlement may be artificially inflated by lateral stratigraphy, since the location of cities could be subject to significant natural disturbances that prompted relocations rather than outright abandonment. In alluvial riverine environments marked by significant tectonic activities and occasional massive flooding, human settlements adjacent to watercourses could be either flooded out or high and dry overnight. Dallaporta and Marcato (1999) have observed that Kampilya, for example, may have moved 5 km or more due to floods and displacements of the Ganges River. Singh (1998, p. 38) notes that the Ganges has shifted as much as 35 km in historic times, and Belcher and Belcher's (2000) study of the Indus River shows similarly dramatic effects of geologic processes. Another methodologic challenge is the artificially raised water table that results when moisture from surrounding deposits drain into the deepest levels of excavation trenches, resulting in very restricted access to the site's earliest deposits (e.g., Bernard *et al.,* 2001, pp. 80–86; Mohanty and Smith, in press; Sinha, 1979, p. 91).

Although their antecedents are obscure, many Early Historic sites reached a considerable size: 300 ha for Mathura in the Ganges Valley, perhaps the largest of the archaeologically known Early Historic cities (Archaeological Survey of India, 1973–1974), 200 ha for Kausambi, also in the Ganges Valley (Erdosy, 1988, p. 134); 160 ha for Mahasthangarh in Bangladesh (Salles and Alam, 2001); 130 ha for Sisupalgarh in eastern India (Lal, 1949; M. L. Smith, 2002a); and 70 ha for Anuradhapura in Sri Lanka (Krishnan and Coningham, 1997, p. 927). It is difficult to state with certainty the number of such settlements, since continued archaeological work in some areas is still revealing large previously unknown sites (e.g., Varma, 1997); in other areas sites are known but have yet to be systematically examined (Chakrabarti, 1995a). However, it is probably safe to say that there were at least 60 simultaneously occupied urban settlements of 50–300 ha by the early centuries A.D. throughout the Indian subcontinent.

The internal specialization of these sites is documented in both the textual and archaeological records. The *Mahavastu*, a text of the 1st century A.D., mentions over 100 occupations in the cities of Rajagriha (Rajgir) and Kapilavastu, including many specialized labor processes such as cloth production in which different workers were identified for dye manufacture, weaving, and final dyeing of the product (Sharma, 1991, p. 12). Spatial segregation of craft production is seen archaeologically; at Kausambi, for example, Erdosy (1988, p. 72) reports "massive quantities" of iron slag in one 0.5-ha area on the interior of and adjacent to the site's northern rampart wall. Beads of semiprecious stone such as agate are a very common component of Early Historic sites in general, and many small and large excavated sites of this period have produced evidence for bead manufacturing. Other goods that are almost universally found at sites of this era include bangles made of marine shell and terracotta and ceramics representing widespread styles but manufactured in local materials. Coins of

silver and copper have been recovered in numbers suggestive of their use as a medium of exchange. At Eran, for example, a hoard of 3268 copper and silver coins bear a variety of different designs and are dated to the second and first centuries B.C. (Bajpai, 1994); an even larger hoard of 13,000 coins, all of the same type and probably dating to the first centuries B.C./A.D., was recovered at Jogalthembi (Rao, 1982). The use of coins on a regular basis is also suggested by the frequent recovery of coins even when excavated areas are quite modest, indicating that tokens of least value were commonly used and lost.

External specializations must be assessed through textual sources and the presence of trade goods in larger sites, since the few regional surveys of extraurban settlements have generally tallied sites rather than offering a detailed examination of their function (see, e.g., Erdosy, 1988; M. L. Smith, 2001a). Information about small population centers is almost nonexistent for the Early Historic period, a sharp contrast to the preceding Chalcolithic and Iron Age periods for which there are several famous long-term studies of sites such as Inamgaon in central India (Dhavalikar *et al*., 1986; Panja, 2003) and Balathal in the northwest subcontinent (Misra, 1997; Misra *et al*., 1995; for a summary of other village sites, see Possehl and Rissman, 1992). Current conditions of rapid population growth throughout South Asia probably will limit surveys designed to capture the range of site sizes; as an alternative, one potentially useful source for regional analysis may be found in the archaeological writings of earlier scholars. In the 19th and early 20th centuries, surveys were particularly focused on the recovery of Buddhist remains and urban centers listed in Indian and Chinese texts (e.g., Cousens, 1929; Cunningham, 1972; Kuraishi, 1931; Mukherji, 1901). The abundance of inscriptions, *stupas* (dedicatory structures), monasteries, and sculptures recorded by those surveyors illustrates the extent to which urban centers were part of an active ritual landscape.

Early Historic cities grew along with Buddhism, a religious and social tradition that rejected the ritual specialists, sacrifices, and social hierarchy of then-prevailing Vedic practices. First articulated by the historical Buddha in the 6th century B.C., Buddhism grew to be the dominant religious ideology in the subcontinent by around the 2nd century B.C. Its architectural manifestations included monasteries and shrines that were often located away from cities whether on trade routes or in the hinterlands of urban centers (Liu, 1988; Ray, 1986). Other religious traditions included Jainism, which like Buddhism espoused ideals of religious self-reliance and resulted in an archaeologically detectable landscape of monasteries and cave sites linked by pilgrimage routes. A diverse array of patrons made donations to these ritual centers, ranging from local queens and kings who sponsored entire constructions to villagers who pooled together their resources for donations as modest as a single column or stone railing. Craft guilds also were prominent donors, and inscriptions list a number of enterprises such as weavers, potters, bamboo workers, oil millers, and "dealers in water machines" (Ray, 1986, p. 112). In providing a common locus for social investment and mercantile activities, Buddhist and Jain sites also facilitated the distribution of the goods and styles that became the material manifestation of shared culture: ornaments, clothing styles, sculpture, and pottery types such as Northern Black Polished Ware in the northern subcontinent and Rouletted Ware in the southern and eastern subcontinent (Liu, 1988; Ray, 1986; Smith, 2002b; Wayman and Rosen, 1990).

In sum, Early Historic urban centers can be characterized as quantitatively large, internally specialized economically, and partially specialized with reference to external hinterlands. Because the material record from the Early Historic period is abundant, we can use excavation, survey, and textual records to assess urban dynamics. Rather than trying to characterize these cities in the aggregate (which would duplicate previous summary work by Chakrabarti (1995b), Ghosh (1973), Sharma (1987), and Thakur (1981), among others), the following

discussion uses several case studies of Early Historic cities to show the range of relationships between political authorities, urban developments, and economic activities.

The Taxila Valley in what is now northwestern Pakistan presents an especially compelling case of urban formation (Marshall, 1951, 1960; see also Allchin, 1995; Coningham and Edwards, 1997–1998; Dani, 1986). Three distinct population centers were built and occupied sequentially with some overlap in chronology: the Bhir Mound (70 ha; 6th–2nd centuries B.C.), Sirkap (70 ha; 2nd century B.C. to 1st century A.D.) and Sirsukh (165 ha; 1st to mid-5th centuries A.D.). Of the three, Sirkap has been the most extensively excavated, with over 13 ha of exposed architecture (Marshall, 1951; see also Coningham and Edwards, 1997–1998). Buildings identified as residences, shops, and shrines were found next to one another, but the quality of residences was variable, even in close proximity, a factor that led the initial investigator to propose that wealthy households were interspersed with poor ones (Marshall, 1951, p. 140). The excavations also revealed that the city was initially established on an elaborate grid plan, but that the plan was continually modified.

The three cities of Taxila were part of an active ritual and economic landscape. Trade goods found within the sites included a number of imports from very distant locales such as the bronze statuette of the child-god Harpocrates that probably came from Egyptian Alexandria that was found in one of the houses at Sirkap (Marshall, 1960, p. 76). The transmission of styles and ideas is recognized in the similarity of the "palace" structure at Sirkap to structures in the Near East (Marshall, 1960) and central Asia Coningham and Edwards, (1997–1998, p. 61; see also Fussman, 1993), as well as in the Mediterranean-influenced Gandharan sculptural tradition that adorned shrines and temples. The Taxila Valley was one of several production loci of Gandharan sculpture, a style that was particularly prominent in what is now northwestern Afghanistan and northern Pakistan (Dar, 1994). In addition to the shrines and votive objects found in the urban excavations, evidence for ritual activities has been recovered throughout the Taxila Valley, including several large Buddhist monasteries and numerous hinterland Buddhist shrines.

Another extensively excavated site, Vijayapuri in the southern Indian state of Andhra Pradesh, gives us information about urban configurations and the connections sustained between a city and its surrounding hinterland (Sarkar, 1987). Vijayapuri contained a variety of architectural types, from modest habitations of rubble construction "consisting of rooms in a row with a common verandah," to elite residences consisting of brick structures with rooms around a central pillared hall (Lahiri *et al*., 2002, p. 104). Some central planning and large-scale organization is evident in the form of street intersections, rest houses, public baths, and a 1000-person capacity amphitheater (Lahiri *et al*., 2002, p. 104). Lahiri *et al*. (2002) also mention structures of the Brahmanical and Buddhist traditions, signaling the metropolitan character of the city but also foreshadowing the transition of much of South Asia away from the Buddhist tradition starting in the 4th century A.D.

Among south Indian cities celebrated in Early Historic poetry, Madurai and Kanchipuram have been excavated, and Kaveripattinam, also known as Puhar, has been extensively investigated (Soundara Rajan, 1994; see also Lahiri *et al*., 2002). The thin (1–2 m) deposits found throughout several square kilometers at Kaveripattinam suggest both extensive suburbs and a lateral movement of the site over time, perhaps due to sea incursions or tectonic shifts. There were substantial investments in the port infrastructure of the city, as shown by the recovery of a wooden pole jetty from the 3rd to the 1st centuries B.C. that was later converted into a wharf with a brick platform in the 1st–3rd centuries A.D. (Rajan, 1994; see also Lahiri *et al*., 2002, p. 107). Ports were critical to the economy of the Early Historic era, not only for regional trade but also for international markets: Indian goods were highly sought after by Roman elites, and trade had begun between the subcontinent and Southeast

Asia (Begley and De Puma, 1991; Gupta, 2002; Ray and Salles, 1996). Kaveripattinam's excavated ritual structures included a Buddhist monastery of the early centuries A.D. which had been abandoned and replaced by a nearby Buddhist brick temple of the 6th century A.D. This continued Buddhist presence at a port site illustrates how the eclipse of Buddhism elsewhere in the subcontinent was coincident with its spread to Southeast Asia and China in a pattern that followed Indian Ocean trade routes (Higham, 1989; Mabbett, 1977; M. L. Smith, 1999b).

Although we lack details of urban planning from excavations (which have focused on stratigraphic sequences rather than broad horizontal exposures; Lahiri *et al*., 2002, p. 107), we can evaluate some aspects of social and political organization on the basis of surveyed remains. About half of the Early Historic cities have encircling walls and ramparts, monumental constructions that let us evaluate minimum labor catchments as well as leadership strategies for labor management. At Sisupalgarh in eastern India, systematic survey has documented a rampart measuring 4.4 km, stone columns at the center of the site, several stone-lined artificial ponds, and dozens of wells lined with stone rings (M. L. Smith, 2002a, 2002b, in press). A nearby stone inscription dated to the 1st century B.C. suggests how political authorities managed civic constructions. The year-by-year chronicle of the ruler Kharavela details the completion of general urban projects before the construction of a royal residence (Sahu, 1984, pp. 334, 340), indicating that kingly prerogative may not have been the sole determinant of labor allocation, and that royal authority probably was counterbalanced by other powerful groups as well as by ordinary city dwellers whose labor was required for any construction effort.

Archaeological examinations of rampart construction sequences reveal incremental labor investment rather than exclusive large-scale efforts. At Sisupalgarh, the earliest phase of rampart construction consisted of rammed earth, surmounted sequentially with additional phases of construction in earth and bricks (Lal, 1949). Other walled cities of the Early Historic era show the same pattern. These augmentations were not always uniform, and it may be that different sectors or neighborhoods of the city were responsible for the upkeep, repair, and buildup of the surrounding perimeter wall. While the initial phase of construction was certainly purposeful in design, it was also the cheapest form of labor investment, consisting of a relatively low managerial input and repeated additions of earth. This contrasts with later phases of baked-brick construction that would have entailed higher managerial inputs, for both brick manufacture and for brick-laying. Other specialized additions occasionally recovered archaeologically include wooden revetments or palisades (such as at Ujjain (Banerjee, 1960) and Pataliputra (Kuraishi, 1931, pp. 99–100)).

Were these sites' ramparts related to warfare, providing a potential link between political authorities, polity formation, and urban environments? The circumstances of dynastic proliferation suggest that conflict was likely, and compared with the Indus period, the Early Historic era certainly has an increased number of indicators of warfare as measured in both texts and artifacts (Kenoyer, 1998a, p. 183). The first epic traditions of the subcontinent, dating to the early first millennium B.C. (although not written down until hundreds of years later), include two lengthy poems of divine war, the *Mahabharata* and the *Ramayana*. Other textual sources from the Early Historic period mention soldiers as well as records of battles between neighboring polities. One of the seminal turning points of Buddhism is credited to the Mauryan ruler Asoka, who proclaimed that his new-found devotion to *dhamma* ("right action") stemmed from his remorse in conducting a successful but destructive war in the Kalinga region of eastern India (Thapar, 1997). Even the iconography of the Early Historic period includes armed figures, and numerous scholars have tried to reconcile the abundant literary tradition of heroic warfare with archaeological evidence for

actual combat (e.g., Allchin, 1995, pp. 332–334; Coningham, 1995; Erdosy, 1995; Thakur, 1997).

The physical evidence of warfare includes a variety of weapons. Iron was first produced in the subcontinent between 1200 and 1000 B.C. and was used extensively for weapons by the middle of the first millennium (Thakur, 1997). At Atranjikhera, the levels corresponding to the last phase of occupation (c. 600 to 50 B.C.) produced dozens of iron arrowheads and spearheads (Gaur, 1983). Only iron nails and clamps were more abundant, leading Thakur (1997) to cite this collection as the largest cache of weapons known from an Early Historic excavation. Weapons were also made of other materials, such as the stone balls found in association with a rampart watchtower at Champa (Sinha, 1979, p. 91). But there is little evidence of armor, suggesting that such weapons may have been used more against animals than humans. The practice of cremation has rendered us unable to directly evaluate skeletal evidence for battle casualties and mortality in general, leaving us to look for proxy measures such as the representation of weapons on bricks used in cremation burials to indicate that the individual died in combat (V. Smith, 1901, p. 130) at Sagarwa near Kapilavastu.

The actual incidence of warfare in the subcontinent is difficult to discern. Even within cities, rulers had to negotiate the conditions under which urban activities would take place; this power was further diluted in a countryside where territorial claims shifted from one generation to the next. Cities also were spaced relatively far apart, and it seems unlikely that a circumscription of economic resources would have provoked territorial conflict (cf. Carneiro, 1970). The terrible Kalinga war, cited as the impetus for Asoka's adoption of Buddhist principles, was remarkable perhaps because it was a relatively rare example of real warfare. The presence of walls or ramparts around cities may similarly be overinterpreted if they are viewed as primarily defensive. A cost-benefit analysis of urban fortifications suggests that there were ongoing compensations beyond the deterrent effect of protection against invasion, including flood protection and as a perimeter of symbolic value (M. L. Smith, 2003b). Since almost all walled cities of the Early Historic period were located next to rivers, protection from rising water levels during the annual monsoon season would have been particularly important. Many scholars of Early Historic urbanism have proposed that urban ramparts were built primarily for flood control, an observation that has been bolstered by excavations that have noted flood damage to ramparts and their subsequent repair (Gaur, 1983, 1997; Archaeological Survey of India, 1960–1961, 1962–1963; Tripathi, 1998).

What was the appeal of Early Historic cities for ordinary inhabitants? Social and economic factors appear to have been the foremost incentives to take up urban residence. As described in the courtly Sangam poetry, cities were attractive places not only for those who possessed economic power, such as merchants, but also for those who possessed none, such as beggars who could eke out a living at the margins of others' prosperity. The presence, or perceived threat, of warfare and conflict, however, also provided a "push" factor to urban residence beyond the attractors of social and economic activity. By contributing their labor to occasional investments in rampart construction and augmentation, populations benefitted on a daily basis for social and economic reasons, an annual basis as protection from seasonal rains and on an occasional basis as a defensive perimeter. Factors of uncertainty, coupled with perceptions of opportunity, appear to have compelled urban residence on a large scale in the Early Historic period. For ordinary inhabitants as well as for elites, cities provided economic security at all times and physical security when needed.

By the 4th century A.D., many urban centers experienced a hiatus of population growth in a decline that lasted for several hundred years. This period of relative urban neglect coincided with the development of the first sustained large-scale polities in the subcontinent, such as

the Guptas in the north and the Ikshvakus, Vakatakas, and Chalukyas in the south. When urban life did continue, it appears to have been less prosperous than before; for example, excavations of a small area of the site of Erich (Singh, 1997) show that Gupta period structures were constructed of reused, broken bricks recycled from earlier structures. The dispersal of populations also ended the potential for capturing labor for urban investments. Instead, political leaders seeking to consolidate territory and authority turned first to religious and ritual investments, a pattern repeated throughout the subcontinent.

Urban developments of the Medieval period (9th–16th centuries A.D.)

The decline of cities at the end of the Early Historic era can be measured by any of the standard quantitative criteria for urbanism such as population size, areal size, and population density. On the basis of qualitative criteria such as those found in Childe's (1950) list or in the functional definition of cities, however, there are considerable continuities in social complexity but at a much smaller scale, and with a displacement of that complexity from urban centers to religious ones. The practice of Buddhism and Jainism declined after the 6th century A.D., replaced by a revival of Vedic (Hindu) traditions starting in the 4th century A.D. Numerous dynasties placed their mark on the physical landscape through elaborate temple developments such as the Rashtrakuta dynasty at Ellora in western India (Heitzman, 1997), the Chandella dynasty at Khajuraho in central India (Krishna, 2002), and the Ganga dynasty at Konark in the east (Mitra, 1998). The growth of these indigenous religious traditions was balanced by the incursion of Islam from western Asia. In 1001 A.D., Mahmud of Ghazni began a series of annual predatory raids on the wealthy temples and trading towns of the western subcontinent; numerous other rulers came from central and western Asia in the following centuries and established dynasties in the northern subcontinent (Kulke and Rothermund, 1986).

The data set for Medieval urbanism is overwhelmingly focused on monumental structures and textual evidence. Most of the archaeological data come from surveys, with a strong emphasis on architectural remains rather than portable material culture, production debris, or domestic contexts (e.g., Khan, 1996; Shokoohy and Shokoohy, 1994, 1999). Excavations at Medieval sites are relatively rare but include investigations at the Noblemen's Quarter at Vijayanagara (Sinopoli, 1990, 2002), Fathepur Sikri (Gaur, 2000), and Lal Kot and Purana Qila in Delhi (Mani, 1997). Settlement pattern archaeology is extremely limited. Sharma's (1991, p. 17) observation that there has been no study of rural habitations associated with Medieval cities is contradicted by only one well-published example, that of the extensive survey of the Vijayanagara region (Morrison, 1990, 2000; Sinopoli and Morrison, 1995). Textual sources are abundant, including numerous inscriptions related to temple donations that provide detailed evidence for economic configurations (e.g., Heitzman, 1997; Stein, 1960). Unlike Early Historic texts that tend to be prescriptive and generalizing about political economy and social interactions, Medieval texts provide information about specific events, often with precise dates that enable us to evaluate changes over time.

By the 10th century A.D., the Indian subcontinent had numerous growing population centers in which political authorities were closely allied with religious leaders (Fig. 4). Using the triaxial diagram to evaluate these population centers, they were clearly high on the quantitative scale, with sizes measured in kilometers and populations in the tens of thousands or more by the end of the Medieval period. Multan was 8 km in circumference, with a walled inner precinct 1.2 km × 0.7 km (Rehman, 1997, p. 70), Tughluqabad was 5 km in circumference (Shokoohy and Shokoohy, 1994); and the remains of Vijayanagara

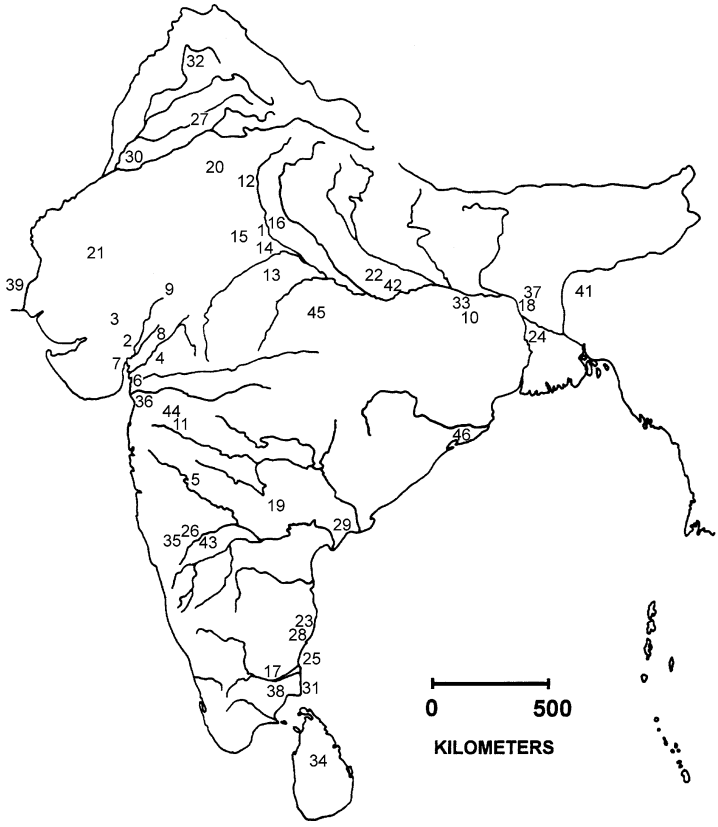

Fig. 4 Cities of the Medieval period (1 = Agra; 2 = Ahmedabad; 3 = Anahilapura/Anahilvada; 4 = Baroda; 5 = Bijapur; 6 = Broach; 7 = Cambay; 8 = Champaner; 9 = Chittorgarh; 10 = Dandapur/Odantapuri; 11 = Daulatabad; 12 = Delhi; 13 = Erich; 14 = Fatehabad; 15 = Fatehpur Sikri; 16 = Firuzabad; 17 = Gangaikondacolapuram; 18 = Gaur; 19 = Golconda; 20 = Hisar; 21 = Jaisalmer; 12 = Jahanpanah (Delhi); 22 = Jaunpur; 23 = Kanchipuram; 24 = Karnasuvarn; 25 = Kaveripattinam; 26 = Lokkigundi; 27 = Lahore; 28 = Mamallapuram/Mahabalipuram; 29 = Masulipatam; 30 = Multan; 31 = Nagapattinam; 32 = Pattan; 33 = Patna; 34 = Polonnaruva; 35 = Puligere; 36 = Surat; 37 = Tanda; 38 = Tanjore; 39 = Thatta; 12 = Tughluqabad (Delhi); 41 = Vadagokugiri; 42 = Varanasi; 43 = Vijayanagara) and other sites mentioned in text (44 = Ellora, 45 = Khajuraho, 46 = Konark).

are spread out over 25 km^2 (Fritz *et al*., 1984, p. 5). Population centers' internal specializations included hierarchies of administrative, economic, and ritual activities. While religious sites in the remote hinterlands continued to be supported and were the focus of pilgrimage, Medieval cities captured religious activities within them, in the form of elaborate temples and mosques. Economic activities included industrial-level production of commodities such as silk cloth (Ahmedabad, Multan), iron and steel (Ahmedabad), cotton cloth (Ahmedabad, Broach, Masulipatam, Thatta), stone beads (Cambay), and indigo (Ahmedabad, Chaudhuri, 1990; Goody, 1996; Lari, 1989). Population centers were externally economically specialized, serving as trade centers that captured regional exchange networks as well as having long-distance ties with central Asia, China, and the Near East (Chaudhuri, 1978, 1990; Jain, 1990). They also were administratively specialized, often serving as the seat of political authorities who used them as the anchors of territorial expansion and defense, a military

strategy substantiated by the large number of fortified precincts, walled cities, and textual evidence for specific incidents of warfare.

With the Medieval period characterized by numerous different political, religious, and social trajectories, it is misleading to speak of the "Medieval city" as a single coherent entity. As Thakur (1994, p. 66) has observed, any classification of these cities into distinct types such as political capitals, religious centers, and educational centers is an oversimplification because cities performed multiple functions. However, population centers of the Medieval period did share one characteristic: a robust economic trajectory. The production of trade goods such as textiles fostered the development of strong guilds and merchant groups, while in the southern subcontinent temple centers became the focal points for capital investments in agricultural production. Several examples reveal the role of cities in what was becoming a more complex local landscape (with increasing legal and political structures) in which long-distance trade, political consolidations, and territorial contests were simultaneously evident.

Momin (1991) offers an example of the relationship between political authorities and central places in the Brahmaputra region of far eastern India and Nepal from the 7th to the 12th centuries A.D., using historical sources such as the inscriptions of local dynasts and records of visiting Chinese pilgrims as well as the relatively modest archaeological research undertaken in the area. In the 6th and 7th centuries, the Brahmaputra Valley was united under the Varman political dynasty. Land grants and other inscriptions permit Momin to suggest the presence of a distended administration with revenue from a variety of sources, including direct taxation, tribute, raids, and trade (evidence for the latter includes semiprecious stones and other objects recovered archaeologically). Momin explicitly focuses on the rural area that is often the undefined counterpart to urbanism, noting that rural areas have fewer land restrictions, more direct control of food production, and a dependence on trade limited to a few nonlocal items such as metals or salt.

Cities in the Varman period appear to have started as single-purpose entities, such as the "victory camp" that later became the capital city of Karnasuvarn. Chinese pilgrim literature mentions that people from other lands came there for employment, leading Momin (1991, p. 266) to suggest that population centers served as nodes in an economic network with ramifications well beyond the area of Varman political control. Political support was not likely to have been a driving force for urban occupation since the Varmans had a limited source of steady revenue. A more solid administration came in the 9th century with the advent of the Salastambha dynasty, which further consolidated administrative authority through revenue control and social classification and whose rule was concomitant with extensive development of rice cultivation along the Brahmaputra River. The site of Vadagokugiri in Meghalaya state (on the border with China) similarly flourished from the 7th to the 14th centuries A.D. (Lahiri *et al*., 2002, pp. 89–90; Sharma, 1993). These examples show that the far eastern portion of the Indian subcontinent experienced political and population growth in the early Medieval period, a time when urbanism elsewhere was on the wane (see also V. Thakur, 2000).

Momin's analysis reveals how interconnected political, economic, and social factors can result in new landscape configurations. A similar case is documented for Puligere, a population center in south-central India, whose growth parallels the developments in the Brahmaputra Valley. Using inscriptions to track the development of Puligere over time, R. Thakur (1994, p. 72) observes that in the 7th century it was described as a *skandavara* (military camp), but that in the 8th century it was called a *nagara* (trade center), and by the 12th century it was sufficiently large and important to be described in an inscription as a *rajadhani-pattana*, a term that combines the phrase for a royal residence or capital

with a term for a market town. While evidence is limited, it is clear that population centers such as Puligere, Karnasurvarn, and Vadagokugiri became "cities" only when they grew to incorporate internal economic specialization and external political specialization.

The Chola period (A.D. 849–1279) in far southern India provides another opportunity to evaluate the political consolidation of Medieval cities. The abundant inscriptions of the period describe three types of population center: the *nagaram* (commercial town, one per area/district), the *brahmadeya* (village gifted to Brahmans, the highest-ranking social caste), and the *ur* (village dominated by non-Brahmans; Hall, 1980). Beyond these, there were two extra-large nagarams with administrative, religious, and economic roles: Kanchipuram and Mamallapuram. Kanchipuram had been the political center of the previous Pallava dynasty and retained a level of importance in the succeeding Chola period, a time marked by an increased agricultural population and the need to defend against (and raid) other ruling powers to the north and south (Hall, 1980; Hall and Spencer, 1980).

Chola leaders concentrated their military and administrative authority at temple centers such as Kanchipuram, but their control of outlying areas was based primarily on ties of loyalty rather than well-organized or permanent bureaucracies. The ties appear to have been fairly loose, so that "the presence of numerous intermediate authorities wielding different types of public offices may not represent the disintegration of pre-existing polities and a decay of the state, but may instead represent a continuum of localized political responses that were constructing state forms from the bottom up" (Heitzman, 1997, p. 15). The Chola kings also had a strong symbiotic relationship with temples, since temples received grants of land in the name of the ruler, who was regarded as the official possessor of the earth (Heitzman, 1997, p. 14). Temples, as well as Brahman-controlled villages, were in practice probably quite independent; moreover, lands under temple control were often noncontiguous, resulting in a diluted but extensive influence in a wide area.

Chola centers such as Kanchipuram had longevity, but the extent to which they can be called "cities" is questionable even at their most robust. Referring to the triaxial diagram of Figure 1, these population centers can be compared with other cities using the three definitional axes. First, they had a low demographic and quantitative component. Heitzman (1997, p. 220) describes the "temple – city" of the period as a semivillage, semitown pattern of habitations interspersed with cultivated fields. Internal specialization also was low, since most specialists were religious specialists, and economic specialists such as crafts producers were widely scattered in the villages of the surrounding countryside rather than in temple-centered agglomerations. These coalescing population centers did, however, have a high functional component, since they were the basis on which larger political authorities built their regional networks: "Donation records indicate that urban characteristics developed when indigenous political and economic infrastructures, evolving slowly over perhaps four centuries, achieved a level of interactive complexity that produced regional political integration" (Heitzman, 1997, pp. 114–115). The Chola cities had some appeal to ordinary residents, but their most significant role was as a physical place for the concentration of wealth and authority as a precursor of political growth.

Once political integration had been achieved, Medieval population centers continued to be used as a consolidation point for political authority. One of the best-documented cases is Vijayanagara in west-central India, occupied from the mid-14th century until 1565 when it was destroyed by a conquering army. The site has been the focus of more than two decades of archaeological survey and excavation projects (Fritz *et al*., 1984; Morrison, 1990, 2000; Sinopoli and Morrison, 1995). Composed of a stunning architectural ensemble, the site was propelled to greater international visibility when it was included in the UNESCO World Heritage list of monuments in 1986. Ceremonial architecture is found at the core of the

ancient city, representing both administrative buildings and temples as well as monumental public works including platforms and elaborate reservoirs (Fritz *et al*., 1984). Archaeological survey of the surrounding area also has recorded the active economic and ritual landscape that supported urban growth (Mack, 2002; Morrison, 2000; Sinopoli, 1990, 2003).

The relationship between political authorities and the economy at Vijayanagara was complex. Many different types of crafts were produced (textiles, metalwork, ceramics), but while these products were taxed there is no evidence for direct control of production or distribution on the part of central authorities (Sinopoli, 2003). Temples served as repositories of wealth and information and were a focal point for trade activities; they also served as a redistributive mechanism, converting donations into irrigation infrastructure (Breckenridge, 1985). Vijayanagara's political leaders prominently supported temples as a component of their increasingly active consolidation of larger territories through both alliances and outright conquest. The incursions of Turkic and central Asian ruling dynasties also contributed to this domino effect. Frykenberg (1979, p. 221), for example, proposes that Vijayanagara power rose as the result of local power struggles after the incursion of Tughluq (A.D. 1325–1351) in the north, with the resultant development of a "concentration of power in certain warrior and clerical families" that had its clearest manifestation in the built environment at Vijayanagara, whose name is literally translated as the "city of victory."

Fatehpur Sikri is a stronger-yet encapsulation of the relationship between political authorities and the urban form in the Medieval period (Brand and Lowry, 1985; Kavuri, 2002; Rizvi, 1972; E. Smith, 1973). Founded in 1571 by the Mughal ruler Akbar, 37 km west of the previous capital at Agra, Fatehpur Sikri grew at a furious pace only to be abandoned as a capital at the end of Akbar's reign. In addition to the administrative buildings, tombs, and Islamic shrines that have remained standing, substantial recent excavations have revealed details of many other buildings such as the chapel built for the French and Spanish Christian emissaries who came to Akbar's court, a zoo, stables, and additional houses and courtyards (Gaur, 1999, 2000). Like other single-ruler Old World cities such as Amarna in Egypt or Agade in Mesopotamia, Fatehpur Sikri can be described as a "disembedded capital" that was imposed and developed by a single ruler, thriving only as long as the ruler supported it and declining rapidly in fortune afterward (cf. Joffe, 1998). Fatehpur Sikri's rapid rise and stagnation was part of a pattern of urban-political connections seen in other northern subcontinental cities including Jahanpanah, Firuzabad, Fatehabad, Hisar, Jaunpur, and Tuqluqabad (the subject of a recent archaeological survey by Shokoohy and Shokoohy (1994, 1999); for a remarkable early aerial photograph of the site, see Waddington, 1946). Tuqluqabad, one of the seven sequential flourishing cities clustered at Delhi, was rapidly depopulated when the founding ruler's son Mohammed b. Tughluq Shah relocated his capital to Daulatabad in the mid-subcontinent and forced much of the population, already under duress from a famine, to move with him (Shokoohy and Shokoohy, 1994, p. 519; see also Hearn, 1974). By the third or fourth incarnation of new urban sites created by an incoming Delhi sultan, the populace probably had some expectation that capital cities were "disposable" physical entities.

Warfare was a constant component of the Medieval period's political landscape and had a considerable impact on population centers. Considerable resources were invested in fortifications for defense as well as in military actions to overcome the urban defenses of political rivals. The destruction of Vijayanagara indicates the extent to which resources were devoted to military conquest, since textual sources report that the three allied leaders who defeated the city spent six months sacking it afterward (Ferishta, 1997). While Indus Bronze Age and Early Historic ramparts and walls were built only around population centers, fortifications of the Medieval period were constructed at territorially strategic locations such as passes and outcrops as well as serving as defensive perimeters around population centers.

Many Medieval forts were built in underpopulated areas, such as the dry upland plateau of the central Deccan region (Kamalapur, 1961) and the desert hills of Rajasthan (e.g., Jain, 2001) where they served as boundary markers and points of strategic defense in a highly contested landscape.

While political factors such as adminstration and warfare were a strong component of Medieval urban growth and decline, urban developments were still subject to other factors such as trade, climate, and environment. The site of Gaur, which today straddles the border between India and Bangladesh, was the capital of Sultanate Bengal starting in the early 13th century. This enormous site, now largely abandoned and measuring 46 km^2, is marked by the remains of administrative buildings as well as mosques, madrasas (religious schools), and vast habitation areas (Husain, 1997; Sinha, 2002). Embankments, as well as the river, surrounded and defined the city on all sides. On the basis of archaeological survey, Gaur appears to have had four main functional zones, including a royal center, a nobles' quarter, an urban core, and a garrison area marked by a small fort and a large quantity of iron slag probably related to the production of weapons (Sinha, 2002). Names of buildings and areas suggest that different zones of the city were divided by profession (Husain, 1997). Within the area of the embankments that circle the city, there appear to have been both empty zones for cultivation as well as habitation zones.

From the 13th to the 15th centuries, Gaur was one of the largest cities in the subcontinent, rivaling Delhi in both size and importance. As at Vijayanagara, numerous European travelers described the riches of the city, and recent archaeological surveys have documented abundant evidence of long-distance exchange including Chinese celadon and blue-and-white wares, as well as imported stone and marine shells (Sinha, 2002). But in the 16th century, Gaur suffered a number of depredations that eventually caused its complete abandonment: in 1538 the Afghan leader Sher Shah invaded Bengal and sacked the city; in 1565 its function as a capital was transferred to Tanda; and in 1575 a plague prompted its final depopulation (Husain, 1997). The rapid changes of fortune meant that Gaur's political and administrative functions were simply relocated to other places in the Mughal realm, a sign of the flexibility with which political nodes could be invested in and abandoned.

How did ordinary inhabitants view cities? As in earlier eras, urban centers were a nexus for social interactions and economic opportunity. In temple-towns, inscriptions record hundreds of economic transactions undertaken by diverse social groups. Among other categories of donation, inscriptions note the numerous gifts of cattle to temples (Champakalakshmi, 1993, p. 188), indicating how people used the interconnected social and financial capacities of the temple economy as a way to convert rural wealth into urban prominence. Medieval cities were focal points of trade and commodity production, and there was considerable interdependence among different craft groups such as merchants, cloth dealers, goldsmiths, ironworkers, fisherfolk, carpenters, and leather workers who shared marketplaces and had temples as a common focus of donations (Thakur, 1997). Although textual sources focus on master craftsmakers, specialized production does not always mean production by crafts specialists. There would have been plenty of jobs for unskilled labor in hauling raw materials and finished goods, tending stalls, gathering fuel, cleaning and stocking work spaces, and the many other menial tasks associated with production activities. However, one senses a stronger "push" factor for urban residence in the Medieval period compared with previous eras, in which urban centers not only drew people in but compelled them to come in from the countryside. Powerful guilds, political leaders, and religious authorities all had a vested interest in controlling larger numbers of people (and their productive capacity) directly. Warfare and the perception of political unrest may have been powerful motivators for living in urban centers that could be more easily defended than dispersed rural settlements. Those

seeking advancement in specialized bureaucratic careers also were tied to the urban centers that housed political authorities.

In sum, Medieval cities of the Indian subcontinent had a variety of configurations vis-à-vis political domains. Sites could be brought into existence by royal orders, as in the case of Fathepur Sikri, only to be abandoned a half generation later through attrition and withdrawal of official patronage. Vijayanagara, a Hindu capital, was systematically dismantled following conquest by surrounding Muslim states so that its population also dispersed. The rapid demise of these cities indicates that there was a certain fragility to Medieval urban centers when linked exclusively to political formations; cities that fared well had economies strong enough to sustain urban populations through political upheavals. Yet even massive trading cities such as Gaur were abandoned when political support was withdrawn and warfare and natural disasters suppressed their remaining viability as population centers.

Discussion

The Indus, Early Historic, and Medieval urban phases were independent developments. Nonetheless, the three distinct eras of South Asian urbanism illustrate that while there may be many different types of impetus for the development of the urban form, a number of their physical configurations were similar. Cities of all periods were composed of public and private spaces that encompassed economic and social functions, with large-scale organization of public works in the form of ramparts, drainage systems, ritual structures, street grids, and public spaces. These civic structures, larger than one household could achieve or use, provided an emotional and economic anchor to city inhabitants. Malville (2000) has proposed that the orientation of South Asian cities provided a sacred and ritual component to its inhabitants, and that the most sacred cities such as Varanasi (Benares) on the Ganges were resistant to the subsequent designs of city planning by political rulers. Although many of the ideas espoused in texts were not actualized (Allchin, 1995, p. 220, 222; Krishna, 2000, p. 27), the documentary record shows that people had an awareness of the distinct character of urban life. The inhabitants of Indus cities appear to have had an urban ethos of self-presentation as expressed in dress and ornamentation, while the celebratory poems of the Tamil Sangham vividly recount the urban experiences of merchants and beggars as well as the high born in the Early Historic period.

The principal distinction among these three eras was the level of political involvement in urban activities and the extent to which urban centers were used as the springboard for territorial expansion. Each succeeding era of urban development shows an increasing visibility of elites and social hierarchy as well as increased interconnections of political, administrative, and ritual specialists. The relative lack of demonstrable administrative and bureaucratic mechanisms in the Harappan period suggests that those cities were largely self-organized with an internally driven propensity for ritual, social, and economic cohesion. Similarly, the political fragmentation of the Early Historic period was counterbalanced with strong religious, economic, and social cohesion that resulted in cities being the largest consistent units of territorial integration in the subcontinent. After the growth of strong states in the early Medieval period, however, the relationship between political authorities and urban centers became highly codependent, with cities literally able to rise and fall under the direction of a state-level ruler whose authority extended to both ritual life and urban organization.

Another significant change over time was the extent to which warfare and conflict are evident in the record of urban development. In all three eras, walled cities are known, but

the purpose of those walls ranged from a principal emphasis on flood control and economic control in the Harappan period to a principal emphasis on warfare and defense in the Medieval period. South Asian cities provide an important cautionary comparison for other global regions, showing that the presence of ramparts and walls may not automatically indicate that warfare was the preeminent factor in creating and maintaining the urban landscape. A third significant change is increased evidence for cultural discontinuities over time. The Indus tradition in material culture and architecture was adopted throughout a large region, though there was no necessary political link among settlements that, as far as we can discern, remained relatively independent. Similarly, there was widespread cultural unity in the Early Historic period as seen in religious practices and material culture. By the Medieval period, there were cultural discontinuities on a number of different scales: distinctions among different occupational groups that accentuated the development of a caste hierarchy; new language communities, including those who used Turkic languages and the new *lingua franca* called Hindustani; a sharply drawn contrast between monotheistic Islam and the ritual practices of Hinduism; alienation of tribal peoples from urban populations; and economic competition as trade increased throughout the Indian Ocean region (Chaudhuri, 1978, 1990; Jain, 1990; about languages, see Singh, 1995). These divisions were in part the result of invasions and continued warfare among regions, but they also played a role in continuing the conflicts of the era.

Cities in all three eras presented new opportunities for their inhabitants and for those in the surrounding countryside who participated in the more complex economic, social, and ritual activities provided by the phenomenon of concentrated populations. But for the ordinary person, the appeal of urban life may have been increasingly constrained over time: In the Harappan period, urban dwellers were strongly influenced primarily by "pull" factors of tangible economic opportunity and intangible factors of attraction that drew them in from an already diverse countryside. In the Early Historic era, the same tangible and intangible attractors were present, but there also may have been "push" factors such as regional political unrest that prompted ordinary inhabitants to view cities as a safe haven. In the Medieval period, widespread political unrest, warfare, and economic competition may have rendered "push" factors dominant in the minds of ordinary dwellers who saw cities as a necessary but perhaps unpalatable choice. The frequent movement of cities, especially in the northern subcontinent, indicates the extent to which populations had become highly dependent on an urban community and were willing to undergo considerable upheaval in order to maintain the economic and social advantages that they associated with urban life.

Conclusion

As in other regions of the world, the development of urbanism in South Asia was characterized by social cohesion and economic flexibility in a diverse landscape. People coalesced into cities in three distinct eras, using those densely occupied sites to create and maintain social, economic, and ritual networks. Before the development of strong states, political factors such as leadership, warfare, and state formation seem to have been less important constituents of urban growth and stability. While urban centers and political leaders did have a symbiotic relationship before the Medieval period, these relationships were tempered by low levels of central investment capacity on the part of leaders who judiciously used their limited resources on ritual activities away from urban zones and civic improvements within urban zones.

Longitudinal studies such as this one are, however, limited by the great variability in source materials. There are different types of data for each era of urbanism, so that some

dissimilarities may be inadvertently accentuated. The interpretation of Harappan urbanism focuses on architecture and artifacts, while the archaeology of the Early Historic period focuses on the reconciliation of texts with archaeological remains. Studies of the Medieval period based in architectural analysis and texts generally emphasize the increasingly globalized context of the Indian subcontinent as well as the relationship between guilds, rulers, and religious authorities. Nonetheless, many of the distinctions that we can discern are not attributable solely to differences in types of evidence. Factors of social cohesion seem to be genuinely different in the three periods. In the Harappan era, shared motifs predated urban-size developments, whereas in the Early Historic period, shared motifs grew along with an urbanizing culture. In the Medieval era, cities were held together as much, or more, by political bonds than cultural ones, and the growth of states was marked by capital investments in cities as well as in the countryside.

Cities presented costs and benefits to ordinary inhabitants and to economic elites, ritual specialists, and political leaders. In the Harappan period, cities were the economic nexus of trade routes that brought desirable long-distance goods and highlighted local technological expertise but at the potential cost of the loss of control over necessary comestibles. If rivers shifted, flooded, or failed at a frequency greater than the benefits provided by urban life, the resultant depopulation of the city rapidly followed. In the Early Historic period, the value of the city to its inhabitants was, in addition to the attractions of social and economic diversity, perhaps as a hedge against an increasingly uncertain countryside. In a political landscape marked by leaders with fledgling territorial ambitions, city dwellers were buffered by an urban zone in which there was "safety in numbers" (cf. Cowgill, 2003, p. 47). In the Medieval period, an even greater focus on economic potential was mitigated by an attitude of displacement and detachment as powerful leaders made urban construction and demolition a highly visible focus of state management.

Once limited to Mesopotamia and Mesoamerica, the analysis of ancient urban dynamics has been considerably enriched by research projects in other parts of the world. South Asia presents a significant opportunity for cross-cultural research: Archaeological investigations have been conducted in the subcontinent for well over 150 years, resulting in a large body of data amenable to comparative study, and historical texts provide direct information about urban activities. Anthropological assessments of cities undoubtedly will become more complicated as we consider the vast amounts of archaeological data from different urban contexts worldwide but also more compelling when we recognize that social and economic actions at the scale of the ordinary person are at least as important as the actions of political leaders in explaining the development and persistence of urbanism.

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