Journal of Archaeological Method and Theory, Vol. 6, No. 2, 1999

The Role of Ordinary Goods in Premodern Exchange

Monica L. Smith[1]

The use of consumption studies to examine the social as well as the utilitarian role played by ordinary domestic goods helps to explain why exchange is a compelling social phenomenon. Under conditions of emergent social complexity, exchange activities become even more important, because a diversity of goods enables an ever-growing number of individuals to demonstrate membership in cross-cutting social groups based on status, ethnicity, age, gender, and profession. An archaeological case study in central India, in which it was found that nonlocal goods were widespread in a medium-sized town in the early centuries A.D., provides data for the evaluation of consumption activities at the household level, in which "social subsistence" was manifest in the acquisition and use of a shared material culture.

KEY WORDS: consumption; South Asia; political economy; social complexity.

INTRODUCTION

In this paper, it is proposed that the demand for ordinary goods provides an explanation for the development, success, and long-term viability of regional trade networks. These ordinary goods—household furnishings, containers, and utensils—are valued for their social as well as for their functional content, where social content is expressed through decoration, form, and choice of material type. The use of goods in social interactions provides a way for individuals to proclaim their group identity; this identity is a key factor in creating and maintaining social bonds within a group.

The consumption and display of goods enable individuals to signal their achievement of membership in a number of different groups simultaneously, a factor that may be particularly important during the periods of rapid social and

[1]Department of Anthropology, University of Arizona, Tucson, Arizona 85721-0030. Fax: (520) 621-2088. E-mail: mlsmith@u.arizona.edu.

1072-5369/99/0600-0109$16.00/0

political change that precede the emergence of complex political entities. In state-level political structures, a sense of cultural cohesion is provided by the center (e.g., through boundary maintenance, the imposition of a single bureaucracy, the promotion of a unifying iconography, and socially-streamlining mechanisms such as standardized educational institutions). But prior to this cohesion, the challenge was for individuals and households to identify themselves as members of a group in order to indicate legitimate participation in group approaches to environmental or social stress, where being a simultaneous member of different social groups increased the opportunities for survival.

The case study offered as an illustration of the social use of goods and the resultant effects on trade networks comes from the Indian subcontinent. Starting in the second century B.C., documentary and archaeological evidence indicates the presence of a thriving exchange network around the Indian Ocean littoral which brought the subcontinent into contact with peoples from the Roman Mediterranean, northeast Africa, Arabia, and Southeast Asia (Begley and DePuma, 1991; Boussac and Salles, 1995; Casson, 1989). During this period of long-distance exchange, the political landscape of the Indian subcontinent consisted of a number of regional dynasties, each with shifting control over territory and resources (Mirashi, 1981). From the decline of the Mauryan polity in the second century B.C. to the rise of the Gupta "state" in the fourth century A.D., there was no large-scale centralized government to provide economic infrastructure. The archaeological evidence of a shared corpus of material goods at sites throughout the subcontinent, however, indicates that trade did continue during this long period of political fluctuations.

The results of this study provide an apparent contrast to known examples of ancient economies that were encompassed by strong political entities, such as the Inka and Roman empires. In these empires, the economy of ordinary goods is often explained as an outgrowth of larger-scale processes directed by the political center. A view of goods as a social (as well as biological) necessity provides the impetus for a closer examination of trade and the provisioning of domestic goods as essential components of the growth of early complex societies. This case study from the Indian subcontinent also illustrates the potential for data from this archaeologically rich region to contribute to studies of sociopolitical complexity.

THE ANALYSIS OF EXCHANGE IN EARLY COMPLEX SOCIETIES

There are two starting points for the analysis of economic activity in premodern complex societies: ethnographically documented cases of small-scale societies and studies of the economic activities of modern industrial nations. Both means of examining the role and mechanics of trade stem from observations primarily made in the twentieth century but make reference to different aspects of the exchange

process. In descriptions of exchange activities in large-scale production economies, the operative premise is taken to be profit maximization (on the part of sellers) and utility maximization (on the part of buyers), all acting in an impersonal market. In the analysis of exchange in small-scale societies, emphasis is usually placed upon understanding the social aspects of exchange.

Formal economic models have described the ideal trajectory of surplus production, with the assumption that the satisfaction of wants is accomplished through the allocation of finite resources. The substantivist critique has illustrated that social considerations play a considerable role in the allocation of those resources and that "rational" decision-making is undertaken with reference to social standards of value that are often context-specific and negotiable (see Granovetter, 1985; Orlove and Rutz, 1989). A more balanced approach combines both perspectives, conceding the presence of social factors in the allocation of goods and services among agents in large-scale economies (e.g., Granovetter, 1985) and documenting factors such as the allocation of scarce resources and "utility cost" in small-scale societies (e.g., Gregory, 1982; Sahlins, 1972). The variety of exchange activities illustrated by archaeological and historical case studies has led many scholars to acknowledge that formal economic models can be neither accepted nor rejected wholesale (Miller, 1995; Plattner, 1989a; Granovetter, 1985; Gledhill and Larsen, 1982; see also Morrison, 1994).

The exclusive application of either framework for the assessment of premodern complex societies is similarly problematic. The documentation of exchange activity in small-scale societies, based on ethnographic cases that describe face-to-face interactions between individuals, presents grave limitations for the interpretation of exchange activities among the early states and empires. In those complex polities, there was a higher population density than in ethnographically documented groups, as well as a greater territorial expanse, and multiple and often overlapping layers of group interaction. Such levels of interdependence and dominance require the development of models that account for increased loci and facilitators of exchange, as well as increased quantities of goods, providers, and consumers.

Formal economic models, because they have been developed for large-scale societies, therefore comprise a more comprehensive starting point for evaluating economic activities in premodern complex societies. However, formal models incorporate a number of conditions that are met only within the workings of modern nation-states, such as the presence of firm boundaries between and within polities, fully-monetized economies, and scarcity in the market, which is a product of both the natural limits of raw material supply and political constraints on exports of raw materials and finished products. Formal models also incorporate the assumption that agents in political centers accumulate capital in sufficient quantities for long-term investments in the economic infrastructure (e.g., roads, forts, markets).

Furthermore, in the modern realm the effect of political stability is not limited to the provision of capital investments but is seen as being fundamentally

intertwined with economic stability:

> Markets [defined as a social institution of exchanges] become regular, adequate and secure when regions are integrated economically, politically and socially. Regional integration comes from investment in infrastructure, meaning the basic technology of transportation and communication. (Plattner, 1989b, p. 181)

In Plattner's view, this "basic technology" includes sufficient and reasonably priced transportation and transportation support networks, storage facilities, the means to transmit information about goods being traded, and political integration of regional societies. The latter condition, that of political integration, is needed "so that traders are not subject to exploitation by local officials when they cross local borders and so that trade is not disrupted by violence. Warfare obviously makes normal trade difficult or impossible" (Plattner, 1989b, p. 181). The observed inseparability of the economic and political spheres in the modern world is sometimes incorporated into the very definition of trade: ". . . however these terms (trade, civilizations, states) are defined, they imply an organization, a specialized administration, which regulates human activities both in terms of procurement (movement of goods including raw materials) and of social relations (human encounters with exchange of information and goods)" (Renfrew, 1975, p. 4).

The assumption that strong political systems are necessary for viable exchange environments means that often, the potential complexities of an ancient economy may be neglected *a priori* due to known historical circumstances such as political instability. Although the provision of an economic infrastructure by political agents, such as a centralized government, can facilitate exchange activities, it is not an essential prerequisite. All of the critical aspects of exchange are fundamentally based upon information: information about the types of resources to exchange, information about their value, and information about the way in which the exchange is to take place as well as about the physical routes utilized to transport items and individuals. The provision of such information by bureaucratic entities incorporated into a political structure is only one means by which communication about goods can be achieved. Information and information-transfer points can also be provided by other agencies, such as merchant groups and religious institutions, as well as through networks based on kinship.

EXCHANGE ACTIVITIES AND THE ACQUISITION OF GOODS

Archaeologists have, in the past, acknowledged the symbolic importance of the exchange of luxury goods acquired and used by elites (Brumfiel, 1987). The distribution of elite goods appears be linked to political exchange spheres, where the ability to acquire such goods may be based upon factors of genealogy or political prowess that result in the bestowing of either elite goods or the right to acquire such goods. In political terms, the possessors of rare goods are seen as

having a place in the hierarchy of social organization through religious or political office, where the visible display of objects into which are incorporated elements of labor investment or distant origins signals the possessor as a member of an elite (Wright, 1984). Luxury goods especially serve to identify important social actors during times of social change, as Hamilton and Lai (1989, p. 265) illustrate for late imperial China, where the "constant rise and fall of family wealth and position and the uncertainty of one's family's status at any one point accentuated the use of material symbols to mark status."

It has been proposed that the desire for elite goods thus provided the principal motivation for trade in both traditional tribal societies and at the inception of greater social complexity (e.g., Brumfiel and Earle, 1987; Smith, 1976). Brumfiel and Earle (1987, p. 6) find the distinction between luxury and utilitarian goods setting the stage for the organization of economic activity in early complex societies, citing ". . . the lack of importance of subsistence goods specialization for political development." The sequence in which different types of goods are incorporated into exchange patterns is explained as an evolutionary sequence paralleling developments in sociopolitical complexity, so that "as trading routes and trading relationships became more firmly established, everyday goods were added to the merchants' repertoire . . . and came to supply not only valuable items for elites but also food staples and utilitarian wares for people in the society generally" (Berdan, 1989, p. 99).

Statements such as these suggest that exchange activity in premodern societies is based on the demands of a small group and that the mechanisms of trade, once established by the elite, inexplicably expand to accommodate the demands of a broader sector of the population. Prior to this expansion, utilitarian goods (especially comestibles) are assumed to be the result of self-sufficiency and, therefore, not perceived to be a driving mechanism for increased exchange. This dichotomy is seen to persist until the eve of the Industrial Revolution: Wallerstein (1974, p. 20), speaking of the European feudal trade that preceded the modern world-system, claims that it was a trade in luxuries, which "depended on the political indulgence and economic possibilities of the truly wealthy."

One difficulty with this type of analysis is the assumption that a clear distinction can be made between "luxury" and subsistence or "utilitarian" goods. Ethnographic studies indicate that the distinction between these two categories is highly variable and culture-specific [Douglas and Isherwood, 1996 (1979); Miller, 1995; Parkin, 1993; Wilk, 1990]. The identification of "luxury" goods in an archaeological context is often made through an evaluation of their scarcity in a site or a region, and/or the distance to a source of supply, with the implications of wealth or privilege additionally inferred through elaborate iconography, rare materials, or labor-intensive craftsmanship. But even these criteria can be ambiguous. For example, frankincense and myrrh are considered luxury items by scholars of early Mediterranean trade, since they could be obtained only at specific locales in the Arabian peninsula. Yet they would not have been regarded as luxuries by

ancient standards, since these aromatics were used for medicinal, religious, and funerary practices (Sidebotham, 1989). Goods such as these are difficult to define as either "luxury" or "utilitarian," since they were deemed essential, or at least desired, by a large segment of the population and apparently could be obtained regardless of political conditions in the source area.

Just as in the modern world, there are cases in the archaeological record in which one era's luxury good becomes the next era's basic subsistence commodity, as Rice (1987b) shows for the use of obsidian in the Classic and Postclassic Maya periods. Changes in the structure of supply that increase or decrease availability can affect a status marker: in Ming China, the quantity of pepper brought in tribute by the explorer Zheng Ho resulted in its plunging from an elite good to a subsistence one (Finlay, 1992). Technological advances can also alter the rate at which desired goods can be produced, bringing abrupt changes in supply. In the Roman world, glass was a rare and precious commodity, until the invention of glass-blowing in Syro-Palestine in the first century B.C. enabled large quantities of vessels to be produced (Lightfoot, 1989). In contrast, ordinary goods can be elevated to the status of preciosities under conditions of need: grain, usually considered a low-value, bulky item, can dramatically increase in status and price when scarcity necessitates import [e.g., Braudel, 1992 (1979), p. 178].

The other difficulty in seeing luxury goods as the driving force of exchange activity is the incompatibility with contemporary observations that emphasize the economic role of utilitarian goods. "Ordinary" goods are the principal products turned out by industrial manufacturing apparatus and processes, a pattern with a long historical trajectory. At the end of the eighteenth century in England, the consumption of low-cost articles such as beer, soap, and candles increased at a rate twice as fast as the population, a phenomenon that has led Neil McKendrick (1982) to observe that the industries that first blossomed in the Industrial Revolution were located in the consumer sector rather than the heavy industrial sector. The perception of the role of ordinary goods is also shown in the work of Adam Smith [1976 (1776)], who chooses for his examples domestic items such as pins, textiles, and kitchen utensils rather than complex or special-use items.

The apparent dichotomy between the perceived role of ordinary goods in premodern and modern complex societies is not resolved merely by assuming that one of the effects of the Industrial Revolution was the alteration of human society to include a sudden interest in domestic goods. As Paul Glennie (1995) observes, this dichotomy is in part the result of a limited knowledge of the activities of premodern households and the assumption that nonelite households were poor in material possessions. Archaeological evidence suggests that participation in uniform styles or forms occurs in all past human societies; indeed, it is the ubiquity of such styles as horizon markers that permits the dating and identification of past activities even when only a small portion of the archaeological record is investigated.

THE IMPORTANCE OF GOODS

Human activities are fundamentally intertwined with the physical surroundings in which they take place. M. Gottdiener (1995) proposes that the use of material objects constitutes a form of information transfer, the study of which he terms socio-semiotics. He calls upon Peircian semiotics as a basis for understanding the "more global relationship between modes of representation and culture, including material forms," in which there is always a referent to empirical reality (1995, p. 11). This empirical reality often encompasses social relations, in which individuals read material culture ensembles to locate themselves vis-à-vis other people and groups. Objects are not a mere reflection or passive container for communicative messages; their existence as empirical realities is required for any communication at all. Explaining his view, Gottdiener (1995, pp. 54–55) elaborates that "All sign value implicitly presupposes its material expression, and, in the same way, all material objects exist within socially constructed semantic fields in order for them to be understood and used."

The projection of meaning from the social sphere to the physical realm can be seen even when social negotiations are framed by the bare minimum of physical possessions. In Terence Turner's (1980) work among the Kayapo, he notes that the physical realm of the skin becomes the means through which social information is conveyed. Ornamentation, decoration, and selective shaving indicate each individual's reproductive, political, and social status, providing a "social skin" that projects "subjective identity as a social actor, as well as objective identity conceived in terms of a set of social categories" (Turner, 1980, p. 136). In societies with larger populations and increasing numbers of groups to which individuals can belong, the human body becomes insufficient for the projection of identities. Physical objects extend the realm of the "social skin," to enable an increasing quantity of information to be encoded. Such an explanation, concerned with the *consumption* of goods, can be contrasted with analysis of *production*, which is the standard focus of both traditional and Marxist approaches to the explanation of economic processes (Fine and Leopold, 1990; Warde, 1990; Hamilton and Lai, 1989; Orlove and Rutz, 1989; Gregory, 1982).

The study of consumption by economists and sociologists—who previously viewed consumption as either the end result of production or a derivative of distribution—is a recent development gaining in popularity across the social sciences (Glennie, 1995; Macdonald, 1996; Miller, 1995; Warde, 1990). Consumption may be broadly defined as "involving the selection, purchase, use, maintenance, repair and disposal of any product or service" (Campbell, 1995, p. 102). In contrast to production, consumption is often an ongoing process and takes place in a variety of ways. Goods may be consumed by taking them out of circulation (potlatching, burial), by promoting their circulation (through trade, bridewealth, dowry, bequests, or as rewards), by transforming them (e.g., from raw materials

to finished products), or by static display (e.g., monumental architecture). Goods may also be transformed into energy by "consuming" them in the literal sense, as food or medicine.

Ethnographic and archaeological studies have usually emphasized high-value goods as items of prestige management, closely linked with the demonstration of political strength. In contrast, modern material-culture studies show that *every* object embodies a symbolic aspect (Gottdiener, 1995; Miller, 1995; Preteceille and Terrail, 1985; Schiffer and Skibo, 1997). This symbolic value is created and negotiated by individuals in cultural contexts, where "any material commodity can assume a multiplicity of meanings through social interaction" (Gottdiener, 1995, p. 179). Consumption itself becomes part of the socially negotiated sphere: Hamilton and Lai (1989, p. 268) observe that "Consumption, like language, is a form of symbolic communication, the form and content of which is not reducible to the individual actor." From the analytical viewpoint of consumption, goods are acquired and used in a variety of ways to fulfill social, ritual, and biological needs.

While archaeologists acknowledge that economic systems consist of the three components of production, consumption, and distribution, the implementation of research overwhelmingly tends to focus upon production. Studies of the material remains of the past have usually concentrated on the techniques, loci, and scale of production and the examination of finished products to evaluate the level of standardization and craft specialization (e.g., Allen, 1992; Rice, 1981). This focus has evolved not only because of prevailing economic theories that emphasize production, but also because of the nature of the archaeological record in which production activities are often localized, producing "a clearer and more easily interpreted record in the form of debris, tools, and features" (Costin, 1991, p. 1). But an exclusive focus on production has limitations: production loci frequently constitute only a fraction of archaeological sites, and they are often interspersed with evidence for other activities. Production strategies, the organization of production, and levels of specialization are often difficult to discern from archaeological data alone (Stark, 1985). Nor does the organization of production tell the whole story of the ancient economy; as Morrison (1994) has observed, studies of production intensification have often failed to consider what such intensification is *for*, and the purposes to which the ever-increasing quantity of items would be applied.

Recently, researchers have commented that the archaeological focus on production needs to be balanced by a discussion of consumption (Costin, 1991; Morrison, 1994; Tringham and Krstić, 1990). The study of consumption is a logical step: archaeological evidence for consumption is ubiquitous, since each site is literally composed of the traces of such activities and is a collection of the physical remains of hundreds and thousands of acts of consumption. Moreover, production itself is founded in consumption activities, because each act of production requires the consumption of space, raw materials, and labor.

SOCIO-SEMIOTICS AND ARCHAEOLOGY

Although all ethnographically documented modern groups, from simple bands to modern industrial societies, are actively involved in the consumption of goods invested with social significance, can we presume this to have been the case in premodern complex societies as well? The archaeological record contains several indicators that ordinary goods were invested with symbolic content. Symbolic content is manifest in aspects such as decoration; in archaeological contexts, a large number of items that received decorative treatment are modest items of domestic use. Varied contexts for goods also indicate that meanings created in one sphere could be transferred to another, as in burial assemblages, where the use of goods to contextualize the dead are apparent extensions of the social contexts of the living (Brown, 1971; O'Shea, 1984; Rogers, 1990). The simultaneous inclusion of objects of domestic use into burial, ritual, and discard contexts illustrates that premodern peoples invested material objects with multiple simultaneous and context-bound meanings.

Social values also appear to have been expressed through the conscious choices made between available functional equivalents. Functional equivalents are visible in architecture, for example, whenever people render prevailing architectural styles in locally available materials. With regards to the material components of frequently used goods, materials valued for their physical properties may also have local equivalents. Archaeological examples include the use of distinctive nonlocal stone for projectile points, where similar styles are rendered in a variety of materials (Whittaker *et al.*, 1988). Ornaments and other decorative items contain an even greater potential for raw-material substitution, since they can be fashioned from a variety of locally available materials such as bone or clay. Since the "utility" of any good is culturally determined to a certain extent, choices between functional equivalents may be based on symbolic value: "Objects involved in the everyday life of social groups are used because they perform some practical function . . . however, these use values can also be transformed by users into sign vehicles that signify a second-order function" (Gottdiener, 1995, p. 181).

To be sure, archaeologists have already discussed the potential for objects to contain a variety of different aspects simultaneously. Binford's (1962) tripartite separation of ideotechnic, sociotechnic, and technomic aspects of artifacts can be seen as an early attempt to break down categories of meaning. Others followed suit, suggesting that all items have some "stylistic" or afunctional aspects that are incorporated in the process of fashioning finished products from raw materials (e.g., Conkey, 1978; Sackett, 1977; Wiessner, 1983). The difficulty is that the divisions between stylistic and functional aspects cannot be determined with precision, and in effect, the processual study of goods has been divided: the interpretation of ideotechnic or sociotechnic roles has been relegated to rare and labor-intensive goods, while commonly-occurring goods and mass-produced objects have been principally assessed for their technomic functions. However, the tools for a study

of consumption are easily at hand. Archaeological studies already emphasize the importance of context in the interpretation of the retrieved remains of the past; the addition of a Piercian perspective on the interdependence of communication and material objects permits the understanding of why those objects are essential in the construction of social life.

The recognition of the social significance of goods in premodern societies does not, however, require an attempt to reconstruct the specific "meanings" of those objects. As indicated by modern material-culture studies, the subtleties of meaning within categories may change rapidly, so that static interpretations quickly become obsolete. In addition, different meanings for a single object may be invoked or emphasized by individuals depending on the context of use (Miller, 1985). The archaeological recovery of objects from different contexts is a reasonable platform from which to suggest that the objects were invested with various meanings, even when the elucidation of the specific meaning is an unlikely enterprise.

Daniel Miller (1985) cautions that the exact meaning of an object is difficult to discern, since many things can be symbolized through the same object. Because meaning is imparted neither unilaterally nor hierarchically, the simplistic search for a formal order in the "meanings of things" is bound to cause difficulties even in a material-culture assemblage used synchronically. Diachronic changes in meaning may also occur, for example, in the reuse of older items as "antiques" (Schiffer, 1987). The elucidation of meaning from archaeologically recovered items is an even more hazardous enterprise, given that the meaning of symbols may be culturally specific and therefore unrecoverable (Earle, 1990).

While the specific meaning of an object may be difficult or impossible to recapture, the *range* of meaning imparted by objects can be assessed by comparing the contexts in which material categories appear (Rogers, 1990). Miller suggests two descriptive means by which the symbolic value of objects can be assessed. One is through fuzzy set theory, which is "concerned with the nature of a logic whereby objects are not, as in conventional logic, either members or non-members of a given set, but rather are considered as better or worse representatives of that set" (Miller, 1987, p. 8). Another is to view material objects as a "frame" for symbolic activity, where a "frame" refers to the potential range of meanings that can be symbolized in an object, though not all of these meanings are simultaneously expressed or emphasized (Miller, 1985). In archaeology, the use of attribute analysis (including decoration, material composition, form, and method of manufacture) serves to group objects into multiple simultaneous classifications that can indicate the range of meanings sustained by objects within the same context. The use of such an approach has been particularly successful in the analysis of mortuary patterns: although the specific meaning of burial goods may be slightly different depending on the circumstances of an individual interment, the general link between domestic use and burial contexts can be demonstrated (for an example, see Rogers, 1990).

The use of goods to identify and contextualize social relations in terminal states (such as the memorialization of the dead) constitutes just one aspect of the

use of objects in a living context. In ongoing social interactions, the manipulation of the physical realm establishes important frames of reference in the process of language-based communication, since information about status and the implied relationship between interlocutors is efficiently established through visual clues. Miller (1985, p. 11) suggests that the use of objects is often extra-linguistic, because "order which is neither expressed nor acknowledged at the level of language may have a particular importance in the study of social reproduction, precisely because it acts to constitute social relations at a level which appears mundane, natural and therefore less open to explicit refutation or confrontation." However, it is important to note that in Miller's view the expression of social constructs through objets is conducted not because such concepts *could not* be expressed in language, but because objects are a more subtle means of communicating socially relevant information.

The presence of goods in large quantities and with a broad distribution in archaeologically retrieved contexts invites a discussion of the role of symbolism and socially generated preferences as a factor in goods selection. The vast majority of items recovered in archaeological sites, in terms of both volume and frequency, are goods whose access was not restricted to elites. Moreover, the desire for goods perceived as socially significant appears to have been an important spur to exchange activity, as studies of early trade activities are beginning to reveal. In an examination of the organization of craft production in third-millennium Mesopotamia, Patricia Wattenmaker (1994) has documented the presence of both specialist-produced fineware pottery and nonstandardized cooking pots in all households. The distribution of specialist goods "underscores the fact that rural nonelite households were active participants in the material component of the social system" (Wattenmaker, 1994, p. 115). More importantly, she offers that the use of specialized pottery was not merely the result of households taking advantage of production efficiencies in manufacturing techniques or large-scale production, but that "the demand for specialist-produced goods appers to be closely related to their social significance, as well as to other considerations such as productive efficiency" (Wattenmaker, 1994, p. 118).

Wattenmaker's analysis of Mesopotamian ceramics illustrates that even in premodern times, consumer goods were chosen at least in part because of attributes that were invested with social value. The proposal that consumer goods were chosen on the basis of their social utility is an important step in the evaluation of early trade activities. The demonstrated presence of similar goods at a wide variety of contemporary sites in any archaeologically documented culture indicates that exchange mechanisms were used by individuals and households to acquire goods and/or to exchange information about style for the production of locally made goods. These goods were made distinct by differential form, color, and finish; particularly when goods contain labor-investment beyond the demands of functionality, or come from distant regions beyond the capacity of a single individual's day-long return journey, the social mechanisms of exchange and hospitality

can also be assessed. As individuals begin to congregate in population loci of larger sizes, there are increasing numbers of inclusive social groups that regulate life-cycle as well as daily activities. Projected into the past, the increase in people and groups in emergent complex societies meant that information about individual status and group identity became most effectively communicated through material objects that served as a frame of reference for language-based interaction.

Yet this increase in social complexity appears to have often occurred independently of political complexity, where cultural cohesion was based in shared religious, ethnic, or language-based identity. Exchange activities provided both an increased repertoire of goods and a demonstration of links across a landscape, and became a critical factor in the development of large and cohesive social units. The following case study from central India examines the way in which trade activities were developed and maintained at the local and regional level in the absence of a strong political system.

EXCHANGE AND SOCIAL INTEGRATION IN THE INDIAN SUBCONTINENT

The beginning of the Early Historic period (ca. third century B.C. to fourth century A.D.) is marked by the spectacular but brief fluorescence of the Mauryan polity, which ruled from the Gangetic valley and whose inscriptions are found throughout the northern part of the subcontinent (e.g., Thapar, 1997). The Mauryans' influence and control did not extend south of the central subcontinent, and in far southern India, the Chola, Chera, and Pandya polities maintained both coastal and inland territories (Subramaniam, 1972). By the mid-second century B.C., the Mauryan polity disintegrated and was replaced by number of smaller dynasties, including the Satavahanas, Sungas, and Kandvas [Jain, 1964; Mirashi, 1981; Rao, 1982 (1960)].

On the periphery of those new dynastic centers were smaller local chiefs and tribal units, which sometimes became incorporated into larger groups as allies or mercenaries and which engaged in alliance-building themselves. However, these territorial gains were often temporary, as strong rulers arose in alternate generations to push back encroaching neighbors (Mirashi, 1981). In practice, any emergent hierarchy was the result of a constant process of negotiation, in which members of each hierarchical "level" competed with superiors for autonomy and control, with peers for territory, and with subordinates for supplies and support. The ultimate result was a political landscape in which control over resources was constantly negotiated, and where the physical boundaries within and between polities were porous and flexible.

The expansion of political units was limited, because any excessive demands upon allies for surplus would threaten to break apart the coalition. Thus, it was difficult for any political center to generate surplus for the provision of a trade-related

infrastructure such as roads, markets, or halting-points. Instead, a minimal amount of economic infrastructure was provided by Buddhist religious institutions, which were a focus of pilgrimage and mercantile activity (Liu, 1988; Ray, 1986). As a unifying social institution, Buddhist monasteries and pilgrimage sites received some donations from political rulers, but contemporary documents show that their support base consisted largely of private donors and corporate groups such as merchant "guilds" (Ray, 1986; Schopen, 1997).

These guilds, known principally from inscriptions in western India, engaged in a variety of activities including monetary investments with profits sometimes dedicated to the construction of Buddhist monasteries or the maintenance of monks (Ray, 1985). Merchant guilds also supported "guild armies" that accompanied traders or pilgrims and were occasionally utilized by local political figures (Mirashi, 1981). Religious institutions were also market centers, with evidence for crafts manufacture [e.g., at Nagarjunakonda (Sarkar, 1987)]. In addition to serving religious needs, monasteries served as gathering places for pilgrims and traders, providing them with a place to share information about routes and goods.

Archaeological and historical documentation indicates a thriving trade in a variety of goods in this period, as seen in the recovery of common ornaments, pottery types, and coinage (Begley, 1991; Smith, 1997). One particularly striking proof of the large-scale exchange of material objects is the marine shell *Turbinella pyrum*, which is found in the majority of excavated sites of the Early Historic period including sites located hundreds of kilometers from the sea (Smith, 1996a). Other ornaments, including beads, indicate both the use of nonlocal materials (such as the lapis lazuli beads occasionally recovered in western India) and the use of prevailing styles in the manufacture of beads in widely available materials such as agate and chalcedony (e.g., Sankalia *et al.*, 1960). Another important category of goods is pottery, where finewares, in particular, show widespread regional distributions of similar styles, such as the Rouletted Wares of the eastern subcontinent and the distinctive Red Polished Wares of western India (Begley, 1991; Orton, 1991).

The subcontinent in the Early Historic period provides a picture of sustained economic activity across a politically-fragmented landscape. Archaeological evidence for exchange activity in central India provides further opportunity to assess the mechanisms of this exchange prior to the establishment of any dominant political or religious entities. The central subcontinent was distant from the activities of the subcontinent's larger dynasties, and while the region was actively traversed in the Early Historic period, it was not the seat of any large-scale polity that could have sustained a sufficient political organization to facilitate or promote the use of a shared material culture; nor is there evidence of a large scale of Buddhist activity in this region as there was in the western and southern subcontinent. Not until the fourth century A.D. was political consolidation achieved under the Vakatakas, centered near the modern city of Nagpur (Mukherjee, 1992; Ramesh, 1992). As discussed below, this political consolidation was preceded by several centuries of cultural cohesion as documented by the exchange of material goods.

ARCHAEOLOGICAL RESEARCH AT KAUNDINYAPURA

The following case study focuses on the Early Historic site of Kaundinyapura, located on the west bank of the perennial Wardha River in the Vidarbha region, approximately at the geographic center of the modern nation of India (Fig. 1) (Smith, 1997). Limited excavations at Kaundinyapura in 1962 and 1964 indicated the range of goods that had been used and manufactured at the site and provided

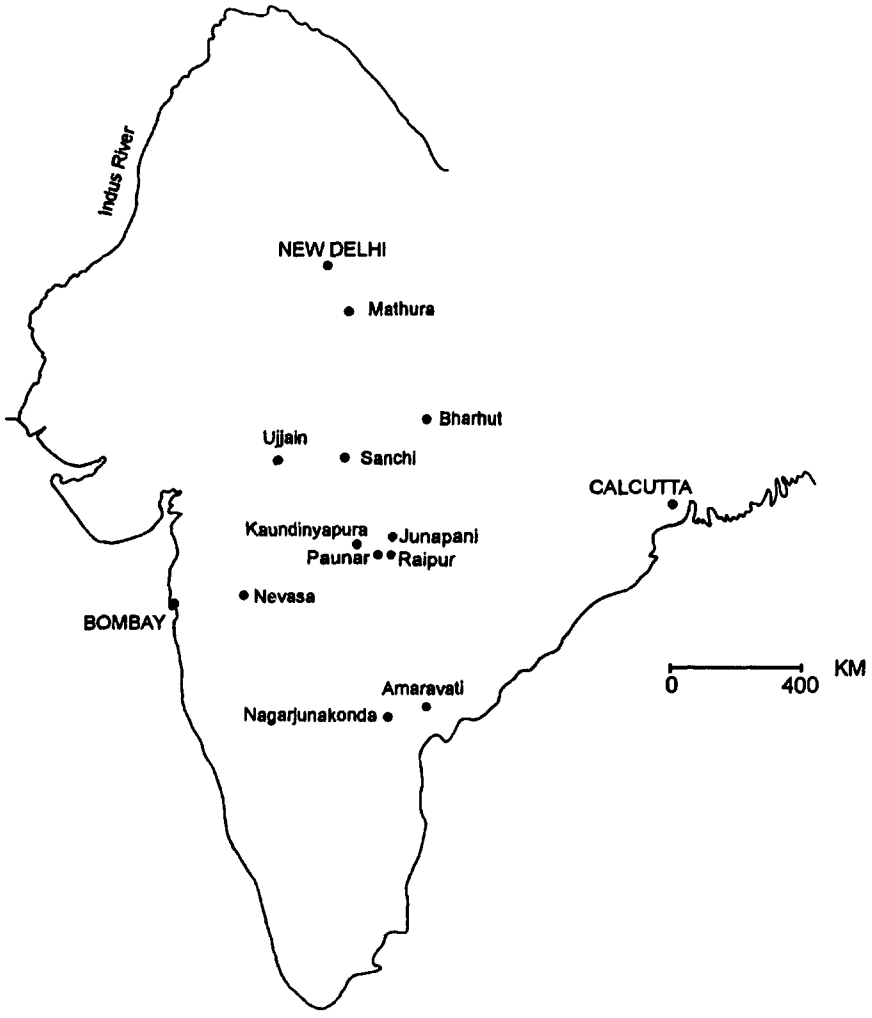

Fig. 1. Map of the Indian subcontinent, with sites mentioned in text. The modern city of Nagpur is located 100 km east of the archaeological site of Kaundinyapura.

information about chronology and occupation (Dikshit, 1968). Kaundinyapura, at 6.5 ha, constituted a medium-sized town in the regional trading network of the Early Historic period, with the nearest larger site being 55 km to the southeast, at Paunar (Deo and Dhavalikar, 1968).

As part of the 1994–1995 field program at Kaundinyapura, a supplementary reconnaissance survey of the region within 10 km of the site was also carried out to assess the surrounding landscape and to recover and record other sites. Within the reconnaissance area's 314 km^2, only one other Early Historic site was found: the small site of Dhamantri, measuring 0.75 ha and located 4 km north of Kaundinyapura and also on the west bank of the Wardha River. These figures are indicative of a relatively dispersed settlement pattern in antiquity, although the capacity of the landscape to sustain a larger population is demonstrated by the presence of 25–30 sites that can be dated to the seventeenth–eighteenth centuries A.D. and later.

Subsequent and detailed investigation was undertaken principally at the site of Kaundinyapura itself. To recover information about the remains present at the site, a surface-survey approach was utilized as a cost-effective alternate to total excavation (cf. Alcock, 1991; Keay *et al.*, 1991; Mattingly, 1992; Morrison, 1990). Although surface artifacts may be subjected to a variety of post-depositional processes (Schiffer, 1987), their study provides the only means of comprehensive data recovery at large sites and permits the evaluation of broad-scale patterns in artifact use. The surface-collection program at Kaundinyapura made use of a systematic, nonaligned random sample strategy where sparse vegetation allowed for a high surface visibility; in areas of the site with dense brush, strips of vegetation were cleared prior to collection. A total of 32,000 artifacts was recovered from 158 sample units, with ceramics being the most abundant artifact category; other artifacts included sandstone items, bricks, tiles, bone, iron and slag, and lithics. These artifact classes were relatively evenly distributed throughout the site, and there were very few indicators of elite wealth such as exotic trade goods, ornaments, or labor-intensive items.

Two categories of ubiquitous goods, micaceous pottery and sandstone objects, can be used to assess trade activities and their impact at Kaundinyapura (see Fig. 2) (see also Smith, 1999). Neither mica nor sandstone is available locally, as the underlying geology of the Wardha River valley consists of basalts and basalt-derived soils representing the easternmost edge of the Deccan Basalt Province covering most of west–central India [Raychaudhuri, 1982 (1960)]. The nearest location of geological deposits containing materials such as sandstone and mica are found in the older Gondwana deposits to the east, at a minimum distance of 75–100 km. The recovery of both micaceous pottery and sandstone implements at Kaundinyapura and the smaller site of Dhamantri prompts the investigation of why these items were desired and acquired. Sandstone and mica have physical properties which make them useful for accomplishing certain kinds of tasks, but the presence of more readily-available substitutes can be documented.

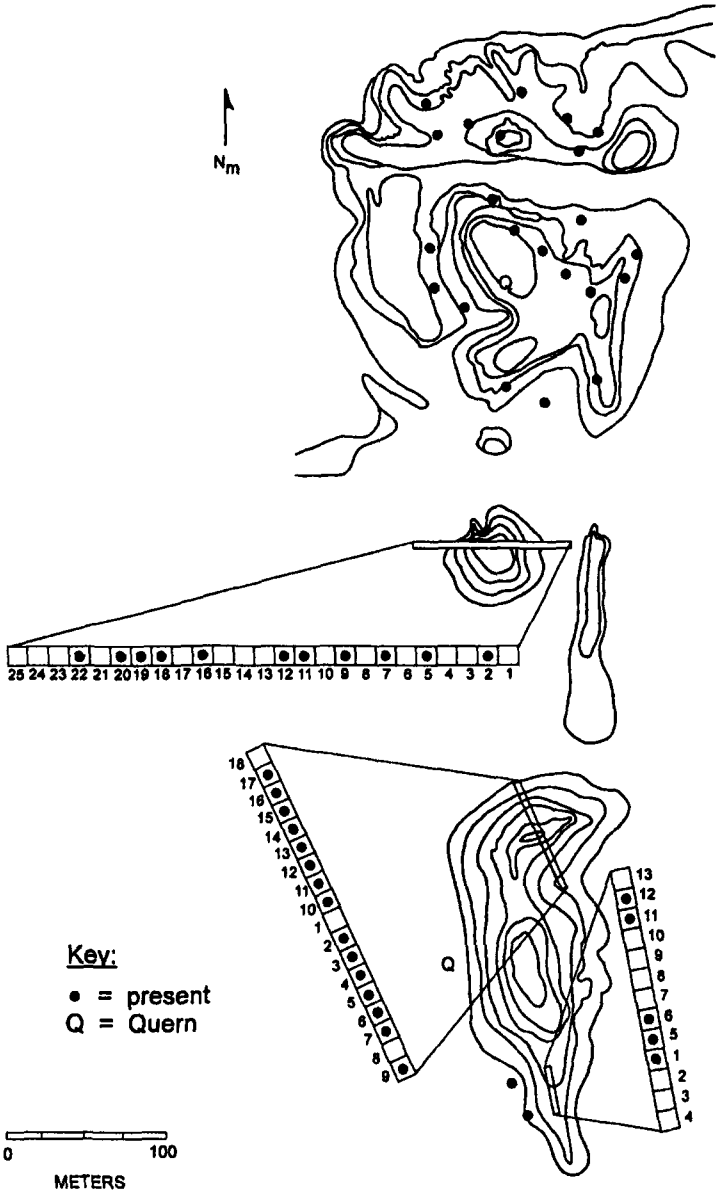

Fig. 2. Distribution of sandstone items and fragments from systematic collection units at Kaundinyapura.

Local substitutes for sandstone grinding tools can be found in the Wardha River valley, in the form of both fine-grained and vesicular basalts, which can be shaped into any form and used for grinding and pounding. However, modified basalt was rarely recovered in the collections at Kaundinyapura (in 13 of the 158 sample units). The advantage of mica in ceramics lies in its ability to improve thermal qualities, but this advantage can also be gained by the use of straw or other organic temper (West, 1992). As a platy substance, mica can help prevent cracking in pottery, but such effects are also produced by calcinated and uncalcinated shell (Rice, 1987a, p. 407). Freshwater shell is available all along the Wardha River, and nearly every collection unit at Kaundinyapura contained a small amount of freshwater shell (usually uncalcinated). In contrast, only mica produces a distinctly shiny appearance; likewise, the bright red or pink color of much of the sandstone found at Kaundinyapura and Dhamantri makes it distinctive among the collection of artifacts.

The contexts in which sandstone and micaceous wares are recovered elsewhere in the Vidarbha region suggest that in the Early Historic and preceding megalithic periods, these materials were invested with symbolic content, in addition to being used as functional equivalents for local items. Micaceous pottery and sandstone, the latter often bearing worn edges from use as a grinding surface, have been recovered from the megalithic burials of the surrounding region. At the (undated) megalithic site of Junapani (located 90 km east of Kaudinyapura), the assemblage of three excavated megaliths included gold ornaments, iron implements, copper ornaments, a bell, and a sandstone pestle, in addition to a variety of ceramics including micaceous ware (*IAR*, 1961–1962). At the (undated) megalithic site of Raipur (80 km east of Kaundinyapura), two of the seven megaliths also contained finely dressed stone objects: one cylindrical pestle of quartzitic sandstone in megalith 3 and one grinding tool made of red quartzitic sandstone in megalith 7 (Deglurkar and Lad, 1992).

The same types of pottery and sandstone implements are also found in the habitation deposits associated with the megaliths or dated to the "megalithic" period in central India (Deo, 1970; Mohanty and Joshi, 1996). The juxtaposition in burial contexts of what appears to be ordinary household articles, such as pottery and sandstone grinding tools, with preciosities such as gold ornaments and iron tools indicates that objects of everyday domestic use were invested with the capacity to identify or confirm the identification of the deceased. The ready availability of functionally-equivalent local substitutes at Kaundinyapura and its environs indicates that the acquisition of sandstone and mica was undertaken for symbolic as well as functional reasons. The presence of identical goods at sites elsewhere in the region suggests that the inhabitants of Kaundinyapura participated in a shared regional tradition that was expressed in material goods.

As in other archaeological cases, the evidence for such traditions in the Vidarbha region is limited principally to durable goods, although there is some

indication that perishable goods were also exchanged. For example, rice is documented in the paleobotanical record of Kaundinyapura and other sites in the Deccan basalt province, although the region is not suited for growing rice (Dikshit, 1968; Kajale, 1988; Vishnu-Mittre, 1966). Ethnohistoric documentation of rice production in the nineteenth century also shows that rice was grown in the same geologic region from which the sandstone and mica were obtained [Graham, 1913–1914; Grant, 1984 (1870)].

THE INTEGRATION OF PRODUCTION AND CONSUMPTION

The widespread use of nonlocal goods such as micaceous pottery, sandstone, and rice at Kaundinyapura can be compared to other anthropologically documented cases in which the visible consumption of ordinary goods are a declaration of a household's religious, ethnic, and social standing [e.g., Aniakor, 1996; Douglas and Isherwood, 1996 (1979); Miller, 1985, 1990; Wilk, 1990]. Yet the study of consumption necessarily implicates the study of production as well, for two reasons. First, the demand for particular attributes affects the manner in which goods are produced, the choice of materials, and the style of the finished product. Modern material-culture studies have indicated the effect of consumers upon producers by noting that consumer preferences affect the design specifications of goods (Gottdiener, 1995). Significantly, this effect takes place despite the presence of advertising which is intended to propel the consumer toward certain choices, and in many cases items are adopted and utilized for reasons not initially proposed by manufacturers (e.g., Miller, 1987; Schiffer, 1991).

At Kaundinyapura, the participation in a shared tradition manifested in material goods encompassed the transmission of "style" as well as physical items. Ceramic finewares in a distinctive bowl form are found throughout the Vidarbha region in sites of the Early Historic period. The participation in this regional style was achieved through local production, as shown by a comparison of archaeologically recovered ceramics with local clay sources. A limited study of such sources using X-ray diffraction compared identical ceramics from Kaundinyapura and the site of Raipur. The analysis showed that although the Raipur examples contained traces of mica, which could be attributed to the presence of mica in local clays, the Kaundinyapura samples were mica-free. Subsequent tests showed that the Kaundinyapura materials instead matched local clays (Smith, 1997; see also Deglurkar and Lad, 1992).

The second reason for the relationship between production and consumption is that the acquisition of goods implies the production of a surplus (of labor, time, and/or physical goods) that can be converted into purchasing power utilizing mechanisms of distribution. Different kinds of "surplus" would have permitted the inhabitants to consume nonlocal goods, including the production of surplus durable goods suitable for exchange in a variety of venues: place-bound exchanges

with itinerant traders, as well as periodic markets and fairs, perhaps associated with religious festivals. The production of surplus also included the production of leisure time, which would have allowed the inhabitants of the Wardha valley to journey to the sandstone-bearing regions to the east.

In a landscape lacking a formal political order to provide stability and a basis for interaction, kin networks remain the single most important mechanism of contact. Given the low population density of the Vidarbha region in the Early Historic period, the growth and development of these networks appear to have been prompted by social considerations rather than a need to rely on outsiders for subsistence goods. Within a 10-km radius of Kaundinyapura is an abundant supply of alluvial land along the banks of the Wardha River. A test of the productive capacity of the landscape is available through an examination of nineteenth-century documents, which indicate grain yields for rain-fed agriculture. Although yields fluctuate on an annual basis, the use of both winter and summer crops allows for the maintenance of a consistently high level of food production. These crops are evident in the paleobotanical record of Early Historic period sites as well; calculations based on preindustrial agricultural practices indicate that even the minimal yields would have been more than sufficient to support the estimated 600–800 inhabitants of Kaundinyapura in the Early Historic period (Smith, 1996b). Agricultural surplus, either as grain or through the conversion of grain into domestic animals, would thus have provided one form of tradable surplus (cf. Halstead, 1996, p. 23).

The surplus production of durable goods is also suggested by the archaeological evidence from Kaundinyapura. Systematic pedestrian survey did not produce evidence of subsidiary production zones away from the mounded areas of the site, but there are two other means by which production activities in durable goods can be assessed: by inference through the examination of the products themselves and through the study of waste materials from manufacture. As noted above, compositional analysis indicated that finewares were locally produced. Additional indicators of local production at Kaundinyapura were found in the form of chert flakes, heat-reddened cherts, and metal slag (see Fig. 3). The distribution of these artifacts support the interpretation of a household-level manufacture of durable goods, some of which was probably destined for exchange.

As the example from Kaundinayapura illustrates, the production of durable goods and agricultural products is managed by households to meet a minimum threshold that includes providing for social as well as biological subsistence. While biological subsistence refers to the physical requirements to sustain life, "social subsistence" can be defined as the activities through which households demonstrate that they are part of a community, including the use of appropriate clothing, architecture, foods, and ritual items. The requirements of social subsistence are met by the production of surplus to trade away for nonlocal goods and others' specialized production, as well the production of surplus devoted to ceremonial and communal activities (for the latter, see, e.g., Johnson and Earle, 1987; Wolf, 1966). Production is thus subservient to consumption, because the need for goods

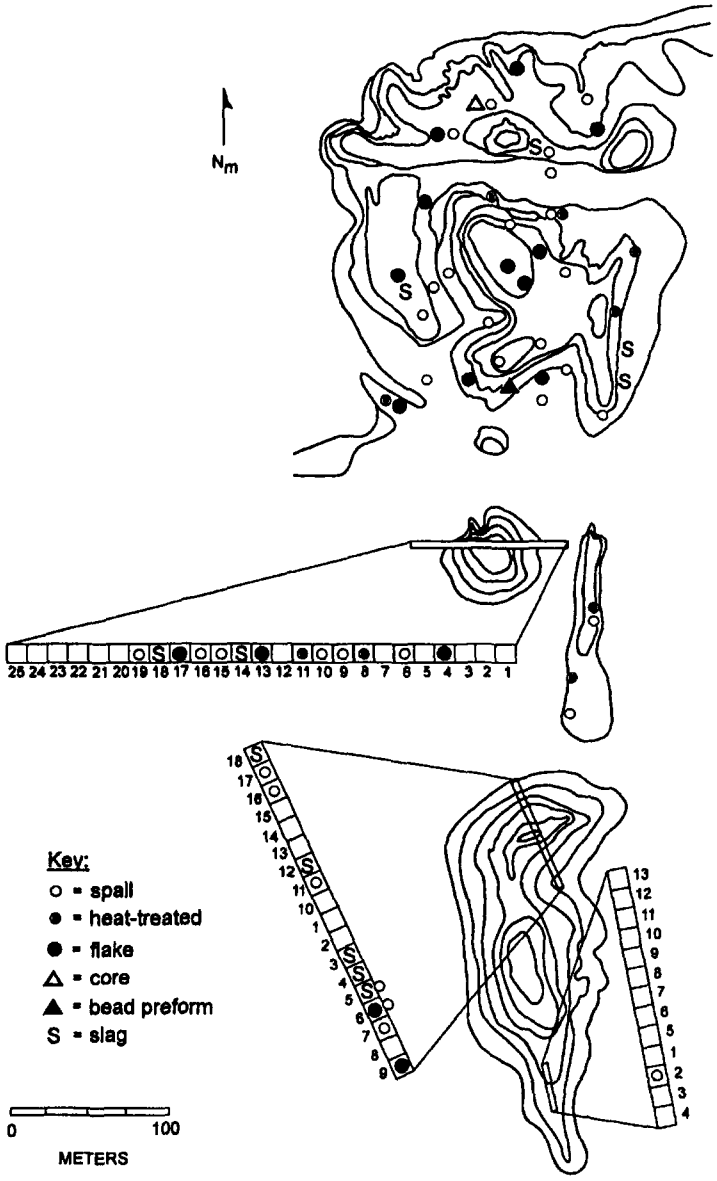

Fig. 3. Production indicators at Kaundinyapura.

dictates the rate of production activities as well as the form, content, and style of finished products.

DISCUSSION

Exchange activities can be maintained at the household level in the face of significant logistical constraints such as political instability, the lack of a formal trade infrastructure, and natural limitations on transportation. At Kaundinyapura, exchange activities appear to have been the result primarily of a social impetus, in which economic activities were managed by households to ensure "social subsistence" through the production of surplus for exchange. The widespread use of domestic goods such as sandstone implements, micaceous pottery, and rice was a physical manifestation of the links between Kaundinyapura and its neighbors to the east.

By manufacturing and consuming goods such as pottery within the parameters of a regional style, and by utilizing nonlocal domestic goods as a visible component of household activities, the inhabitants of Kaundinyapura signaled their participation in a wider social sphere. This demonstration of social cohesion had benefits in the maintenance of long-distance kinship networks, but also may have proven essential in the occasional event of long-term crop failures for which the normal solutions (such as storage and the reallocation of labor) provided inadequate. Such conditions would have presented themselves very rarely, perhaps not even once per generation, meaning that the maintenance of trade links solely for the mitigation of occasional catastrophes would have been a relatively costly strategy compared to alternate strategies such as a reliance on wild foods.

These basic social links, maintained by kin-based networks and manifested in material goods through exchange, were maintained in the absence of a dominant political authority. It can also be argued that these social links were the required foundation for any subsequent imposition of hierarchical systems. Two such developments in the Indian subcontinent can be considered: the caste system and the advent of state-level political organization. The caste "system" has been the subject of endless fascination for Western anthropologists and has generated a considerable body of literature, the discussion of which is well beyond the scope of this paper [for a summary of scholarship on caste (see Inden, 1990)]. In general, however, it appears that the structure of caste, with its prescriptive economic and ritual divisions, began to develop as a formal hierarchical system only after the Early Historic period [e.g., Altekar, 1982 (1960); Ramesh, 1992; Thapar, 1992; Yarlagadda, 1993]. The presence of strong social ties throughout the megalithic and Early Historic period also fostered the eventual development of political groups. The first well-organized polity in central India was the Vakataka chiefdom, which established itself in the fourth century A.D. in the vicinity of Nagpur, about 100 km east of Kaundinyapura [Altekar, 1982 (1960)]. This event

coincided with the beginning of a depopulation of the area of Kaundinyapura, which may have resulted when the region's sparse population was drawn toward a new, semiurbanized center with needs for labor and resources.

In central India, the development of both social stratification and political consolidation was preceded by a long period of relative undifferentiation, represented archaeologically by the even distribution of material goods. As a general rule, this demonstration of ubiquity should continue even after hierarchies are imposed, since levels of consumption (in foodstuffs, clothing, and building materials) are expanded and supplemented, rather than fundamentally altered, to show the presence of elites.

CONCLUSION

The archaeological investigation of Kaundinyapura and its environs indicates that the consumption of goods at the household level was matched by the production of surplus at the household level as well, indicating an economy in which decisions regarding social and biological subsistence were made at a household rather than at a centralized level. With greater attention to the consumption of ordinary goods at the household level in other archaeologically known societies, a considerable autonomy in household consumption should be revealed even at the level of incipient states (see, e.g., Pollock *et al.*, 1996). The presence of a state level of economic organization would therefore consist merely of the addition of certain items to the domestic repertoire, rather than a complete reorganization of domestic consumption patterns.

The need for a physical accompaniment to social interaction provides a powerful explanatory perspective for the establishment and maintenance of trade networks, where the motivation for exchange activity rests in the use of goods to symbolize household and individual status and to provide a frame of reference for subsequent communication. The widespread recovery of a shared material culture suggests that in premodern times, political stability was not an essential prerequisite for economic activity or other forms of social cohesion. Instead, households' need for goods promoted the establishment and maintenance of trade networks long before the advent of state-level political structures. Ordinary goods, in their appearance and physical composition, recalled to their possessors and observers the larger-scale cultural links which the inhabitants maintained with their neighbors in a landscape of dispersed population. The social ties fostered and exhibited in the exchange of goods were, in turn, a necessary foundation for any increase in sociopolitical complexity.

ACKNOWLEDGMENTS

I would like to thank the Archaeological Survey of India for permission to work at Kaundinyapura and the American Institute of Indian Studies for logistical

and administrative support. Funding for this project was provided by the Wenner–Gren Foundation for Anthropological Research (Grant 5860) and the Department of Anthropology, the Rackham School of Graduate Studies, and the International Institute, all of the University of Michigan. Many thanks go to Dr. V. Gogte of Deccan College for the results of the X-ray diffraction analysis on the ceramics from Kaundinyapura and Dhamantri. For their thoughtful comments on the work encompassed in this paper, I would like to thank Henry Wright, Jeff Parsons, Carla Sinopoli, and Tom Trautmann; for his assistance with linguistics, much appreciation goes to Bruce Mannheim. For the additional comments that have significantly improved this text, I would like to thank Martin Biskowski, Michael Schiffer, James Snead, John Steinberg, and several anonymous reviewers.

REFERENCES CITED

Alcock, S. E. (1991). Urban survey and the polis of Phlius. *Hesperia* **60**: 421–463.

Allen, K. M. S. (1992). Iroquois ceramic production: A case study of household-level organization. In Bey, G. J., III, and Pool, C. A. (eds.), *Ceramic Production and Distribution: An Integrated Approach*, Westview Press, Boulder, CO, pp. 133–154.

Altekar, A. S. [1982 (1960)]. The history of the Vakatakas. In Yazdani, G. (ed.), *The Early History of the Deccan*, Oriental Books, New Delhi, pp. 151–200.

Aniakor, C. (1996). Household objects and the philosophy of Igbo social space. In Arnoldi, M. J., Geary, C. M., and Hardin, K. L. (eds.), *African Material Culture*, Indiana University Press, Bloomington, pp. 214–242.

Begley, V. (1991). Ceramic evidence for pre-*Periplus* trade on the Indian coasts. In Begley, V., and de Puma, R. D. (eds.), *Rome and India*, University of Wisconsin, Madison, pp. 157–196.

Begley, V., and de Puma, R. D. (eds.) (1991). *Rome and India*, University of Wisconsin, Madison.

Berdan, F. (1989). Trade and markets in precapitalist states. In Plattner, S. (ed.), *Economic Anthropology*, Stanford University Press, Stanford, CA, pp. 78–107.

Binford, L. R. (1962). Archaeology as anthropology. *American Antiquity* **28**(2): 217–225.

Boussac, M.-F., and Salles, J.-F. (eds.) (1995). *Athens, Aden, Arikamedu: Essays on the Interrelations Between India, Arabia and the Eastern Mediterranean*, Manohar, New Delhi.

Braudel, F. [1992 (1979)]. *The Wheels of Commerce*, Reynolds, S. (trans.), University of California Press, Berkeley.

Brown, J. A. (ed.) (1971). Approaches to the social dimensions of mortuary practices. *Memoirs of the Society for American Archaeology* 25.

Brumfiel, E. M. (1987). Elite and utilitarian crafts in the Aztec state. In Brumfiel, E., and Earle, T. K. (eds.), *Specialization, Exchange and Complex Societies*, Cambridge University Press, Cambridge, pp. 102–118.

Brumfiel, E. M., and Earle, T. K. (1987). Specialization, exchange and complex societies: An introduction. In Brumfiel, E., and Earle, T. K. (eds.), *Specialization, Exchange and Complex Societies*, Cambridge University Press, Cambridge, pp. 1–9.

Campbell, C. (1995). The sociology of consumption. In Miller, D. (ed.), *Acknowledging Consumption*, Routledge, London, pp. 96–126.

Casson, L. (ed.) (1989). *The Periplus Maris Erythraei*, Princeton University Press, Princeton, NJ.

Conkey, M. (1978). Style and information in cultural evolution: Toward a predictive model for the Paleolithic. In Redman, C. L., Berman, M. J., Curtin, E. V., Langhorne, W. T., Jr., Versaggi, N. M., and Wanser, J. C. (eds.), *Social Archaeology*, Academic Press, New York, pp. 61–85.

Costin, C. L. (1991). Craft specialization: Issues in defining, documenting, and explaining the organization of production. In Schiffer, M. B. (ed.), *Archaeological Method and Theory, Vol. 3*, University of Arizona Press, Tucson, pp. 1–56.

Deglurkar, G. B., and Lad, G. P. (1992). *Megalithic Raipur (1985–1990)*, Deccan College and Post-Graduate Institute, Pune.

Deo, S. B. (1970). *Excavations at Takalghat and Khapa (1968–69)*, Nagpur University, Nagpur.
Deo, S. B., and Dhavalikar, M. K. (1968). *Paunar Excavation 1967*, Nagpur University, Nagpur.
Dikshit, M. G. (1955). *Tripuri 1952*, Government of Madhya Pradesh.
Dikshit, M. G. (1968). *Excavations at Kaundinyapura*, Director of Archives and Archaeology, Bombay.
Douglas, M., and Isherwood, B. [1996 (1979)]. *The World of Goods*, Routledge, London.
Earle, T. K. (1990). Style and iconography as legitimation in complex chiefdoms. In Conkey, M. W., and Hastorf, C. A. (eds.), *The Uses of Style in Archaeology*, Cambridge University Press, Cambridge, pp. 73–81.
Fine, B., and Leopold, E. (1990). Consumerism and the Industrial Revolution. *Social History* **15**(2): 151–179.
Finlay, R. (1992). Portuguese and Chinese maritime imperialism: Camoes's *Lusiads* and Luo Maodeng's *Voyage of the San Bao Eunuch. Comparative Studies in Society and History* **34**(2): 225–241.
Gledhill, J., and Larsen, M. (1982). The Polanyi paradigm and a dynamic analysis of archaic states. In Renfrew, C., Rowlands, M., and Seagraves, B. (eds.), *Theory and Explanation in Archaeology*, Academic Press, New York, pp. 197–229.
Glennie, P. (1995). Consumption within historical studies. In Miller, D. (ed.), *Acknowledging Consumption*, Routledge, London, pp. 164–203.
Gottdiener, M. (1995). *Postmodern Semiotics: Material Culture and the Forms of Postmodern Life*, Blackwell, Oxford.
Graham, R. J. D. (1913–1914). Preliminary note on the classification of rice in the Central Provinces. *Memoirs of the Department of Agriculture in India* (Botanical Series) **6**: 209–229.
Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology* **91**(3): 481–510.
Grant, C. [1984 (1870)]. *The Gazetteer of the Central Provinces of India*, 2nd ed., Usha Jain, New Delhi.
Gregory, C. A. (1982). *Gifts and Commodities*, Academic Press, London.
Halstead, P. (1996). Pastoralism or household herding? Problems of scale and specialization in early Greek animal husbandry. *World Archaeology* **28**(1): 20–42.
Hamilton, G. G., and Lai, C.-K. (1989). Consumerism without capitalism: Consumption and brand names in late imperial China. In Rutz, H. J., and Orlove, B. S. (eds.), *The Social Economy of Consumption*, University Press of America, Lanham, MD, pp. 253–279.
Inden, R. (1990). *Imagining India*, Blackwell, Oxford.
IAR (Indian Archaeology, a Review) (1961–1962). Archaeological Survey of India.
Jain, J. P. (1964). *The Jaina Sources of the History of Ancient India (100 BC to AD 900)*, Munshi Ram Manohar Lal, Delhi.
Johnson, A. W., and Earle, T. K. (1987). *The Evolution of Human Societies*, Stanford University Press, Stanford, CA.
Kajale, M. D. (1988). Ancient plant economy at chalcolithic Tuljapur Garhi, District Amraoti, Maharasthra. *Current Science* (Bangalore) **57**(5): 377–379.
Keay, S., Crieghton, J., and Jordan, D. (1991). Sampling ancient towns. *Oxford Journal of Archaeology* **10**(3): 371–383.
Lightfoot, C. S. (1989). *A Catalog of Glass Vessels in Afyon Museum*, British Archaeological Reports International Series 530.
Liu, X. (1988). *Ancient India and Ancient China: Trade and Regional Exchanges AD 1–600*, Oxford University Press, Delhi.
Macdonald, S. (1996). Introduction. In Macdonald, S., and Fyfe, G. (eds.), *Theorizing Museums: Representing Identity and Diversity in a Changing World*, Blackwell, Oxford, pp. 1–18.
Mattingly, D. J. (1992). The field survey: Strategy, methodology and preliminary results. In Mattingly, D., and Ben Lazreg, N. (eds.), *Leptiminus (Lamta): A Roman Port City in Tunisia, Journal of Roman Archaeology Supplement* **4**: 89–114.
McKendrick, N. (1982). The consumer revolution of eighteenth-century England. In McKendrick, N., Brewer, J., and Plumb, J. H. (eds.), *The Birth of a Consumer Society: The Commercialization of Eighteenth-Century England*, Indiana University Press, Bloomington, pp. 9–33.
Miller, D. (1985). *Artefacts as Categories*, Cambridge University Press, Cambridge.
Miller, D. (1987). *Material Culture and Mass Consumption*, Basil Blackwell, London.

Miller, D. (1990). Fashion and ontology in Trinidad. *Culture and History* **7**: 49–77.
Miller, D. (1995). Consumption and commodities. *Annual Review of Anthropology* **24**: 141–161.
Mirashi, V. V. (1981). *The History and Inscriptions of the Satavahanas and the Western Kshatrapas*, Maharashtra State Board for Literature and Culture, Bombay.
Mohanty, R. K., and Joshi, P. S. (1996). The megalithic problem of Vidarbha: Retrospect and prospect. In Margabandhu, C., and Ramachandran, K. S. (eds.), *Spectrum of Indian Culture*, Agam Kala Prakashan, Delhi, pp. 157–169.
Mohanty, R. K., and Walimbe, S. R. (1996). An investigation into the mortuary practices of Vidarbha megalithic cultures. In Margabandhu, C., and Ramachandran, K. S. (eds.), *Spectrum of Indian Culture*, Agam Kala Prakashan, Delhi, pp. 136–149.
Morrison, K. D. (1990). Patterns of urban occupation: Surface collections at Vijayanagara. In Taddei, M., and Callieri, P. (eds.), *South Asian Archaeology 1987*, IsMEO, Rome, pp. 1111–1126.
Morrison, K. D. (1994). The intensification of production: Archaeological approaches. *Journal of Archaeological Method and Theory* **1**: 111–159.
Mukherjee, B. N. (1992). A note on the original habitat and kingdom of the Vakatakas. In Shastri, A. M. (ed.), *The Age of the Vakatakas*, Harman, New Delhi, pp. 21–26.
Orlove, B. S., and Rutz, H. J. (1989). Thinking about consumption: A social economy approach. In Rutz, H. J., and Orlove, B. S. (eds.), *The Social Economy of Consumption*, University Press of America, Lanham, MD, pp. 1–57.
Orton, N. P. (1991). Red Polished Ware in Gujarat: A catalogue of twelve sites. In Begley, V., and de Puma, R. E. (eds.), *Rome and India*, University of Wisconsin, Madison, pp. 46–81.
O'Shea, J. M. (1984). *Mortuary Variability: An Archaeological Investigation*, Academic Press, Orlando, FL.
Parasher-Sen, A. (ed.) (1993). *Social and Economic History of Early Deccan*, Manohar, New Delhi.
Parkin, D. (1993) Nemi in the modern world: Return of the exotic? *Man* (n.s.) **28**(1): 79–99.
Plattner, S. (1989a). Introduction. In Plattner, S. (ed.), *Economic Anthropology*, Stanford University Press, Stanford, CA, pp. 1–20.
Plattner, S. (1989b). Markets and marketplaces. In Plattner, S. (ed.), *Economic Anthropology*, Stanford University Press, Stanford, CA, pp. 171–208.
Polanyi, K. [1975 (1951)]. Traders and trade. In Sabloff, J. A., and Lamberg-Karlovsky, C. C. (eds.), *Ancient Civilization and Trade*, University of New Mexico Press, Albuquerque, pp. 133–154.
Pollock, S., Pope, M., and Coursey, C. (1996). Household production at the Uruk Mound, Abu Salabikh, Iraq. *American Journal of Archaeology* **100**(4): 683–698.
Preteceille, E., and Terrail, J.-P. (1985). *Capitalism, Consumption and Needs*, Matthews, S. (trans.), Basil Blackwell, London.
Ramesh, K. V. (1992). On the Vakatakas and their inscriptions. In Shastri, A. M. (ed.), *The Age of the Vakatakas*, Harman, New Delhi, pp. 27–32.
Rao, G. V. [1982 (1960)]. The pre-Satavahana and Satavahana periods. In Yazdani, G. (ed.), *The Early History of the Deccan*, Oriental Books, New Delhi, pp. 65–147.
Ray, H. P. (1985). Trade in the western Deccan under the Satavahanas. *Studies in History* (new series) **1**(1): 15–35.
Ray, H. P. (1986). *Monastery and Guild: Commerce Under the Satavahanas*, Oxford University Press, Delhi.
Raychaudhuri, H. [1982 (1960)]. The geography of the Deccan. In Yazdani, G. (ed.), *The Early History of the Deccan*, Oriental Books, New Delhi, pp. 1–63.
Renfrew, C. (1975). Trade as action at a distance. In Sabloff, J. A., and Lamberg-Karlovsky, C. C. (eds.), *Ancient Civilization and Trade*, University of New Mexico Press, Albuquerque, pp. 3–59.
Rice, P. M. (1981). Evolution of specialized pottery production: A trial model. *Current Anthropology* **22**(3): 219–240.
Rice, P. M. (1987a). *Pottery Analysis*, University of Chicago, Chicago.
Rice, P. M. (1987b). Economic change in the Lowland Maya Late Classic period. In Brumfiel, E., and Earle, T. K. (eds.), *Specialization, Exchange and Complex Societies*, Cambridge University Press, Cambridge, pp. 76–85.
Rogers, J. D. (1990). *Objects of Change*, Smithsonian Institution, Washington, DC.

Sackett, J. R. (1977). The meaning of style in archaeology: A general model. *American Antiquity* **42**: 369–380.

Sahlins, M. (1972). *Stone Age Economics*, Aldine, Chicago.

Sankalia, H. D, Deo, S. B., Ansari, Z. D., and Ehrhardt, S. (1960). *From History to Prehistory at Nevasa (1954–56)*, Deccan College Post-Graduate and Research Institute, Poona.

Sarkar, H. (1987). Emergence of urban centres in Early Historical Andhradesa. In Pande, B. M., and Chattopadhyaya, B. D. (eds.), *Archaeology and History*, Agam Kala Prakashan, Delhi, pp. 631–641.

Schiffer, M. B. (1987). *Formation Processes of the Archaeological Record*, University of New Mexico Press, Albuquerque.

Schiffer, M. B. (1991). *The Portable Radio in American Life*, University of Arizona Press, Tucson.

Schiffer, M. B., and Skibo, J. M. (1997). The explanation of artifact variability. *American Antiquity* **62**(1): 27–50.

Schneider, J. (1977). Was there a precapitalist world-system? *Journal of Peasant Studies* **6**(1): 20–29.

Schopen, G. (1997). *Bones, Stones, and Buddhist Monks*, University of Hawai'i Press, Honolulu.

Sidebotham, S. E. (1989). Ports of the Red Sea and the Arabia–India trade. In French, D. H., and Lightfoot, C. S. (eds.), *The Eastern Frontier of the Roman Empire*, British Archaeological Reports International Series 553, Oxford, pp. 485–513.

Smith, A. [1976 (1776)]. *An Inquiry into the Nature and Causes of the Wealth of Nations*, Clarendon, Oxford.

Smith, C. A. (1976). Exchange systems and the spatial distribution of elites: The organization of stratification in agrarian societies. In Smith, C. A. (ed.), *Regional Systems, Vol. II: Social Systems*, Academic Press, New York, pp. 309–374.

Smith, M. L. (1996a). Regional exchange in the central Indian subcontinent in the early centuries A.D.: Stable isotopes and marine-shell provenience. Presented at the Society for American Archaeology 61st Annual Meeting, New Orleans.

Smith, M. L. (1996b). Early Historic and early modern: Reconstructing ancient economic landscapes from nineteenth-century documents. Presented at the 25th Annual Conference on South Asia, Madison, WI.

Smith, M. L. (1997). *Strong Economies, Weak Polities: The Archaeology of Central India in the Early Centuries A.D.*, University Microfilms, Ann Arbor, MI.

Smith, M. L. (in press). Economic and social interactions at an Early Historic site: Recent fieldwork at Kaundinyapura, India. In *South Asian Archaeology 1997*, Conference Proceedings of the European Association of South Asian Archaeologists.

Stark, B. L. (1985). Archaeological identification of pottery-production locations: Ethnoarchaeological and archaeological data in Mesoamerica. In Nelson, B. A. (ed.), *Decoding Prehistoric Ceramics*, Southern Illinois University Press, Carbondale, pp. 158–194.

Subramanian, N. (1972). *History of Tamilnad (to AD 1336)*, Koodal, Madurai.

Thapar, R. (1992). Patronage and the community. In Miller, B. S. (ed.), *The Powers of Art: Patronage in Indian Culture*, Oxford University Press, Delhi, pp. 19–34.

Thapar, R. (1997). *Asoka and the Decline of the Mauryas*, new rev. ed. Oxford University Press, Delhi.

Tringham, R., and Krstić, D. (1990). Conclusion: Selevac in the wider context of European prehistory. In Tringham, R., and Krstić, D. (eds.), *Selevac: A Neolithic Village in Yugoslavia*, Monumenta Archaeologia Vol. 15, Institute of Archaeology, UCLA, Los Angeles, pp. 567–616.

Turner, T. S. (1980). The social skin. In Cherfas, J., and Lewin, R. (eds.), *Not Work Alone*, Temple Smith, London, pp. 112–140.

Vishnu-Mittre (1966). Kaundinyapur plant economy in protohistoric and historic times. *The Palaeobotanist* (Lucknow) **15**(1,2): 152–156.

Wallerstein, I. (1974). *The Modern World-System I: Capitalist Agriculture and the Origins of the European World—Economy in the Sixteenth Century*, Academic Press, San Diego.

Warde, A. (1990). Introduction to the sociology of consumption. *Sociology* **24**(1): 1–4.

Wattenmaker, P. (1994). State formation and the organization of domestic craft production at third-millennium B.C. Kurban Hoyuk, southeast Turkey. In Schwartz, G. M., and Falconer, S. E. (eds.), *Archaeological Views from the Countryside*, Smithsonian Institution, Washington, DC, pp. 109–120.

Wayman, A., and Rosen, E. (1990). The rise of Mahayana Buddhism and inscriptional evidence at Nagarjunakonda. *Indian Journal of Buddhist Studies* **2**(1): 49–65.

West, S. M. (1992). *Temper, Thermal Shock and Cooking Pots: A Study of Tempering Materials and Their Physical Significance in Prehistoric and Traditional Cooking Pottery*, M.S. thesis, Department of Materials Science and Engineering, University of Arizona.

Whittaker, J. C., Ferg, A., and Speth, J. D. (1988). Arizona bifaces of Wyoming chert. *The Kiva* **53**(4): 321–334.

Wiessner, P. (1983). Style and social information in Kalahari San Projectile points. *American Antiquity* **49**: 253–276.

Wilk, R. (1990). Consumer goods as dialogue about development. *Culture and History* **7**: 79–100.

Wolf, E. R. (1966). *Peasants*, Prentice Hall, Englewood Cliffs, NJ.

Wright, H. T. (1984). Pre-state political formations. In Earle, T. (ed.), *The Evolution of Complex Societies: The Harry Hoijer Lectures for 1982*, Undena Press, Malibu, CA, pp. 41–78.

Yarlagadda, T. (1993). Social groups and economic change 7th–13th century A.D. In Parasher-Sen, A. (ed.), *Social and Economic History of Early Deccan*, Manohar, New Delhi, pp. 158–239.