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Dimensions of Imperial Control the Vijayanagara Capital

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# Dimensions of Imperial Control

## The Vijayanagara Capital

THE STUDY OF ANCIENT EMPIRES poses significant challenges to archaeology. These challenges arise both from the large spatial scale that empires by definition encompass and from the differential spatial and temporal impact of efforts by imperial elites to control the activities and persons of imperial subjects. We suggest that, as a consequence of this variability, overarching models of imperial control have a limited utility and are most effective when tempered with detailed examinations of particular times and places within an empire.<sup>1</sup> We examine Vijayanagara imperial control at its capital through a consideration of variable contexts for and objects of imperial control. Relations of power are implicit in any discussion of control. However, rather than address the bases of power in the Vijayanagara empire, we focus instead on some of the potential economic, social, ideological, and military objects of imperial control.

Imperial control of production and reproduction may be subdivided into two broad categories: the control of humans, their labor as well as social and biological reproduction; and the control of access to a wide variety of nonhuman resources. Among the latter are land, raw materials, and tools, as well as the ability to mobilize resources through taxation, tribute, gifts, markets, or plunder.

Given the broad geographic extent that characterizes early empires and the limitations on rates and routes of communication and transport, it is unlikely that rulers of any empire sought to fully regulate all resources (Mann 1986:10; Pearson 1991:44). We therefore expect that imperial control will be exerted or sought differentially, and

will vary widely within and between empires as a result of specific historical and political preconditions to imperial incorporation, regional economic and social structures, and geographic and ecological factors (Schreiber 1987; Alcock 1989). Decisions by rulers and imperial functionaries involve calculations of the costs and benefits of control, in the political and ideological realm, as well as in an economic sense.

The unintended consequences of imperial strategies for control may also have dramatic effects on the polity's organization and stability. In seeking to control and hold together large and diverse polities, imperial rulers tread a delicate line, balancing the benefits of coercion and efficiency with the potential resentments and threats that such strategies inevitably engender. Decision-making concerning foci or emphases for control is thus complex and spatially and temporally varied, involving negotiations and resistance between participants throughout the polity. We suggest that direct imperial control of production and reproduction will focus on those resources, human or material, perceived as most essential to the survival of imperial elites and institutions, while resources deemed less essential will be regulated at local levels or through less costly means. Further, these essential resources will be defined differently according to criteria that include distance from the imperial core, value, and ease of their regulation. Thus, while imperial rulers will likely seek to control production of subsistence resources near their capital, it is probably less likely that they will invest in regulating such production in more distant areas.

Archaeological study of imperial production and reproduction involves an examination of the social and technological organization of production and distribution of individual resources over space and time. Acknowledgment of the complexity and variability of imperial control does not imply that the significance of all resources is attributable solely to the *perceptions* of rulers and ruled. We expect that there are structural consisten-

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constraints among empires in the range of categories of resources more likely to be subject to centralized control. "The first priority of any polity is to provide for its material support and physical safety" (D'Altroy 1992:4), and at least some resources can be directly tied to these priorities. The consideration of a range of both staple and wealth resources and their spatial and temporal variability is necessary for an appreciation of the complexity of imperial production.<sup>2</sup>

Another important focus for imperial control is the realm of ideological discourse and symbolic representation.<sup>3</sup> Influence over the ideological realm can mitigate the costs of coercive economic and political control; ideological claims can also serve to enlist popular support for imperial practices or can conceal or obscure essential relations of power and inequality. The language and knowledge of the gods and the material and social symbols of sacred and secular status provide a potent medium for imperial manipulation and expression, as well as, in some cases, part of the fuel feeding imperial expansion (Conrad and Demarest 1984). Rulers may seek or claim divine sanction, including, in some contexts, assertions of their own divinity. Other assertions of control over the ideological realm can include royal sponsorship of a distinctive and monumental imperial style of architecture, as well as the incorporation of local deities or symbols of power into imperial frameworks.<sup>4</sup> As with other dimensions of imperial control, control of the ideological realm may be actively contested and challenged by subaltern people or competing elites and thus may serve as an arena for opposition and resistance as well as for legitimation (Miller and Tilley 1984).

### The Archaeological Consequences of Control

Imperial power and control, while critical in structuring aspects of social, political, and economic relations, may be difficult to detect archaeologically. Archaeologists have devised sets of expectations regarding the material consequences of imperial control over production, distribution, consumption, and, to a lesser extent, beliefs and values. In large part, these expectations are based on models of imperial incorporation. That is, we have focused more on patterns of change associated with the impact of empire on areas beyond the political core than we have on imperial strategies at the center.

We expect that empires are characterized by some unitary or recognizable style in art, architecture, or other categories of material culture. These imperial objects and structures are associated with elites, either as a result of the movement of elites from the center or the incorporation of local elites.<sup>5</sup> The appearance of these "marker" artifacts and styles ought to be discontinuous with local developments, appearing suddenly and originating from

without.<sup>6</sup> Other material evidence of imperial domination includes artifacts and structures related to administration and militarism, along with shifts in settlement patterns or productive organization.<sup>7</sup>

These material expectations of imperial control tend to be geographically situated. That is, they are often viewed from the perspective of areas brought under control by a distant polity, and not on the material record at the center. This is ironic, inasmuch as the activities of elites at the center are of primary importance to imperial formation and expansion. Discontinuity and disjunction are thought to be imposed from the center outward. But what are the material dimensions of control in the capital? Although this question has been examined in other disciplines, it has been less intensively explored by anthropologists.<sup>8</sup>

Archaeologists have come to expect that imperial cities will exhibit planned layouts somehow expressive of control, as well as monumental architecture, material representations of imperial ideologies, displays of militarism, and the spoils of far-off wars (Blanton et al. 1981:69–70). Other indications of control might include administrative facilities and evidence for the centralization of production and distribution. It is a further step from these activities to their material traces: objects of record-keeping, centralized craft workshops, large government-sponsored and directed irrigation networks, and large central grain stores.

In this vein, it is important to dissociate the features that archaeologists document from the inference of their mode of operation. If the presence of monumental architecture or large-scale constructions such as irrigation works may be taken as indicative of access to relatively large pools of labor, it is not the case that scale in itself is an accurate measure of the nature and extent of effective central control. Just as the direct association between large-scale agricultural facilities and effective centralized political control has been questioned, so too should we be cautious of making similar assumptions about other large-scale constructions.<sup>9</sup> Monumental structures are not straightforward measures or reflections of power and authority, but are instead statements or claims made by elites about the nature and scope of their positions. Thus, we should avoid simply mapping our models of imperial operation onto the material record of imperial cities and regions.

### The Vijayanagara Empire: Historical Context

The Vijayanagara empire was the largest and most effective empire in precolonial south Indian history. The founders were not the creators of the "idea of empire," but were inheritors of a millennium-long tradition of imperial political systems and structures (Inden 1990). Preexisting

political and economic structures, sacred beliefs, and social frameworks, though modified during the Vijayanagara period, were integral to ideological, social, and economic practices and organization.

The empire emerged in the mid-14th century, a time of considerable fragmentation in the south Indian political landscape. Incursions from the north had weakened many traditional seats of power, and earlier large-scale states and empires in the region had largely collapsed, leaving a political environment dominated by multiple small, chiefly centers and little kingdoms (Palat 1987:174; Stein 1989:18). The empire's first rulers, the Sangamas, built their capital along the Tungabhadra River, an area that until this time had limited political or economic import. They began a series of southward conquests and within a short time, the Vijayanagara empire claimed dominion over much of India south of the Tungabhadra (Figure 1).

Three successive dynasties ruled the empire from its first capital. The Sangama dynasty led from approximately 1340 until control was wrested from them by a powerful warlord in 1486. This ruler and his son were the two kings of the Saluva dynasty, themselves replaced by Vijayanagara's third, Tuluva, dynasty in 1503. The Tuluva period marked the apex of imperial extent and authority. Two effective rulers, Krishnadevaraya and his brother Achyutadevaraya recaptured territories lost to rebellion and strengthened centralized control over the realm. Following Achyutadevaraya's death, battles for succession flared and their innovations were not pursued by successive kings. In 1565 the Vijayanagara army suffered a military defeat to a confederacy of five northern states, and the capital was abandoned. The empire persisted in a weakened state until 1684 under the Aravidu dynasty, which ruled from a number of different capitals.

At its maximum, Vijayanagara's rulers laid titular claim to a vast territory and population. The conceptual center of the empire was its first capital located in the uplands of central Karnataka. Surrounding this was an area of about 30,000 square kilometers, which was the area whose resources and labor were most reliably accessible to royal exploitation (Stein 1989:58). The capital city was the center of several international and internal exchange routes, and was a major consumer of subsistence and luxury goods (Subrahmanyam 1990a:78). However, even during Vijayanagara times, south India's major centers of economic productivity and wealth lay far from the capital, in the low-lying coastal rice-growing regions and around major seaports. While the center received economic benefits from these territories, they were probably quite limited.<sup>10</sup> Although the political core of the empire may be defined on the basis of the location of the capital and the empire's ruler, the empire's economic core was located a considerable distance away. Thus, the empire cannot be easily incorporated into traditional core-periphery models of imperial structure (Doyle 1986:22–24).

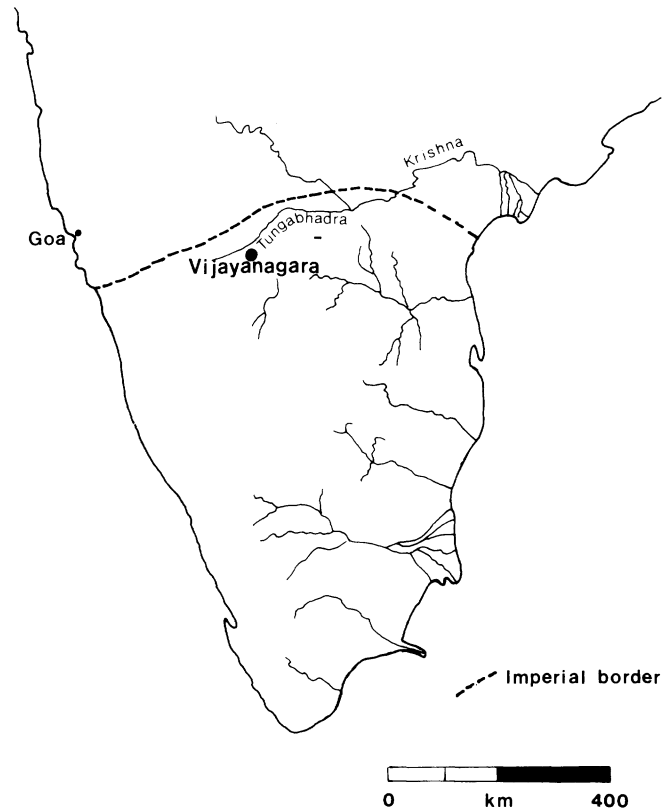
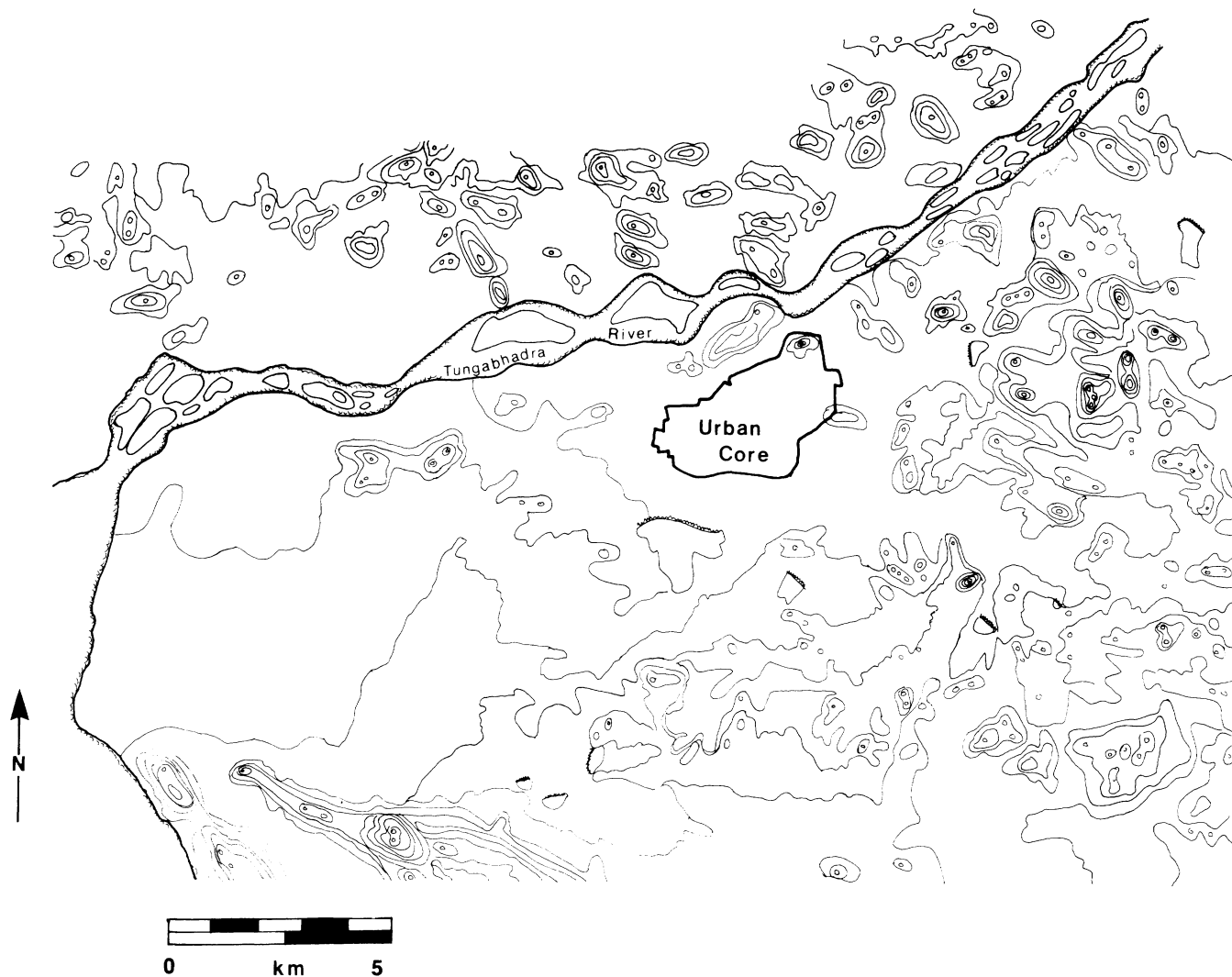


Figure 1  
The Vijayanagara Empire.

## Defining the Capital

The Vijayanagara capital was located near the political frontier of the empire, in an area with long-standing associations as a sacred place associated with both the Hindu god-king Rama and with Shiva (see Fritz 1986). Rainfall in this region is spatially and temporally variable, and perhaps only the location of the city in a fertile alluvial "island" created by a broad bend in the river allowed it to support its dense population (estimates range from 200,000 to 500,000).

Pre-Vijayanagara settlements in the area were relatively small walled communities. While most maintained their identity as separate places throughout the Vijayanagara period, they were overshadowed or even absorbed by the large walled nucleus of the capital (Morrison and Sinopoli, in press). This densely settled region included and extended beyond the ten-square-kilometer walled area that Fritz, Michell, and Nagaraja Rao (1984) have termed the "urban core." A walled elite zone of monumental architecture, the Royal Center, is located in the southwest quadrant of the urban core. Its walls were completed by the late 14th century, although building inside the royal center continued throughout the occupation of the city (Michell 1992:1). As the capital's population expanded and the military successes of the empire multiplied in the



**Figure 2**  
The Vijayanagara Metropolitan Region.

early 16th century, there followed a burst of construction, both of buildings and agricultural facilities, and an expansion of settlement well beyond the urban core walls (Morrison and Sinopoli, in press). The broader urban environment of Vijayanagara encompasses an area of more than 350 square kilometers, including zones of settlement, craft production, and agricultural lands (Figure 2).

Although some occupation predates imperial formation, the city was for the most part constructed during the imperial period. The creation of the capital's features provided a highly visible context for material claims concerning imperial power and status. Massive and opulent temples, elite residences, and fortifications were sponsored by the ruling family and other elites. The capital and its monuments provide evidence of the ability to mobilize vast labor forces and south India's most talented sculptors, masons, and other artisans and craftspeople (Sale-

tore 1982). Inscriptions on many of the major structures at the capital and in the surrounding region allow the documentation of which members of Vijayanagara's elite sponsored particular kinds of constructions and how that varied over time and space (Morrison and Lycett, in press).

Vijayanagara's emergence as an important trade nexus and south India's largest population center contributed to significant alterations of the landscape. As archaeologists, we benefit greatly from the fact that these transformations were short-lived. Following the abandonment of the capital in 1565 the region was once again marginalized in south Indian political history, leaving the remains of Vijayanagara in an extraordinary state of preservation.

#### Archaeological Research at Vijayanagara

Archaeological research at the Vijayanagara capital has had a long but sporadic history, with the earliest

documentation dating to 1800 (Michell 1985a). It was not until the 1970s, however, that systematic archaeological research and documentation projects were initiated (Filiozat 1978, 1979). By the early 1980s major excavation projects were being conducted by the Karnataka Directorate of Archaeology and Museums and the Archaeological Survey of India, and a program of systematic surface documentation and mapping was initiated by Fritz and Michell.<sup>11</sup>

Virtually all of the above-mentioned research has focused on a small area of the Vijayanagara capital: the walled urban core and the more restricted royal center. In 1987, we initiated the Vijayanagara Metropolitan Survey, bringing the techniques of systematic regional survey to the 350-plus-square-kilometer region that encompasses the broader urban environment of Vijayanagara.<sup>12</sup> Located within this zone are hundreds of previously unrecorded discrete archaeological features, including nucleated settlements, production locales and irrigation works, roads, fortifications, shrines and temples. These sites provide a wealth of data on economy, settlement, and structure of the Vijayanagara capital not available from textual sources or material remains within the elite urban core of the city.

## Strategies for Control

### Ideology

Archaeological and historic evidence amply attest to the attempts by Vijayanagara elite to dominate political and religious discourses of control. Both the capital city and the status of the king were closely interwoven with Hindu values and beliefs. The creation of the capital was very much the construction of a sacred landscape. Several important early sacred structures and routes of movement within the urban core were aligned with popularly accepted sacred points in the natural landscape.<sup>13</sup> Both the public and domestic activities of the king rotated around the royal temple dedicated to the ideal god-king Rama (Fritz 1985, 1986). The physical alignment of the temporal king with the perfect divine king cannot have been accidental, but rather was part of a strategy for control of sources of legitimation during the early period of the city's construction.<sup>14</sup> Titles appended to the name of the Vijayanagara rulers by the 15th and 16th centuries provide further evidence of the attempts to utilize religious discourse as part of a legitimating ideology (Kulke 1985; Stein 1980:369).

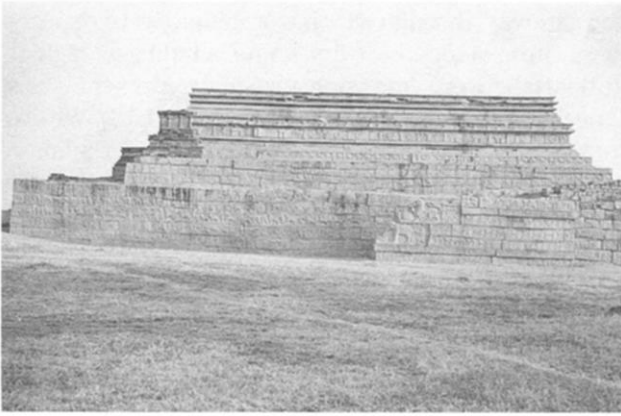
Vijayanagara rulers sponsored the construction of large temple centers at the capital and across the empire (Stein 1960). Changing architectural styles throughout the period attest to the development of a distinctive style of imperial architecture (Michell 1985b, 1992). A striking characteristic of large temples is the impressive multisto-

ried gateway, through which worshipers were required to pass. These stepped towers, some standing as high as 11 stories tall, were imposing physical representations of imperial style and stature (Appadurai 1981:18). We do not know how labor was recruited to construct the massive temples at the capital. Inscriptional evidence suggests that the role of the rulers was limited to the presentation of substantial donations in cash, tax-free lands, and rights in produce to temple managers, who were in turn responsible for management of the complex and allocation and redistribution of temple resources.<sup>15</sup> Other donors to temples included local elites, temple functionaries, merchants, caste groups, and many other communities and individuals (Morrison, in press).

Along with sponsoring temples to the orthodox Hindu deities, Vijayanagara rulers also adopted local deities into their religious pantheon, elevating these regional deities to universal or imperial status. This incorporative and universalizing strategy played a role in symbolically uniting diverse areas of the empire, while at the same time acknowledging the subordination of conquered territories. Local gods were brought to the capital in the form of sculptures and temples to deities such as Virabhadra, Venkateshvara, Vitthala, and Narasimha.<sup>16</sup> The rulers did not limit this incorporation to Hindu deities alone. The empire included numerous Muslims and Jains; architecture at the capital, as well as royal proclamations, attest to royal acknowledgment and support of non-Hindu religious groups (Michell 1992; Thomas 1985:20–21).

Public rituals also were important in ideological control and legitimation. The nine-day Mahanavami festival occurred each fall at the capital and has been described in detail by a 16th-century Portuguese visitor to the city (Domingo Paes, in Sewell 1900). This elaborate festival was a celebration of the reigning king and of the institutions of kingship and empire (Stein 1984). Local rulers (and gods) from throughout the empire were required to come to the capital during the festival and demonstrate their loyalty to king and empire (Stein 1984:318–319). Tributary obligations may also have been paid at this time (Stein 1984:316).

Archaeological evidence for the importance of public ritual is evident in the urban plan and in many of the structures of the capital. Fritz (1985) has documented processional routes within the royal center. Large structures associated with public rituals are found in the administrative zone of the city, including a platform that is undoubtedly the structure described by Paes (in Sewell 1900) as the throne platform used in the Mahanavami festival (Figure 3). The sculpted throne platform, more than ten meters tall, was constructed in three phases spanning the Vijayanagara period (Michell 1982). At its base the square structure is 38 meters on a side; it rises in three tiers and may have been topped by a wooden superstructure. The platform is elaborately sculpted, with mili-



**Figure 3**  
The Mahanavami Dibba (King's Throne Platform).

tary and hunting motifs and seated royal figures, before whom wrestlers, dancers, and acrobats perform and nobles and bearded foreigners bow (Figure 4). Interestingly, not a single image of a deity is sculpted on the structure, perhaps indicative of a symbolic separation between the secular and sacred authority of the king.<sup>17</sup>

In addition to evidence for imperial investment in sacred structures and ritual, the metropolitan region contains evidence of a range of sacred structures and facilities that document a broad participation in the construction, form, and utilization of the sacred landscape (Sinopoli 1993a). Of 370 archaeological sites identified in the first three seasons of the survey, 82 can be classed, in whole or in part, as ritual sites. These range from sculpted images and small shrines to local deities to large elaborate multistructure temple complexes, and occur in a variety of contexts—within settlements, along roads and associated with gates, on hilltops, and in isolated locations. The majority of the sacred sites are small; of 57 sites or features with preserved architecture, more than half ( $n=32$ ) are less than 200 square meters in area. The largest temple complexes ( $n=5$ ) range from 4,000 to 6,000 square meters in area. These diverse features attest to multiple levels of sponsorship in the construction and maintenance of places of worship.

The more formal of these structures and those that involve the greatest investment in resources and labor partake in imperial iconography and architectural forms. Morrison (in press) has quantified inscriptional data, which provide evidence for two peaks of construction activity—the first associated with the 14th-century construction of the capital and imperial emergence, and the second, and larger, associated with the Tuluva dynasty of the early to mid-16th century, just prior to the capital's abandonment (Morrison, in press; Morrison and Lycett, in press). The largest temples in the metropolitan region were constructed during this second peak of activity and

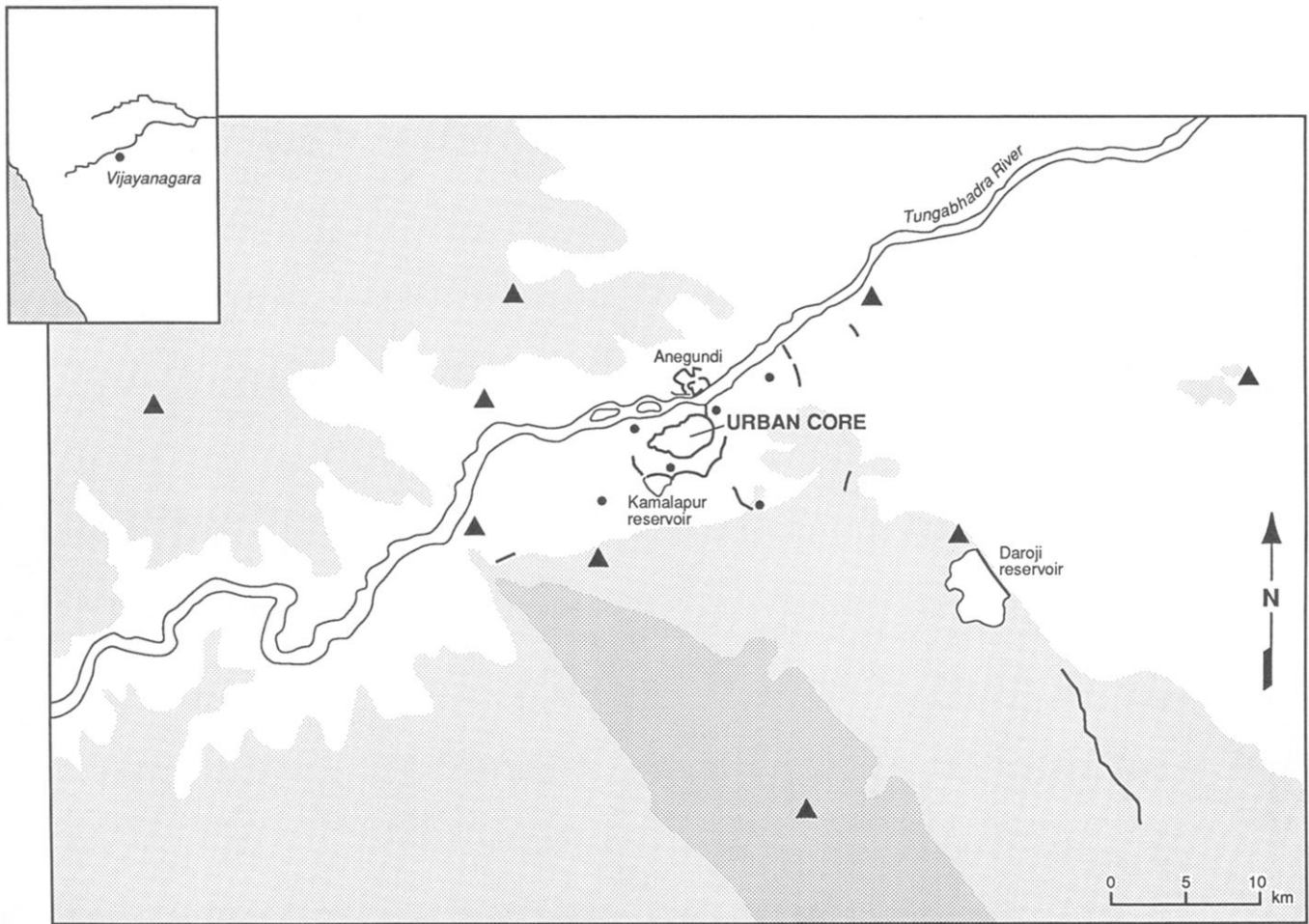
are associated with the late Vijayanagara suburb southeast of the urban core sponsored by Achyutadevaraya (Filliozat and Filliozat 1988). These temples, and those of his successor, Sadasiva, provide iconographic evidence of increasing conservatism in religious affiliation and practice on the part of Vijayanagara kings. Unlike earlier temples, where motifs associated with Shiva and Vishnu coexisted in a single structure, in these late temples only Vaishnava images are found (Verghese 1989:414–416). From an early policy of tolerance and incorporation, there seems to have been a shift to an increasingly narrow expression of religious orthodoxy on the part of the last kings who ruled at the capital.

Other temples within the metropolitan region provide evidence for sponsorship by individual entrepreneurs, including merchants and craftspeople. In these temples the economic success of individuals or families of specialists (in part an outcome of demands and opportunities created by imperial structures) is made manifest in a public medium and setting.

Other shrines are located in relatively inaccessible locations, amid agricultural fields or on rugged hilltops. Some of the latter are associated with outposts, from which routes into the capital were monitored. These are often small, but typically contain elaborate or finely carved sculptures of protector deities including Hanuman or fierce aspects of Shiva. The remaining isolated shrines or images are products of local traditions of worship that existed, as today, side by side with more formal temple worship. These include features sculpted informally or in a folk style, cobra images, aniconic representations, and many impermanent features, such as unfired clay figurines, sacred trees, and offerings of glass bangles, which are associated with women's rituals. These kinds of features document a level of religious activity not directly associated with, or dominated by, imperial activities.



**Figure 4**  
The Mahanavami Dibba: Detail of Carvings.



**Figure 5**

Fortification in the Vijayanagara Metropolitan Region. Areas of lighter shading indicate land over 500 m; areas of darker shading, land over 700 m. Triangles are forts; dark lines are fortification walls; and circles are walled settlements.

**Militarism and Movement**

Along with the sacred connotations of the region, its defensive characteristics also played a role in Vijayanagara’s location. The Tungabhadra River and the massive granitic outcrops inhibited movement into and out of the capital. Outcrops also provided raw materials for construction of imposing fortification walls, towers, bastions, and gateways in and around the city. The city has been defined by archaeologists as an area contained within a ten-square-kilometer area ringed by massive walls. Within this urban core, elites similarly walled off smaller enclosures. By no later than the 16th century, these walls had been extended with an outer ring some three kilometers beyond the earlier walls. This outer ring enclosed the early walled settlement of Kamalapuram as well as the later suburb of Achyutadevaraya containing the late temple complexes discussed above. The two- to six-meter-wide walls were constructed of two faces of dry-laid masonry of interlocking wedge-shaped granite blocks filled by an

earth and rubble core. A small number of heavily fortified gates guarded entry points. These gates would have allowed at most four to five individuals abreast, or a single bullock cart or elephant, to pass through. Platforms and small chambers are typically associated with gates, and likely served as stations for soldiers and toll collectors who monitored movement into and out of the capital. In addition, the walls contain numerous narrow openings that could have accommodated no more than one to two individuals. Other walled settlements are located throughout the region (Figure 5).

Along with the construction of walls, forts, and towers, routes of movement were both formally and informally defined, and significant variation exists in the degree to which movement was constrained or directed. In many places, strategic passes have been partially bounded by fortification walls. The nature of control over movement varied tremendously, from complex and highly circumscribed passages in the royal center to the virtually impassable canal-irrigated zones and the relative open-



ness of dry-farmed areas (Figure 5). In general, fortified zones were areas of reservoir irrigation, or of mixed wet and dry cultivation (Morrison 1993). One massive wall, about 25 kilometers from the city core, incorporates a reservoir embankment spanning a broad valley. On the slopes above it is a massive double-faced masonry wall (Brubaker, in press). The productive and intensively used agricultural valleys were clearly objects of concern, with controlled road access, physically defined and set off from the broad plains to the east. The highly productive canal-irrigated zones were not similarly fortified, except in the small area immediately north of the city, perhaps because of the crisscrossing canals and inundated fields. In addition, the walled settlements on their boundaries constituted effective barriers to movement.

Epigraphic and historic records also provide information about coercive control and the objectives of that control. Vijayanagara political elites invested heavily in military activity, maintaining standing armies, war horses and elephants, and devoting time to military training (Stein 1989:41). The materials of war—horses, elephants, and artillery—were the only items of trade over which the emperors attempted to monopolize control (Stein 1982:117–118). A large standing army, paid in cash, was based at the capital, and during the 16th century, in dispersed military fortresses. This army consisted of Muslim and (later) Portuguese gunners, along with foot soldiers recruited from forest dwelling non-peasant communities found throughout the peninsula (Stein 1989:43). In addition, local leaders were expected to maintain military forces of specified sizes and were, in principle at least, obliged to supply their services to the ruler on demand.<sup>18</sup>

The importance of warfare and military activities is visible in the abundant depictions of horses, elephants, and scenes of war and warriors sculpted on numerous structures in and around the city. While the degree to which Vijayanagara rulers were able to successfully integrate and rule conquered territories is open to question, it does seem to be the case that war, plunder, and military glory were of great importance to the self-definition of these rulers, and to their contemporary reputation of grandeur (Duarte Barbosa in Dames 1918). This accords well with the model of Vijayanagara as an aggressive, territorially expansive empire, and with the monumentality and ubiquity of fortifications at the capital.

On closer examination, however, the nature of physical control—including both the threat of force and the channeling of movement—appears multilayered. Certainly, enclosed and fortified space provided protection against outsiders. The city was besieged several times and was eventually destroyed by invading armies (Nilakanta Sastri 1955:272, 295). However, control over the movement of those welcome inside the walls may well have been equally important. Routes of movement were clearly defined and roads and paths suitable for pack animals and

carts were limited. Control of movement and transport appears to have been closely tied to revenue collection, including taxes on produce, animals, and even people, collected at gateways.<sup>19</sup> Even within the capital, tax collection was not carried out by government functionaries, but was farmed out to private entrepreneurs (Fernaõ Nuniz in Sewell 1900:366). Elite areas and temples were generally walled or otherwise spatially defined. This internal aspect of coercive control is evidenced by the numerous watchtowers, bastions, and lookout points in and around the royal center, far from the city's external gates. On a day-to-day basis it may well be that these facilities were more important in monitoring the resident population than in guarding against foreign armies.

### Production and Distribution

Although concerned with assuring adequate production of agricultural products and prestige and craft goods, there is little evidence that Vijayanagara's rulers or administrative institutions sought to exert direct control over any sphere of economic production. Royal investments in productive activities varied with the nature and importance of the product. Such investments are best viewed as facilitative rather than managerial or coercive. That is, rulers attempted to create favorable conditions for production by altering the physical or social environment in which producers labored. Attempts were made to exert more direct control over access to certain goods, particularly weapons and military animals, as well as over routes of movement of goods. Documentary evidence from throughout the empire and archaeological evidence from the metropolitan region attest to energies invested in building and maintaining secure roads, including the use of troops to assure the protection of merchants and travelers (Mahalingam 1975:165–167).

Vijayanagara's population invested considerable energy in the cultivation and expansion of agricultural lands and yields. Numerous agricultural facilities occur throughout the metropolitan region; approximately one-third of the 370 sites (n=116) identified in the survey fall into this category. These include river-fed canals, river-fed reservoirs, runoff-fed reservoirs, embankments, terraces, gravel-mulched fields, and erosion control walls (Morrison 1993, in press). Irrigation facilities varied widely in size. Reservoir embankments in the metropolitan region range from ten meters to nearly a kilometer long; associated sites within individual drainage basins form complex interrelated systems of water and soil control (Morrison 1993, in press). Agricultural facilities were geared toward the production of a range of crops. Perennially irrigated wet crops included rice, sugarcane, tree crops, and vegetables, while dry crops included millets, sorghum, pulses, oil seeds, and cotton.

Control over the construction and maintenance of agricultural facilities (and the disposition of rights in produce) was exercised by a number of different institutions, corporate groups, and individuals. The political elite were among the diverse donors who invested in the construction of agricultural facilities. However, we have little evidence to suggest that their involvement in agriculture was direct. Rather, it appears to most often have been channeled through the mechanism of temple investment.<sup>20</sup> Other agricultural investors included temple personnel, merchant groups, local political leaders, and villagers. Tax abatements were granted to communities and individuals involved in constructing or maintaining irrigation facilities. In general, elites invested in the construction and maintenance of large reservoirs and canals; smaller features and features associated with dry farming do not appear to have been of interest to rulers.

The largest of these irrigation works must have involved massive labor forces in their construction. We have only a limited understanding of how these laborers were recruited. Paes reported observing numerous laborers employed in the construction of a reservoir within the metropolitan region in the early 16th century: "in the tank I saw so many people at work that there must have been fifteen or twenty thousand men, looking like ants, so that you could not see the ground on which they walked so many there were" (Sewell 1900:244–245). He further noted that "this tank the king portioned out amongst his captains, each of whom had the duty of seeing that the people placed under him did their work" (Sewell 1900:245). This suggests that local elite or "chieftains" (Stein 1982:105) within the core area were responsible for providing laborers to the emperor upon demand. Paes also reported on human sacrifice associated with the construction of this reservoir. More than 60 people and many animals were beheaded to assure its efficacy. We do not know who these sacrificed individuals were, whether war prisoners or imperial subjects. In either case, this reference to human sacrifice provides evidence that the rulers exercised a very powerful form of coercive control.

As important as investments in irrigation facilities were for determining the nature of cropping regimes, and as important as the investors' shares in the produce were to them as economic, political, and ritual goods, it is not at all clear that this form of elite involvement implied any control over the choices and procedures underlying the work of plowing, planting, and harvesting (Appadurai 1978; Breckenridge 1985). Considerable control over the disposition of produce did exist, in that landlords, rulers, and investors were entitled to shares (Mahalingam 1975:94–95). These were collected in kind for wet crops and in cash for dry crops, adding a level of enforced market participation to the process. Nongovernmental shares were also allocated to village servants, including potters, blacksmiths, carpenters, leather workers, water

carriers, and money lenders, among others, in return for their goods and services throughout the year (Stein 1982:112). Thus, while huge interconnected networks of irrigation facilities do exist in the area around the city, there seems no reason to believe that their operations were in any sense directed or controlled by the government.

Similarly, there is no evidence for central control over the disposition and storage of produce, only over certain shares of it. We have little evidence that rulers sought to amass large quantities of agricultural produce in centralized warehouses. Only a few structures within the royal center can be convincingly interpreted as granaries; these are extremely small. They include a few circular structures (one to two meters in diameter) atop an outcrop near the palace area. A possible large storage facility has been identified at one of the temple centers at the capital; such facilities are known from major temples in other areas of the empire (Breckenridge 1985:51–52). Historical sources suggest that some large-scale food preparation facilities existed at the capital, though these have yet to be identified archaeologically. The early-16th-century Portuguese chronicler Duarte Barbosa reported on the existence of massive kitchens in which daily rations were prepared to feed the numerous elephants and horses based at the capital.<sup>21</sup>

The Vijayanagara period was a period of increasing monetization, with both the imperial center and regional rulers minting their own currency (Palat 1987:181; Stein 1989:73–74). Many taxes and tariffs were paid in coin rather than in kind. It may be that much of the wealth was kept in liquid form and not invested in large-scale accumulations of subsistence goods (Breckenridge 1985:51).

Imperial control over production of nonsubsistence goods was even less direct than for agriculture, though greater control may have been sought over the distribution of certain products and over transport routes. The capital and other urban centers provided enormous markets for a variety of goods, particularly military hardware and luxury goods. Included among the latter were semi-precious and precious stones, gold, elaborate textiles, and imported porcelains. The last of these are most often recovered through archaeological research.

Chinese and Southeast Asian porcelain fragments are found across the metropolitan region, with highest densities in administrative and palace areas and lower densities in nonelite areas.<sup>22</sup> Even in elite areas, frequencies of imported ceramics are low in comparison to locally produced earthenwares, and they number less than one percent of the total ceramic assemblage. Nonetheless, given transport problems caused by rugged terrain, long distances from coastal seaports, and jostling bullock carts, overall quantities of porcelains recovered are significant and number in the hundreds. Included among these are

more than 80 sherds recovered in excavations of one 16th-century elite residence (Nagaraja Rao 1985:12–13).

It is clear from artifact distributions that the elite had the greatest access to imported porcelains. However, their presence across the metropolitan region indicates that such access was not exclusive (Sinopoli and Morrison 1992). Exotic goods may have reached the capital in a number of ways: as tribute from coastal rulers; as gifts from foreign ambassadors; or through merchants at the city's many markets. Elaborate textiles, imported from China or produced at large and small workshops throughout south India, were similarly distributed through a variety of mechanisms (Ramaswamy 1985). The sole evidence for direct imperial control of the distribution of any good comes from historic accounts of the horse trade, and of trade in artillery. Even here, access to these items was securely in the hands of foreign traders, and Vijayanagara control ultimately amounted to promising higher prices than competing bidders (Stein 1982:118–119).

Archaeological evidence for craft production sites is limited. Such sites include relatively small scale iron processing areas. These sites tend to occur in association with seasonal water sources, suggesting a shifting pattern of short-term workshops (Lycett, in press). Masons and stone workers were also mobile, with shaping and sculpting of architectural elements occurring at the location of construction. Earthenware vessels constituted the most abundant nonagricultural product recovered at Vijayanagara. Although no production areas have yet been found, quantitative morphological analyses suggest the existence of multiple small-scale workshops, with little evidence for high degrees of vessel standardization (Sinopoli 1986, 1988, 1993b).

Textual and archaeological evidence suggests that production and distribution of craft goods were predominantly regulated at the level of caste or subcaste. Caste councils regulated productive activities and adjudicated conflicts. Higher-level involvement in inter- or intra-caste disputes is reported. Such disputes often involved access to ritual privileges rather than exclusively economic arguments, and were resolved by temple heads, local leaders, or, rarely, kings (Kuppuswamy 1979).

## Conclusions

In this essay we have examined Vijayanagara imperial control at its capital city, focusing on ideology, militarism, and economic production and distribution. For the first two, there is clear evidence of attempts by Vijayanagara's rulers to exercise considerable control. The capital was both a sacred place and a fortified military center; imperial architecture embodied both the ideological and defensive concerns of its rulers. In neither case, however, was absolute control sought or attained for most of the

empire's history. Vijayanagara's rulers co-opted local beliefs and incorporated regional deities and symbols into their religious pantheons. They also sought the support of local leaders who provided much of their military forces. The threat of coercive force was no doubt instrumental in assuring compliance, but privileges, land grants, and royal recognition appear to have been equally, if not more, important.

The city was a major population center and marketplace. It is apparent from inscriptional evidence and from the defended agricultural features surrounding the capital that the rulers were concerned with enhancing agricultural production and assuring safe transport of subsistence and other goods. As we have stressed however, their involvement in production, and to a lesser extent distribution, was facilitative rather than managerial. Vijayanagara's rulers effectively utilized existing institutional structures, such as temples and caste and merchant groups (all of which changed significantly during this period as a result), as the primary investors and decision makers over productive processes. It is no doubt likely that their revenues and economic security would have been greater had they taken a more direct role in economic activities, but without doing so their revenues were still considerable, and the costs of acquiring them were relatively low.

Rulers' strategies at the capital reverberated throughout the empire. Imperial architectural styles spread rapidly throughout south India as rulers constructed fortresses and made generous donations to temple centers, and no doubt also as a result of emulation of imperial fashions. The military successes of the rulers reconfigured political and tributary relations, and high demands for prestige goods at the capital and other urban and temple centers contributed to significant changes in productive activities and organization. Thus, while there is little evidence for absolute imperial control over production and reproduction during Vijayanagara times, there is considerable evidence that this empire significantly impacted south Indian social, economic, and political structures and relations.

## Notes

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1. For example, territorial versus hegemonic empires (Luttwak 1976), metrocentric versus pericentric empires (Doyle 1986), segmentary states (Fox 1971; Fox and Zagarell 1982; Southall 1956; Stein 1977, 1980), wealth finance versus staple finance (Earle and D'Altroy 1989), or world systems approaches (Chase-Dunn and Hall 1991; see also Sinopoli, 1994a).

2. See, for example, Earle and D'Altroy 1989, and D'Altroy 1992.

3. See Mann 1986:21–24, and Cannadine and Price 1987.

4. See Kulke 1978:132, and Davis 1993:28.

5. See, for example, Brumfiel 1987b:111–116, Earle and D'Altroy 1989:201, and Haselgrove 1987:117–118.

6. But see Smith and Berdan 1992.

7. See Alcock 1989, 1993, D'Altroy 1992, Hodge 1984, Brumfiel 1987a, 1987b, 1991, Hastorf 1990, and Parsons 1992.

8. For examination of material dimensions of control, see Blake 1991, Duncan 1990, Schatzman-Steinhardt 1990, Wheatley 1971, Fritz, Michell, and Nagaraja Rao 1984, Rowe 1967, and Zuidema 1964, 1990.

9. See Wittfogel 1955, 1957, Hunt and Hunt 1974, Hunt 1988, and Morrison and Lycett, in press.

10. See Stein 1989:51–54, but also see Palat 1987 and Karashima 1992.

11. See Nagaraja Rao 1983, 1985, Devaraj and Patil 1991a, 1991b, Narasimaiah 1992, Fritz, Michell, and Nagaraja Rao 1984, and Michell 1992.

12. See Morrison 1991, in press, Morrison and Sinopoli 1992, in press, Sinopoli 1994b, and Sinopoli and Morrison 1991, 1992, in press.

13. See Fritz 1985, 1986, and Fritz and Michell 1986.

14. The significance of these axes and the major accessways associated with them appears to have changed somewhat throughout the occupation of the capital as later constructions obstructed earlier routes of movement.

15. See Appadurai 1981, Appadurai and Breckenridge 1976, Breckenridge 1985, 1986, and Stein 1978:18–23.

16. See Davis 1993, Sontheimer 1985, Stein 1978, and Verghese 1989.

17. From Anna L. Dallapiccola, personal communications, 1992; though the image of king's tutelary deity was integral to the Mahanavami ritual.

18. Nuniz in Sewell 1900:384–389, and Stein 1989:60.

19. See Mahalingam 1975:166, and Subrahmanyam 1990b:25–26.

20. See Breckenridge 1985, Morrison 1993, in press, and Morrison and Sinopoli 1992.

21. See Dames 1918:210; no mention is made of similar provisioning of the soldiers responsible for these animals.

22. From John Carswell, personal communications, 1985. See also Morrison 1990:1123, Sinopoli 1986: 266–268, and Sinopoli and Morrison 1992.

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