

INTRODUCTION

The Andean “Avenue Towards Civilization”

John Murra’s opening remarks in his first Morgan Lecture are a broadside; not a harsh attack, but a firm, insistent reckoning of Andean America as one among those regions in which pristine civilizations developed. He reiterated that data documenting the Andean achievement come not only from archaeology and ethnohistory, but from deeply pervasive continuities, as in the utilization of vertical ecologies, in agricultural technologies, in land tenure systems, in cloth production, that ethnographic studies establish as persistent among Andean communities, even to the present.

Murra recalls throughout the lectures the goal he pursued in structuring them.

From Lecture 2, on reciprocity: “[...] I suggested that we might usefully look at some recent research in the Andes, at the few moments in the Andean continuum that have emerged in just the last few years, and which might shed some light on the general problem of achieving civilization and the way civilization was achieved in this [Andean] area.”¹

From Lecture 3, on reciprocity and markets: “How far can reciprocity be stretched? What is the size of the unit, what is the complexity of the unit, what are the stratigraphic arrangements, what are the power arrangements with which some kind of reciprocal or redistributive system may be compatible? At what point will all this give way to some other kind of system? This is a very Lewis Henry Morgan kind of question. This is what he was interested in. How did you get to civilization? How did you get to state power? What happened to the earlier ways of organizing human relations?”²

1. In the second lecture in this volume, Murra refers to two sixteenth-century *visitas* that he edited and published between 1964 and 1972: Garci Diez de San Miguel, *Cbucuito*, 1964 and Iñigo Ortiz de Zúñiga, *Huánuco*, Vol. 1, 1967 and Vol. 2, 1972.

2. This volume, page 33.

Murra's Lewis Henry Morgan Lectures are about the Andean "avenue towards civilization."³ He was intensely devoted to anthropology as a comparative science. In exploring the development of pristine civilizations, Murra established that

[...] ecological complementarity was a major human achievement, forged by Andean civilizations to handle a multiple environment, vast populations, and hence high productivity. It helps us understand the unique place of the Andean achievement in the repertory of human histories. (Murra 1985a: 11)

In comparison with Mesopotamia and Mesoamerica, the Andean avenue towards civilization is fundamentally different from what has been described for those other two centers of state formation.

I have never known John Murra to read a presentation from a prepared text, either in the classroom or at professional meetings. With a few notes, he relied on exceptional virtuosity as a teacher and on his own sense of theater to reach his audience, forcefully and often dramatically. Thus, in preparing this volume, Freda Wolf and I had only a set of typed transcriptions made at the time from reel-to-reel tape recordings of Murra's Morgan Lectures, together with cassette copies of the tapes provided us by the National Anthropological Archives of the Smithsonian Institution.

We did not edit the transcriptions. We corrected errors made in capturing words Murra spoke in Spanish or in Quechua, and occasionally we filled in a missing word.

This text is meant not so much to be read as to be listened to.

* * *

In 1984, fifteen years after John Murra's Lewis Henry Morgan Lectures, the *Hispanic American Historical Review* published an interview John H. Rowe held with Murra. Rowe asked: "If you were to single out one of your books as your most important contribution to the field, which would it be and why do you rank it above the others?" Murra's reply:

First, there are interpretative analyses of the Andean accomplishment, among which I find *Formaciones económicas y políticas del mundo andino* satisfactory since it is more up to date, both as to data used and my own ability to fathom the Andean world.

Within that collection, I prefer "El 'control vertical' de un máximo de pisos ecológicos en las sociedades andinas," because it approaches an explanation of Andean success, in circumstances where European historiography and stage-building are rather helpless. Of all my work, this is the essay that has provoked most debate in the Andean countries; "ecological complementarity" may have implications for practical policymaking.⁴

3. Murra used the phrase "avenue towards civilization" often during the final arguments of his fourth lecture. He discussed the impact of Morgan's *Ancient Society* on Marx and Engels, as it provided them with an alternative model by which ancient societies achieved civilization, an "avenue towards civilization" entirely separate and distinct from the European scheme with which they were familiar.

4. See Rowe (1984: 644). Murra refers to two of his publications in this interview with Rowe: *Formaciones* (Murra 1975a), an anthology of his articles, and "El 'Control Vertical' de un Máximo de Pisos Ecológicos en la Economía de las Sociedades Andinas", an article that appeared in volume 2 of the Ortiz de Zúñiga visita (1972) and that was republished in *Formaciones*.

Ecological complementarity expresses Murra’s recognition of what he considered a pan-Andean ideal of economic self-sufficiency, an ideal achievable by a community’s direct control of critical natural resources located within the many, distinct ecological zones that change dramatically with altitude in the Andean vertical environment. Following his painstaking study of two mid-sixteenth-century *visitas*,⁵ to Chucuito and to Huánuco, Murra had assembled sufficient ethnological data to represent the social and economic structural arrangements Andean communities originated to realize direct control of a maximum number of vertically ordered ecological floors: the “Vertical Archipelago.”

Reciprocity and Redistribution in Andean Civilizations comprises four lectures,⁶ organized to examine and integrate the features of Andean social and economic structure that provided a foundation for “success” in Murra’s terms: the development of large, dense populations at high altitudes and under extreme environmental conditions, that, nevertheless, formed state, and even imperial, polities. These features include the vertical Andean environment and its rich but discontinuous, vertically-distributed resources (Lecture 1); the socioeconomic “Vertical Archipelago” community structure that provided access to such resources (Lecture 1); the role of reciprocity as fundamental to the successful operation of the “Vertical Archipelago” (Lecture 2); the absence of markets in a system that provided access to far-flung resources as well as reliability of access (Lecture 3); the changing topography of the archipelago and the substitution by the Inka⁷ of fictive for consensual reciprocities as imperial devices that altered the ethnic integrity of the reciprocity-based archipelago while conserving the expectations of reciprocity: the exchange of energy as labor by the community in return for often exceptional displays of generosity by the state, largely in the form of feasts and chicha beer (Lecture 4).

John Murra’s Morgan Lectures attend to Andean civilizations, although he refers principally to societies inhabiting the steepest and most isolating zones of the Andes mountain chains. These Central Andes are located at equatorial latitudes from roughly the current political border between Ecuador and Peru to the southern shores of Lake Titicaca, on the Bolivian *altiplano*. Except at the choicest of narrow, intermontane valleys, such as those at Cajamarca and Cuzco, Andean topography is sheer and rugged. Verticality is its dominant feature.

The west-east narrowness of the Andean chains and their great height not only produce a steep, vertical gradient, they also generate a multiplicity of compressed ecological zones that change abruptly with altitude (Fig. 1). Overall, the Andean environment is fragile, heterogeneous, and unpredictable,

5. Cf. Footnote 1.

6. When reviewing the lecture transcriptions, the tape recordings, and the list of Murra’s Lewis Henry Morgan Lectures as advertised in 1969 by the University of Rochester, we found a number of inconsistencies in the lecture titles. We have used the titles that appear on the transcriptions.

1. (8 April 1969) The Archipelago Model of Vertical Control in the Andes
2. (10 April 1969) Reciprocity, the Anthropological Alternative to Exotic Explanations
3. (15 April 1969) The Inca Attempt to Destroy the Markets
4. (17 April 1969) Structural Changes in *Tawantinsuyu* Prior to the European Invasion

7. In his book *The Language of the Inka since the European Invasion*, Bruce Mannheim (1991: 235) remarks that “[...] I have for the most part followed the standardized alphabet for the Quechua languages spoken in Peru, adopted by the Peruvian government in 1975, and amended in 1985 [...] It is appropriate for most practical purposes and reasonably approximates the inner structure of the Southern Peruvian Quechua sound system.”

Until 1975, Quechua was written using the Roman alphabet in an Hispanicized orthography. The word Inca was spelled with a “c.” The post 1975/1985 orthography alters the spelling to Inka, with a “k.” Many authors and scholars continue to utilize the earlier spelling, Inca, but the current, Inka, is closer to Quechua sound systems, which are very different from that of Spanish. In the case of other Quechua words that appear with a variety of spellings in this volume (e.g., *mitima*, *mitmaq*, *mitmaquna*), for clarification the reader may wish to consult the glossary at the back of this volume.

an exaggerated environment of extremes and multiple stresses. The quality of any of the many and varied vertical ecozones and the stresses they undergo are governed principally by the reduced partial pressure of oxygen and carbon dioxide as a function of increasing altitude; temperature, including extreme diurnal variations and year-round frost at high altitude; availability of meteorological water; soil quality and mineral content; insolation; patterns of evaporation from soils and living things (Thomas 1979).

At the same time, in equatorial latitudes the availability over time of an extreme altitudinal gradient has produced a diverse range of plants and animals adapted to the highly-varied conditions of specific Andean ecozones. Andean flora especially exhibit a high degree of phenotypic plasticity. We recognize, for example, ninety wild species of potato and over four hundred indigenously-named varieties of the common, domesticated potato that flourish from the lowest tier of the *qiswa* rainfall zone (about 2000 m.) up to the *puna* (4000 m.) (Ugent 1970).

The Andes mountain range provides a rich suite of floral and faunal resources that follow a differential, not a continuous, resource distribution. In adapting to environmental heterogeneity and unpredictability, Andean communities depended on a multiple resource base that took advantage of environmental opportunities and minimized risks from perturbations affecting any single resource (cf. Thomas 1979).

The vertical archipelago is Murra's model of the structural mechanism through which a single community controlled access to essential resources that were dispersed among vertical ecozones, often at far remove from the nuclear population. Both the reliability of access and availability of products when they were needed were key. Whether at the level of Chupaychu villages (Huánuco) or the Lupaqa kingdom (Chucuito), nuclear communities ensured direct control of ecological tiers whose natural resources they sought by sending families of their kin from the nucleus to establish permanent colonies in specific, designated ecozones.

Permanent resident outliers exchanged the products of their ecozone with the nucleus. The integrated community was structured as a vertically-dispersed set of islands—*islands of kinfolk*, *islands of production*—through which the resources of many ecozones were extracted, processed, and transported entirely by members of a single ethnic group. In the Andes, direct control of a maximum number of ecological tiers by a single community meant sending its people to the resources, not bringing resources to the people; arrangements that normally exist in long distance trade or with the establishment of central marketplaces.

These ethnic "islands," separated physically from their center yet maintaining continuous social contact and trade with it, formed an archipelago, a typically Andean pattern of settlement. [...] The relations existing between the center and the peripheral islands were those that are called reciprocity and redistribution in economic anthropology. This means that the domestic units devoted exclusively to the herding of camelids in the *puna*, to the cultivation of maize or the gathering of *wanu* on the coast, to timber or the harvest of coca in the *yungas* did not lose their rights to tuber and *quinua* producing lands in the center. Such rights were claimed and exercised through kinship ties maintained and periodically reaffirmed ceremonially in the settlements of origin. Although they were living and working far from the lake [Lake Titicaca], the inhabitants of the peripheral islands formed part of the same universe as those from the center, sharing a single social and economic organization. (Murra 1985b: 16-7)

In his 1972 article, “El ‘control vertical’ de un máximo de pisos ecológicos,” Murra presents schematic diagrams of the vertical archipelago (Fig. 5)—the spatial distribution of the nuclear community and its islands—for the Chupaychu communities (his Case I in the publication) and for the Lupaqa kingdom (Case II). These diagrams, latitudinal cross sections through the Andes mountain range, are slightly redrawn here as Figures 7 and 9. For each of the two case studies, he identifies the major ecozone occupied by the nuclear community, the primary resources available to the nucleus, the vertical distribution of the permanent outlier settlements, their distances (measured in days-of-walking) from the nucleus, and the resources they provide to the nucleus from the island ecozone each occupies. Murra also indicates in the diagrams that, whereas the nuclear community is “mono-ethnic,” or “bi-ethnic” in the Lupaqa-Pacaxe zone, in all cases the outlier islands are “multi-ethnic.” Permanency of these outlier settlements was necessary, because often ecological tiers were shared by various ethnic groups, each representing a different nuclear community, and all competing for the same resources—be it salt deposits on the puna or coca fields in the *ceja de selva*—“... in tense but real coexistence” (Murra 1985b: 17).

In 1963 Murra began a meticulous study of the 1567 visita of Garci Diez de San Miguel to Chucuito, located on the western shores of Lake Titicaca. Chucuito was the primary province of the large and rich Lupaqa kingdom prior to its conquest by the Inka and its invasion by the Spaniards thirty-five years before the visita was carried out (Fig. 8). Murra published the entire Chucuito visita in 1964 (Diez de San Miguel 1964), including his critical essay on its significance as a primary ethnological source (Murra 1964).

Visitas—official inspections that Spanish colonial administrators in the Andes instituted during the early, pre-Toledo years of their governance—were carried out by Spaniards who, with prescribed questionnaires in hand, visited communities of various sizes and locations throughout the Andean vertical landscape. Meant as a vehicle for census purposes and to provide the governors with information on a community’s taxable resource base, the inspector recorded the responses to his questions made by Andean lords, or peasants, or herders, in their own words.

Garci Diez, a former Corregidor in Lupaqa territory and familiar with the region, inspected the Lupaqa communities town by town. Many of his census questions sought measurements—of time, of space, of people, of herds, of labor owed, of obligations and their reciprocations. Answers were given as numbers. Garci Diez reports an Inka *khipu* that recorded some twenty thousand Lupaqa households, for a population of approximately one hundred thousand persons within the kingdom (Murra 1968a: Table I, 116). Thus, in his 1965 article, “Herds and Herders in the Inca State,” Murra was able, for the first time, to use “... raw, first-hand data about particular herds and their herders”; “... a herd of 600 head belonging to a Lupaca mitmaq colony settled in a coastal oasis”; “The 3,242 Lupaca households of the township of Xuli reported a “community herd” of 16,846 head in 1567” (Murra 1965: 188-190).

The visita was new ethnohistoric territory for an Andean scholar. I emphasize the presence of numerical data, of measurements and quantities in the Garci Diez inspection report, because these were direct, on the ground, almost ethnographic data, a rarity in the Spanish chronicles that, prior to the discovery of the visitas, were the historical accounts accessible to the ethnohistorian and the archaeologist. I emphasize this form of data, because Murra did. In 1968, Murra used the Lupaqa visita data to construct a chart (Fig. 14; Murra 1968a: Table II, 129) of the revenues that the two Lupaqa kings of the Qari and Kusi moieties received, province by province, from the labor, the energies of their constituents: revenues in land and peasants to work the land, in cloth “from the Aymara loom,” in Indians of service (*mit’ani*), and in *yana* (*anaconas*). For the first time, he (and all students of Andean societies) was able to arrive at

realistic measures of labor input, to compare quantities of revenues received and the comparative ratios between Qari and Kusi revenues, to estimate the numbers of animals in the community herds.

The Garci Diez report is still the oldest and most detailed sixteenth-century source for the *Qollasuyu*, the altiplano ecozone that extends roughly from Lake Titicaca to the highlands of northwest Argentina. It provides the best data about the life of Andean herders of the puna.

In 1967, Murra published the first volume of another *visita*, carried out in 1562 by Iñigo Ortiz de Zúñiga to the Chupaychu, an ethnic group of modest size located in the *qiswa* zone on the eastern slopes of the Andes, in the province of Huánuco (Fig. 6; Ortiz de Zúñiga 1967). Comparing the populations documented in the two *visitas*, Murra notes that although they are radically different in size—the Lupaqa kingdom included perhaps one hundred thousand inhabitants, the Chupaychu numbered around ten thousand—nevertheless the *visitas* had much in common: both provided information assembled in the field from informants whose knowledge came from deep roots in the Andean experience; in both zones some of the respondents had participated in Inka activities at the state level, not only within their own ethnic group; both interviews were designed by the colonial Spanish authorities before the arrival of the Jesuits and the government under Toledo (1570 and later), as viceroy for New Spain; in both cases some of the informants were adults at the time of the Spanish invasion in 1532 (Murra 1967).

The two *visitas* complement each other: the chupachu *visita* has the advantage of providing domestic information, house by house, whereas the lupaqa *visita* emphasizes the role of the kings. The chupachu spoke Quechua, the lupaqa Aymara. The former had frequent contact with the hot lands [at lower altitudes], the latter informs us about the uses of the puna. The chupachu *visita* offers more material about the relations between an ethnic group and *Tawantinsuyu* [the Inka state]; the lupaqa *visita* provides a great deal about the relations of an ethnic group with the colonial European regime. It has been surprising that the two first, detailed sources of this type are so similar at the same time in such clear contrast. (Murra 1967: 383; trans. by HL)

What Murra recognized in his Andean reading of these two *visitas* was a striking pattern in the way in which Andean peoples structured access to the environmental resources they required. “The desire to control [directly] distant climatic zones through [establishment of] permanent colonies takes the form of a pattern of vertical control that was probably distributed throughout the Andes” (Murra 1967: 384; translated by HL), not only in the regions documented in the *visitas*. Whereas the Chupaychu *visita* did not offer Murra the weight of numerical data he was able to chart from the Lupaqa census, it was the careful house to house inspection by Iñigo Ortiz that identified the houses no longer occupied within the nuclear community but that belonged to members who tended distant herds on the puna or who grew coca in the hot lands below. It was the direct evidence provided by the Iñigo Ortiz *visita* of the deliberate dispersal of Chupaychu members throughout multiple, altitudinal ecozones that Murra recognized as the population-resource structure that also ordered the Lupaqa kingdom.

The lupaqa state, although centered on the altiplano, controlled many lands in highly varied ecologies with no effort to dominate the intermediate spaces and ethnic groups. Hundreds of kilometers separated its houses in Chucuito from the coastal oases of Moquegua and Arica and the coca fields of Larecaja. Given its much smaller population, the chupachu control of various ecological floors may have been more limited, but their perception of the resources that they believed they required was very similar to that of the lupaqa. (Murra 1967: 384; trans. by HL)

The vertical archipelago constitutes a structure that not only enabled a community’s exploitation of resources located at various altitudes/ecozones within the Andes range, it ordered the redistribution of those resources within the archipelagic community, moving it towards realizing the ideal of self-sufficiency. Neither in his first Morgan Lecture, nor in the 1972 “El ‘control vertical’” publication, does Murra insist on the essential, redistributive aspect of the archipelago structure.

The essay I wrote in 1972 in Spanish was meant for an Andean audience familiar with the geography and with previous efforts to understand the achievements of Andean man. My main aim was to offer a contribution to the ongoing debate about the Andean past. I published it for the first time in the second volume of the administrative visita of Iñigo Ortiz [...]. (Murra 1985a: 7)

Murra remarked to John Rowe in their 1984 interview, “Italian and Rumanian versions of this essay have been published, but the English translation has not found a home” (Rowe 1984: 644).⁸

Murra made small, editorial changes to the 1972 Spanish “essay” before submitting it to the Escobars in 1981 for English translation. For his English language audience, Murra was explicit about the built-in, redistributive property of the vertical archipelago.

Since the idea of some kind of “vertical” exchange is old in Andean literature, this essay has emphasized the redistributive, internal nature of this exchange, rejecting explanations which perceived it as “commerce” or “trade.” (Murra 1981: 41)

Only archaeology can resolve the dating of the early stages of ecologic complementarity. Here I will only repeat my notion that such complementarity is older than the Inka [...]. However, I will insist on my intuitive feeling that the model, though helped by the presence of a strong state, does not require it. I think that the vertical archipelago arose and gradually developed in the Andes as a response to an improved perception of Andean geography and an increased familiarity with the rewards when disparate tiers can be brought together into a single productive and political universe. In lieu of seeing the state as a precondition of the archipelago, I propose that the multi-ethnic productive and administrative experience gained through ecologic complementarity was a salient factor in Andean state formation, particularly when the nuclei were located in the puna. (Murra 1981: 41-2)

The inclusive theme of John Murra’s Morgan Lectures links reciprocity and redistribution as those social and economic features that capture most essentially the distinctiveness of an Andean path to civilization. Fundamental reciprocities (*mit’a*) that governed relationships among *ayllu* (lineage) members in small, highland communities such as the Chupaychu, and between the community-at-large and its *kuraka* (headman/leader), functioned to incline the community towards economic self-sufficiency within an archipelago structure of direct control of resources and their internal redistribution. Reciprocal exchanges between members of an *ayllu* or between *ayllus* were structured as exchanges of labor time, of energy, not exchanges in kind. Labor borrowed to plow a field or to build a house is returned to the exchange partner for the same or an equivalent service, reckoned in terms of time

8. Gabriel and Chavin Escobar translated Murra’s 1972 “essay” into English. They completed the translation in 1981, but Murra never published it. The Escobar’s English-language manuscript (see Murra 1981 in the list of references) is available in the JV Murra archive at the Smithsonian Institution. (Cf. Murra 1972, 1985a, 1985b.)

and energy expended. By virtue of their membership, ayllu members had a recognized claim on ayllu resources—land, perhaps camelids—and including those resources embodied in the labor services of other members (Murra 1980c). In turn, they owed reciprocal services to those who had loaned their labor. The recipient of a day's labor was obliged to feed those who provided the services and to serve them chicha (maize beer).

As we can see even from this obviously incomplete list of labor exchanges and reciprocal services *within* the community, the governing idea of the system is labor time. Nowhere [in the Spanish chronicles] is there mention of contributions in kind or in any medium of exchange. The household [no single individual] is the contributing unit and what it exchanges and donates is units of time, labor time. [...] Beyond such reciprocity, each household was thought of as self-sufficient and enough access to the society's capital goods was available to make such self-sufficiency at least a partial reality. (Murra 1980c: 92)

The kuraka also was entitled to services, not goods, tendered by the community. He received neither tribute in kind nor compensation. The kuraka was issued a share of land as an ayllu member; he could call upon the community-at-large to work his land and to build his house. In exchange for the services he performed as headman—the systematic reallocation of ayllu land according to the changing needs of ayllu households, protecting the community from aggressive neighbors—ayllu by ayllu, in rotation, the community contributed members as servants for his house, usually old people no longer participating in primary subsistence activities. In return for these community services, the kuraka was expected to provide food and chicha beer to the community several times a month; these were festive occasions (Murra 1980c: 92-3).

The Lupaqa kingdom as documented in the Garci Diez visita of 1567 and that served Murra as a second case study in his analysis of Andean civilizations, was a much larger, stratified society comprised of several ethnic groups and organized by moiety. A polity this large (ca. 100,000 people) was able to support an archipelago of many more and much larger “islands” on both the western and eastern slopes of the Andes. Figure 14 presents the chart Murra distributed to his lecture audience which organizes the revenues of the Lupaqa moiety kings, especially those lords who reigned in Chucuito, as recorded in the Garci Diez visita. The revenues enumerate labor services owed to each lord: agricultural labor, weaving responsibilities, services discharged by individuals in categories such as herding, household chores, labor in the Lupaqa coastal outliers in the Moquegua and Sama valleys, and so forth.

The revenues are essentially made up of services. What they [the two kings] have is access, differential access, to the energy of different groups in the society. Everybody owes them a few days of work. A smaller group owes them a year of work. Other groups are permanently and in a semi-hereditary fashion attached to particular royal households. [...] Clearly, here, reciprocity is very stretched.⁹

Murra argued:

In a society in which money of universal value does not exist and in which the marketplace is scarce, the only opportunities for inversion reside in the creation of human obligations. That power increased the revenues of the lord permitting him to extend his network of “mutual” obligations to

9. This volume, pages 16.

new weavers, farmers and herders, which in turn allowed him to increase the size of his herds and the extent of his lands. [...] To achieve all of this, the political authority put into play its exceptional rights over human energies, herds and lands [...] To discharge and display their obligations of hospitality, the mallku [lords/leaders] needed large quantities of food, chicha and wool. (Murra 1964: 432; trans. by HL)

At a 1983 Wenner-Gren Foundation symposium on Andean ecology and civilization, Murra revisited his, by then, widely read and debated 1972 article, “El ‘control vertical’ de un máximo de pisos ecológicos en la economía de las sociedades andinas.”

I would like to take advantage of this meeting to restate my original intention: given the scattered geographical distribution of Andean polities, how does one explain that for centuries and perhaps millennia, the seat of power and the highest demographic density in the pre-European Andes are found at altitudes above 3,400 meters? [...] In pre-industrial societies, dense populations are always an indication of success, but how can such density be achieved in *puna* conditions? [...] The answers seem to lie in the high productivity of Andean economies and not of any single region or zone. Still, the *puna* does have advantages invisible to the European eye: here, very early, the inhabitants “domesticated” the cold, thus enabling them to process the many varieties of *ch'uñu* [freeze-dried potato] and *ch'arki* [freeze-dried llama meat] which allowed massive storage of such food for macroeconomic and not merely peasant uses. (Murra 1985a: 3-4)

Murra’s penetrating analysis of the Huánuco and Chucuito visitas, following an already encyclopedic familiarity with sixteenth- and seventeenth-century texts chronicling an Andean world seen through European eyes, confirmed the structural features he had identified as fundamental to the Andean vertical archipelago and clarified the Inka state’s exploitation of these very features.¹⁰

[... in] the century from about 1460 to 1560, which is the one that can be studied in the archives [...] as the Cusco state expanded, the Inka elite (now a set of two dynasties and also a dominant class) carried to the conquered peoples and territories a model of “vertical control” already familiar to most of these groups.

The new scale of operations makes a difference in the content given to the archipelago. (Murra 1981: 42)

10. Murra sets out these features in his article, “The Limits and Limitations of the ‘Vertical Archipelago’ in the Andes” (1985b: 16-17).

1. “Each ethnic group made an effort to control a maximum of floors and ecological niches in order to take advantage of resources that, in the Andean conditions, were found only there.”
2. “The ethnic authority maintained permanent colonies situated in the periphery in order to control distant resources. These ethnic “islands,” separated physically from their center yet maintain[ed] continuous social contact and trade with it ...”.
3. Members of the peripheral “islands” maintained their rights in the nuclear community through kinship, were enumerated in the visita census, and, together with inhabitants of the nuclear community, “shar[ed] a single social and economic organization.”
4. Peripheral islands were often occupied by various ethnic groups, each of which represented a distinct nuclear community.
5. Reciprocity among ayllu members or between ayllu and curaca or king was integral to the successful functioning of the archipelago. Reciprocal relations always were structured as exchanges of labor/energy and were secured through hospitality by feasting and drinking maize beer. Reciprocities did not include exchanges or tribute in kind.

The vertical control, “already familiar” model incorporated not only the nucleus-outlier direct control of tiered ecozones but the internal structure of reciprocal relations between ayllus and kuraka/king that provided the social foundation for economic success. Most of the innovations made by the Inka state consisted in the utilization and reorganization of fundamental Andean forms of social architecture. Most auspiciously, the Inka institutionalized on a statewide scale long-held Andean patterns of reciprocity and labor services, relying on the older designs of community obligations known and understood by everyone.

The state’s rendition of reciprocity took the shape of a *corvéé* labor tax the Inka established to normalize their new relations with the communities they conquered. At least in the highlands, the state alienated from a community those lands the community was not using or could not use, leaving intact agricultural lands required by the community to provide self-sufficiency. In return for the state’s “gift” to a community of its landholdings, community members owed labor services to the state. While serving on *corvéé*, no one was expected to supply his or her own support, whether in food, clothing (in the case of the army), agricultural tools, seeds, cotton and wool fibers or any item from the household’s resources.

The state exacted three primary and perennial *corvéé* duties from conquered communities: agricultural labor on lands belonging to the state, military service in the Inka army, and the weaving of plain cloth (*awasqa*). Just as in any community *mit’a* obligations were fulfilled by the household, not by the individual, the household remained the *corvéé*-owing unit to the Inka state. Male heads-of-household could be called up to work in the fields of the Inka and to serve in the army. In both activities, especially agricultural labor, women and children could assist to complete the quota more quickly. Women heads-of-household were expected to weave *awasqa* cloth—usually clothing for the army—in the confines of their homes. The state provided the cotton or wool fibers, the women provided the labor. The state reciprocated in the same, traditional manner as the community *kuraka* had, by feeding all workers on *corvéé* and by providing maize beer. Often the scale of state hospitality was bountiful (Morris 1982).

While workers and soldiers were called away, the community tended their fields. Additional *corvéé* duties included public works and infrastructure: building state roads and bridges, especially to accommodate the army, constructing agricultural terraces and irrigation canals required for the state’s intensive program of maize agriculture on *qiswa* slopes, building and servicing way stations (*tambos*) along the roads, storehouses (*qollqas*), fortresses, entire administrative cities, and temples to the Sun (cf. Morris 1993).

The Inka were careful to structure community *corvéé* obligations and state reciprocal hospitalities so that they resembled in form, not in execution, the community *mit’a* system: [a] people owed only labor time to the state, nothing in kind; [b] the household was the *corvéé*-owing unit; [c] a community’s *corvéé* obligations were met on a rotating basis; entire communities were not absent at any one time, leaving some members to care for the fields; [d] agricultural and public works *corvéé* were suspended at critical times in the agricultural cycle, allowing people to attend their fields; [e] the local *kuraka* often remained in his community and was supported by the Inka in large part to enforce the *corvéé* obligations of his community; the *kuraka* saw to it that the mandated number of people were recruited and showed up for their labor service; [f] state reciprocity was carried out through feasting and the provision of *chicha* beer, frequently at generous levels of hospitality. This was fictive reciprocity. No one was fooled. The state relied on the self-sufficiency of the conquered populations in order to inhibit rebellions and to ensure the functioning of the state agenda.

That agenda was sustained by an economy of surpluses that the state stored, inventoried, and redistributed to all workers on *corvéé* and to those who relied on state support: the army, a variety of specialists who became full-time retainers of the state, such as the *aclla* women weavers of fine, *qumpi* cloth and

kipu kamayuks (accountants who kept administrative records on knotted-string devices), government administrators, *mitmac* colonists (*mitimaes*), the Inka royal ayllus, royal priests of the Sun, and others. Huge surpluses of food—primarily maize but also tubers—were produced on state lands throughout the empire. Maize was grown on newly-terraced and irrigated fields on even the steepest slopes. As Murra often remarked, “the hillsides were groomed”: the sierra was transformed through large scale agricultural programs carried out by laborers on *corvée* who built the terraces, maintained the irrigation canals, and worked the fields. All this food was stored in provincial state warehouses (*qollqa*) and in warehouses located at large administrative centers, such as Huánuco Pampa (Figs. 10-13).

State storehouses also stocked cloth. Some held clothes for the army, made by village women who wove them as their household *corvée* labor obligation. Many others were filled with great quantities of the finest *qumpi* cloth,¹¹ woven by *aclla* (female) and *qumpi kamayuk* (male) specialists who left their communities to weave as full-time state retainers at imperial administrative centers, such as Cuzco and Huánuco Pampa (Morris 1967). *Qumpi* cloth became an essential and powerful tool of Inka diplomacy, offered as the most highly prized royal gifts to newly-conquered entities. Acceptance of such gifts not only brought communities peacefully into the imperial fold, it established their subservience to the state.

The imperial surplus economic-redistributive mode engendered two state level technologies: storage and accounting. The Inka designed and built large scale storage facilities that, in the puna environment, enabled maize to be kept fresh for as long as four years and fresh potatoes for one year (Morris 1992a, 1992b). Food stored in *qollqa* at waystations (*tambos*) along the Inka roads kept the army supplied, and *qollqa* at large, provincial centers provided the state with flexibility in carrying out its redistributive functions.

The *kipu* string accounting device was already in evidence within the Wari realm (ca. CE 600-1000) as a modest precursor to the Inka knotted-string design (Urton 2014). At the imperial level, however, the *kipu* maintained not only the population census of a rapidly expanding state, it also served to record the number of households that owed *corvée* labor while keeping close track of *qollqa*-stored items and the state schedule of redistributions from the warehouses. *Khipu kamayuks* became full-time retainers of the state (Murra 1980a).

The state acted as a market, receiving goods and redistributing them (Murra 1980b). The Inka continued to rely on the self-sufficiency of the communities it absorbed, but the new economic order brought significant structural changes, as Murra describes in his final Morgan Lecture. The imperial archipelago linked “islands” that were no longer distributed necessarily by altitude along a vertical terrain. The state established islands of people in locations it selected according to state resource requirements. *Mitimaes* (*mitmac* colonists), for example, were state-constituted groups—in the early years of the empire they were often families located near Cuzco, the Inka heartland—who were sent for a period of two to three years to colonize Inka territories. Towards the end of the period of Inka territorial expansion, the emperor Huayna Capac assembled an estimated fourteen thousand *mitimaes* to colonize the Cochabamba valley, located on the warm, moist, lower eastern slopes of the Bolivian Andes, for the state production of maize.

He set up a vast state-owned “archipelago” for the purpose of large-scale maize production, essentially for the use of the army. The work was performed by a multiethnic labor force recruited from a very large area (ranging from the Cuzco region to Chile). [...] Permanent *mitimas* were specifically charged with maintaining the granaries. [...] *Mittayoc* [workers on *corvée*] rotated on a

11. Cf. Murra 1962a and 1975b [1974]. The “Etno-categorías” article is reprinted in Murra’s *Formaciones* (1975a [1974]).

yearly basis and performed the heavy work. [They] stayed together in accordance with their ethnic origins and kept their own *caciques* [*kurakas*]; but all were placed under the authority of two Inca governors. (Wachtel 1982)

In other circumstances, mitmac colonists formed garrison-like “islands” among communities newly-incorporated into the state, to replace recalcitrant elements, and to assist with acculturation into the Inka fold. Mitimaes were supported entirely by the state, drawing upon state warehouse resources until they could establish themselves in the new setting.

Murra stresses the state’s initiatives in moving groups of people out of their ethnic communities. The mitimaes are one such group. The Cañari military “corps” is another, a single ethnic group of families transplanted from Ecuador and brought to Cuzco where the men provided full-time military service to the royal ayllus (*panakas*). At the same time, the state increased its revenues by establishing retainers to produce goods that were essential to the new economy and political order. To realize the need for enormous quantities of kumpi cloth, not only for purposes of sacrifices but as gifts to military leaders, as gifts to newly conquered communities, for creating alliances, the state established groups of full-time professional weavers for the massive production of the finest textiles. The *aclla*, young women removed from their ethnic communities, were incorporated into the state apparatus to fulfill the ever-growing needs for the highest quality woven goods.

All these people—the *aclla*, the *kipu kamayuks*, the Cañari troops, the mitimaes to a certain extent—Murra argued were removed from their ethnic communities to serve state functions as full-time retainers. Murra saw this as a new and major inroad, promulgated by the state, into the community system of reciprocal relations.

[...] for neither of the two groups [the *aclla*, the Cañari troops] is there any kind of precedent in the Lupaqa or the Chupaychu level of magnitude before. [...] At least with the data so far, these seem to be [Inca] innovations. And what’s important here—the principle in common—is that [...] you have people who no longer can work in their own community. [...] They are relieved of reciprocal services within their own communities. As the Europeans say, they are removed from the tribute rolls. [...] They no longer owed reciprocal services to the traditional authorities [...] It is this removal, this not being enumerated in the census anymore—that is really important and that creates new people, new energies that can work resources on a full-time basis for the state; and it is this which is new. [...] The break with the kinship reckoning is what’s important.¹²

By the time of the Spanish invasion, the empire had achieved its greatest extent. Murra does not dwell on the administrative acumen that held together millions of people over some 4,200 linear kilometers of Andean rugged, inhospitable coast, cordillera, and altiplano. His preoccupation is the turning point when one recognizes the state’s manipulation of the very social and economic structures that were the empire’s foundations.

Murra cared about and argued emphatically that the Andean case represents:

[...] a “no beasts [of burden], no wheel” model of achieving civilization [...] It is important to see in the absence of beasts, and in the absence of machinery, the way you are reaching civilization is

12. This volume, page 61, 66.

through the manipulation of social and economic categories and the manipulation of people which are, if not completely unique here, certainly have been pushed here with these resources and these circumstances further I think than anywhere else. [...] Finally, when the Europeans come in 1532 [...] we are at the very crucial moment [...] when the old reciprocal and distributive bonds bringing these people together are stretched way beyond anything comparable elsewhere.¹³

One theme persists and provides continuity to all four of John Murra’s Morgan Lectures. Advances in any meaningful appreciation of Andean prehistory require the shared perspectives and methods of ethnohistory, archaeology, and ethnology. His 1963–1966 field project at Huánuco Pampa, supported by the US National Science Foundation, included Peruvian and North American archaeologists, an ethnobotanist, an ethnographer, graduate students from Peru and from the United States; Murra served as ethnohistorian. The Huánuco project was an early interdisciplinary effort in the Andes to realize the integrated research approach Murra sought.¹⁴

Included in Murra’s professional archive at the Smithsonian Institution’s National Anthropological Archive, there is a two page, handwritten document that appears to be a draft Murra wrote as an introduction to his Lewis Henry Morgan Lectures. The document has neither title nor date.¹⁵

These lectures argue against a convenience we can no longer afford. Particularly after the Second World War, Andean studies have polarized into two activities conducted by distinct anthropological specialists who were content to withdraw behind the technicalities of their tactics in the field: some, calling themselves archaeologists, concentrated on the monumentality or the earliness of the past. Others, thinking they were doing social anthropology, picked out the contemporary mountain peasant community to stress its isolation or its poverty and how these led to mass migrations to the city.

Thus polarized, neither anthropologist need know anything about the work of the other. Their training was distinct and both were freed from learning the Andean languages—since both activities can be conducted in Spanish. In fact, both can be and frequently are carried on by foreigners.

In recent years, such segmented convenience has been increasingly recognized as interfering with: [1] an understanding of continuity and change in the Andean world, both before and after the European invasion; and [2] the emergence of an Andean approach to the study of what man had once accomplished in this area and of what true options for the future were still available here.

These lectures argue that just as India, France, or China cannot be understood today unless one is familiar with [their] “Indianness,” their “Frenchness,” or their “Hanness,” we must inquire about

13. This volume, page 72.

14. The NSF application includes a Short Title of Research Project: “A study of provincial Inca life.” The application specifies further a Complete Title of Research Project: “An inter-disciplinary study (ethno-historical, ethnologic, archeological and ethno-botanical) of a specific region in the Andean highlands, that was part of the Inca state and that is described in unusual detail in the sixteenth century archival records” [the 1562 *Visita* of Íñigo Ortiz to the Chupachu]. Monica Barnes notes that later, when Murra wrote about the project, he sometimes included explicitly Quechua linguistics as one of the project’s research disciplines (personal communication, 2015). A copy of Murra’s NSF proposal is located in the John Victor Murra Archive, Junius Bird Laboratory of South American Archaeology, Division of Anthropology, American Museum of Natural History, New York. Although there is no date on the Museum’s copy of the proposal, Barnes estimates it was likely submitted to NSF in 1962. I thank Monica Barnes for providing me with a scanned copy of Murra’s NSF proposal. (HL) (Cf. Murra 1962b: 1-4)

15. This document is located among the John Victor Murra Papers, National Anthropological Archives Series VIII, Box 2.

the massive Andean continuities, which I think exist here as in those other foci of civilization. If this is so, the pretense must be dropped that archaeology or contemporary sociology in the Andes can be practiced separately from each other and from history. The heavy overlay of four and a half centuries of mass European settlement and colonialism has no parallel in either India or China; these mask the specificity of the Andean achievement, as they do that of the other Americas.

This preliminary effort, clumsy and stuttering, comes much too early since the masks are so tightly fitted and since we hear so rarely the voice of the Andean peoples themselves. But a beginning must be made, to challenge [the] homogenizers.¹⁶

* * *

In both his 1984 interview with John Rowe and in his 1985 “revisit” of the vertical archipelago model, John Murra explains that what encouraged him to write and publish the now classic 1972 article was participation in a six-week graduate seminar that Ángel Palerm organized in 1972, with Murra’s help, at the Universidad Iberoamericana in Mexico City.¹⁷ In preparing his presentation for the Seminario Comparativo Sobre Civilización Mesoamericana y Andina (Comparative Seminar on Mesoamerican and Andean Civilization), Murra wrote what later that year appeared as “El ‘control vertical’ de un máximo de pisos ecológicos en la economía de las sociedades andinas.” Palerm was one of Murra’s closest colleagues. Their letters, available in the Murra archive at the Smithsonian Institution, indicate the excitement and energy they brought to organizing a comparative exploration of avenues towards civilization in the ancient Americas. Murra felt safe, challenged yet supported, in that company of colleagues. “I realized that in Mexico I could receive the double benefit of commentaries by the Meso-American participants as well as colleagues from the Andean republics” (cf. 1985a: 6).

Whereas the 1972 article is known internationally as Murra’s definitive presentation of the Andean vertical archipelago economic model, he had already presented that model, without naming it, in his 1968 publication on the Lupaqa kingdom (Murra 1968a), using “archipelago” and “vertical control” vocabulary. Naming the model publicly was a Lewis Henry Morgan event—up front, as the title of the first Morgan Lecture.

Murra’s 1972 “control vertical” article and his 1969 Lewis Henry Morgan Lectures are not coordinate, however, nor did he mean them to be. The article, written in Spanish for an audience of primarily Andean scholars, offers a crisp account of the vertical archipelago model presented diagrammatically and supported by newly available and, in Murra’s hands, singular ethnohistoric data. Murra hid the “control vertical” article at the end of volume two of the Iñigo Ortiz visita. The Lewis Henry Morgan Lectures, on the contrary, were public, presented in English at the University of Rochester to an audience of faculty and students for

16. Murra’s final sentence is incomplete. The original sentence reads: “... to challenge those homogenizers who try to” We do not have the remainder of the sentence.

17. The John Victor Murra Papers at the Smithsonian Institution National Anthropological Archives contain various documents pertaining to this seminar. The Murra Papers, Series I, Box 29 include correspondence between Murra and Palerm during the preliminary stages of seminar organization. Box 29 also contains a copy of the seminar announcement issued by the Universidad Iberoamericana. This flyer gives the inclusive dates of the seminar (4 July–10 August 1972) together with a list of the seminar participants. JVM Papers, Series VII, Box 5 includes Murra’s handwritten, inaugural seminar presentation on 4 July and his closing remarks on 9 August 1972. The Papers do not include a final list of the participants, but handwritten notes Murra made during the course of the seminar suggest that the initial list of participants named on the flyer had changed somewhat.

many of whom the Andean data and his interpretation of those data were new. Murra's aim and delivery of the LHM Lectures were panoramic: to analyze, then describe the Andean “avenue towards civilization” through synthesis of ethnohistoric data, his broad, personal, ethnographic experience of Andean cultural continuities, and whatever meager data were then available from archaeological investigations.¹⁸

When John Murra fell ill, Freda Wolf and I decided that we should undertake publication of his Lewis Henry Morgan Lectures. Freda was one of Murra's graduate students in the Department of Anthropology, Cornell University, during the early 1970s. He was chairman of her graduate committee. In 1963, she spent three months in the field as a member of the Huánuco project logistics crew and prepared an index of sites recorded by Inigo Ortiz in his 1567 *Huánuco visita* to make that document more accessible to the project archaeologists. Freda attended Murra's Morgan Lectures at University of Rochester in 1969. I was an undergraduate student of Murra at Vassar College in the mid-1950s.

In April 2006, I visited John Murra at his home in Ithaca, New York. I brought with me a formal letter for him to sign that authorized Freda and me to prepare his Morgan Lectures for publication. I could not anticipate his reaction to our suggestion. He was thrilled.

John Murra died in October 2006 at the age of ninety. He did not see his Morgan Lectures in print, but he knew Freda and I would accomplish the task honorably. Through the years both of us had become close friends and colleagues of John Murra.

In January 2012, Freda Wolf died at her home in Lima, Peru. We had almost completed a final review of the four Morgan Lectures, had assembled key illustrations, and were about to embark on our introduction to the volume. In a 1996 interview Freda held with Murra in Lima, she wrote,

Perhaps out of his own personal experience of having grown up in Eastern Europe, a part of the world in which ethnicity was and is a key element in daily life, and because he was able to speak several languages, where others often see the ethnic as a cliché, he sees the world in terms of individuals acting within certain cultural and historical contexts. The ability to put himself into an historical situation or into the description of another society, to understand and to communicate that other situation as a real situation [...] have made him a magic teacher and public speaker. (Wolf 1996: 31-2)

I hope those who knew Freda will recognize her voice in this introduction.

I have been deliberate to communicate John Murra's extraordinary comprehension of the ancient Andean world in his own words. This introduction attempts to contribute a modest structure to the oral version of Murra's Morgan Lectures, a light framework that he would have provided to a published volume. I have especially tried to keep in mind students who read the book and who may be unfamiliar with Andean ecology and prehistory.

There is a host of Murra's students and colleagues, as well as our own colleagues, whom we thank for their help in preparing this volume; Sumru Aricanli, Monica Barnes, David Block, Richard Burger,

18. Archaeological and bioarchaeological investigations that bear upon Murra's vertical archipelago model have tended to concentrate on sites in the lower reaches of the Moquegua valley, in southern Peru. This is the region where the 1567 *visita* to Chucuito provides testimony, given by altiplano informants to Garcí Diez, about members of their communities who live in the coastal region of the Moquegua (Peru) and Azapa (Chile) valleys.

Listed here are several publications that discuss the results of these studies; the earliest became available twenty years after Murra's Lewis Henry Morgan Lectures: Stanish 1989; Conrad 1993; Rice 1993; Sutter 2000; Goldstein 2000; Knudson 2008; Goldstein 2013; Knudson, et al. 2014.

Alejandro Camino, Anthony Carter, Sidney Carter, Sarah Fee, Robert Foster, Thomas Gibson, Paul Goldstein, Robert Leopold, Bruce Mannheim, Enrique Mayer, Perrice Nkombwe, Patricia Netherly, Scott Perrigo, Jorge Recharte, Frank Salomon, Helaine Silverman, Adriana Soldi, Carlos Soldi, Karen Spaulding, Gary Urton, and Judith Willis.

Our special thanks to Robert Leopold who, as Director of the Smithsonian Institution's National Anthropological Archives, greatly facilitated access to the John V. Murra archive, especially in preparing audio cassette tapes from the reel-to-reel original tapes of Murra's lectures. The Murra archive curates transcriptions of all four of his Morgan Lectures. The original tape of the third lecture has not been found.

Shortly after Freda Wolf's death, her son, Andres Romero-Wolf, contacted me and spent several days reviewing all of Freda's computer files pertaining to the Murra Morgan Lectures, which he compiled and sent to me. Andres understood the importance to his mother of the Murra/Morgan project. I remain sincerely grateful for his generous help.

I thank the Reed Foundation, New York, for a multi-year grant in support of the preparation and publication of this volume and the Selz Foundation, New York, for a grant to distribute print copies of the volume to all who helped in its preparation. I thank the Institute of Andean Research for a generous grant to fund the publication of the volume.

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Cambridge, Massachusetts
24 August 2014