

POLITICS IN THE LURIN VALLEY, PERU, DURING THE  
EARLY INTERMEDIATE PERIOD

Thomas C. Patterson, John P. McCarthy and Robert A. Dunn

The Early Intermediate Period, which can be dated from about 50 B.C. to A.D. 550 in calendrical time, has been the focus of considerable research by archaeologists on the central coast of Peru and its environs, the region that stretches from the Chancay Valley in the north to the Chilca Valley in the south and inland from the shores of the Pacific Ocean toward the continental divide in the Andes Mountains more than 100 km. to the east. This activity began nearly a century ago with the investigations of E. W. Middendorf at Maranga and of Max Uhle at Pachacámac, Cerro de Trinidad and various sites in the Rímac Valley (Middendorf, 1894, pp. 79-96; Rowe, 1954). The tempo of the research increased dramatically after the end of World War II, and, more importantly, it began to incorporate some consideration of what was happening on the west slopes of the Andes as well as what was taking place on the coastal plain (MacNeish, Patterson and Browman, 1975).

Two questions about the Early Intermediate Period archaeology of the region that have been asked with some regularity during the last 25 years are concerned with politics in the narrow sense of the term (Stumer, 1955; Earle, ms.; 1972; Dillehay, 1979; Dunn, ms.). They are: what kinds of relationships existed between the polities in this region, and how did these relationships develop and change with the passage of time? It is not surprising that questions such as these were posed at this time given the then current political and economic conditions in the world, the concomitant resurgence of social evolutionary thought in anthropology and the incorporation of many of its assumptions and tenets into the everyday theory and practice of archaeology. These questions are not simple nor are their answers which incorporate, either explicitly or implicitly, (1) a definition or notion of what a polity is, (2) some idea about the form or forms of the polities that existed in the region during the Early Intermediate Period, (3) a methodology for defining polities exclusively in terms of archaeological evidence and then recognizing them in the archaeological record and (4) some way of explaining or reconciling the discrepancies that exist between what is expected on theoretical grounds and what is actually observed on the ground.

Two recent papers that have dealt with these questions share important assumptions about the nature of politics and how they are recognized in the archaeological record. Both Timothy K. Earle and Tom D. Dillehay, the authors of the papers, employ essentially the same notion of politics (Earle, ms.; 1972; Dillehay, 1979, pp. 27-28, 30-31). They see bands, tribes, chiefdoms and states as increasingly complex organizational types, levels of development, or stages in the growth continuum of any culture or society. They also assume that there is a one-to-one correspondence between the distribution of particular pottery styles and the location of politics. Changes in the spatial distribution of Lima pottery or the appearance of "highland red wares" reflect the expansion or contraction of politics as well as potential changes in the kinds of relationships that existed between them.

At this point, the theory and practice of the two diverge. Earle worked at a number of archaeological sites in the Lurín Valley in 1968. He was concerned mainly with the expansion of a "Lima state" into the middle and upper

portions of the valley toward the end of the Early Intermediate Period. These environmental zones were inhabited at that time by the members of a "simple agrarian society" who lived in small dispersed settlements. According to Earle's argument, the Lima state originated in the Rímac Valley and expanded north and south along the coastal plain and then inland into the middle and upper portions of the coastal valleys. Population pressure was the reason for the expansion of the coastal Lima state; it involved the construction and control of new irrigation canals, the acquisition of land and resources in the middle and upper portions of the coastal river valleys, and presumably warfare between the people of the Lima and upvalley polities judging by the increased number of hilltop settlements in the Lurín Valley toward the end of the Early Intermediate Period.<sup>1</sup>

Dillehay's investigations were focused on changes in the internal structure of Huancayo Alto, a settlement situated in the *chaupiyunga*, or subtropical shrub desert, environment of the middle Chillón Valley, and how these affected the distribution and circulation of goods produced there.<sup>2</sup> He observes that the residents of Administrative Unit I used Lima pottery, and suggests that they were probably the religious-political authorities of the area. Surplus production at Huancayo Alto was distributed and circulated to groups living at lower elevations in the valley as part of periodic ceremonies. Toward the end of the Early Intermediate Period, a distinct group from the highlands, using burnished redware pottery, arrived at Huancayo Alto as migrant laborers or sharecroppers who lived in pole and thatch huts on stone-lined terraces that were separated from the remainder of the settlement. The two groups coexisted peacefully as their members exploited the resources found or grown in the *chaupiyunga*; however, the arrival of the highlanders disrupted the way in which surplus goods were traditionally redistributed at the settlement. Ultimately, this led to the establishment of a secular administrative authority at the settlement which represented the interests of both groups, the expansion of storage facilities, and the spatial separation of the two groups which reflected the property relations between them, the exclusive possession and presumably use of the surplus goods produced by the members of each.

Earle and Dillehay have constructed different models of the kinds of polities that existed in the region during the Early Intermediate Period and of the kinds of relationships that existed among them. In spite of the obvious differences between the two models, they are not necessarily mutually exclusive, they are not the only ones that can be constructed at this time, and they do not necessarily contradict the one we will outline and use in this paper. Our model of the social milieu that existed during the Early Intermediate Period is based on preliminary analyses of the social formations that produced the archaeological and historical records reflecting events that occurred in the region during the fifteenth and sixteenth centuries.<sup>3</sup> Besides presenting the outlines of the model, we also want to put forth the methodology we have used for recognizing polities in the archaeological record of the central Peruvian coast and for examining the kinds of relationships that existed among them during the Early Intermediate Period.

#### The Model and its Implications<sup>4</sup>

The productive forces available to Andean social formations before the 1530's, especially the instruments to utilize the resources of the area and to supplement and extend the labor power of the people, were limited or poorly

developed; consequently, the members of these groups spent a good deal of their labor time just reproducing the conditions of life as they knew it. To do so meant that large numbers of individuals had to cooperate with each other, however difficult this was for them. The ways in which they cooperated to produce these goods, to exchange them, and to use and consume them, as well as the rules governing their distribution within and outside of the group, constitute the social relations of production. These relations condition the politics, law, religion, ideology, and social structure of the societies and were, in turn, conditioned and reinforced by them. This, of course, is Marx's concept of the mode of production.<sup>5</sup>

Groups of individuals that cooperated did so because of the ideological cement that bound them together. Myths and rituals were two major components of their ideological system. The myths gave both individuals and groups identity through the idiom of descent; they were the living descendants of a common founder. Thus, the myths defined who had access to the productive forces and goods produced by the group; they described the rights and obligations of its members; they accounted for differences in wealth, prestige, or power in terms of heredity, relative position in the birth order, or differential access to knowledge or other symbols of authority; and they explained the nature of the relationships between the members of one group and those of another. The rituals (the feasts, festivals and ceremonies performed at periodic intervals) reaffirmed the common ancestry and interests of all the members of the group. The squabbling, competition and differences of opinion that characterized their day-to-day relationships were either set aside or channeled into activities, such as drinking bouts, dance contests, competitive house-raising, fashion shows or displays of generosity, that were acceptable to the community as a whole during these convocations. These festive ceremonies were the times when labor-intensive activities, such as cleaning irrigation canals or plowing and planting fields, were performed in conjunction with everything else characteristic of a good party. The departed ancestors were as essential to these activities as their living descendants, because they not only created the guest list but also prescribed how the guests should behave toward each other at the party and during the rest of the year (Dioses y Hombres, 1966, pp. 77-79; Arriaga, cap. XII; 1920, p. 118).

The composition and membership of groups defined by the ideology of kinship were neither stable nor bounded. Their sizes, sex ratios, and age pyramids necessarily changed with the passage of time and the growth of their developmental cycles, placing more or fewer individuals into the particular work categories of the social and technical divisions of labor that were characteristic of them. Consequently, the labor power available to the members of a group rose or fell as a result of these shifts. But, groups were continually trying to expand their access to labor power, to wealth, power and prestige, by incorporating other social units into their group through marriage, the creation of fictitious kinsmen or other kinds of alliances, or raiding or conquest. In other words, the limits of these social groups were ill-defined, their membership vague or amorphous under some conditions and clear under others. Both the limits and the membership were apparently subject to almost immediate change (Spalding, ms., ch. 2, pp. 12-14).

These groups of kinsmen, *ayllu* as they were called in the sixteenth century, were the building blocks of Andean society. They were components of larger social units which were, in turn, segments of even more inclusive units. Andean societies, in other words, consisted of a number of nested units

at different levels of inclusiveness. The larger and more inclusive the social unit, the more component groups it contained. Within the larger units, the groups were presumably ranked in hierarchies that defined the order in which they participated in feasts, ceremonies, the division of spoils or the worship of a *wak'a*. In the sixteenth century there was intense competition among these groups, regardless of their size, for status and position in the social hierarchies. Small quarrels over the order of precedence in feasts or ceremonies or disputes over the location of boundary markers between pastures or agricultural fields often flared into violence. Groups with access to the labor power of many individuals during these periods of crisis or struggle moved up in the hierarchy; their new position in the social order reflected their increased wealth, power and prestige. At times, their social mobility was accompanied by expanding the role and influence of their *wak'a*, adopting or creating new ones, or kidnapping one that was cared for by a group with fewer human or supernatural resources at its disposal (Spalding, ms., ch. 2, p. 14).

There were numerous *wak'a* in the region. They were often regarded as the deities of particular groups and were served by priests from that social unit who supervised their care and worship and interpreted their messages for the people; other *wak'a*, the rich and powerful ones, were served by individuals from a number of different social units. The religious specialists, the *yañca*, were masters or teachers who perpetuated the socially acceptable explanations of events, maintained the social cohesion of the group by ensuring that communal ceremonies honoring the *wak'a* were scheduled at the appropriate times, promoted proper behavior among the members of the group by presenting their offerings and questions to the *wak'a* and interpreting its responses to their inquiries, and recognized new *wak'a* which were ultimately the source of prosperity and status in the larger community (Spalding, ms., ch. 2, pp. 24-33).

The *kuraka*, the traditional leader, was the other guardian of the community norms. He ensured that the poorer members of the group were fed and maintained from the produce of the communal storehouses and that agricultural fields, pastures, or resource areas in distant lands were maintained and worked by various members of the group doing *mit'a* service as their turn emerged. In return for this and for the abundant food and drink he provided at feasts he gave for the entire group, his share of the communally owned lands were worked first by the members of the community. Among the Collique, a *waranqa* in the Chillón Valley, the *kuraka* was succeeded by his younger brothers in order and ultimately by their oldest surviving son in the next generation. A man was often the *kuraka* of more than one group, an *ayllu* and perhaps one or more of the larger social units of which it was a part. His position and, more importantly, that of his immediate kinsmen rose or fell as his abilities were compared with those of other officeholders in the more inclusive social unit and were ranked accordingly. As a result, his position and that of the group he represented could change repeatedly during his lifetime (Spalding, ms., ch. 2, pp. 34-36; Netherly, 1978, pp. 186-188, 192-202).

Each group of kinsmen, regardless of how small or how inclusive, attempted to be self-sufficient, to produce all of the goods its members needed to reproduce the conditions of life. They did this by having pastures, agricultural fields, and resource areas in distant lands where items not available locally were found. This meant that their landholdings were not contiguous and that their members were dispersed in order to acquire what they needed. They obtained and maintained access to these distant resource areas in various ways: conquest, slow incursion, raiding, gifts and alliances with other groups.

Often the individuals working in these distant lands specialized in the production of a single item, fish or minerals, or the maintenance of a single resource, the herds of the community as a whole. The individuals in one locality shared the fruits of their labor with kinsmen living in other places where the goods they produced were absent or in short supply. These transactions undoubtedly took place in a number of ways: traffic between kinsmen living in different places, participation in regular ceremonies or feasts that brought different segments of the group together in the same place, and the acquisition of goods at redistribution centers located near the shrine of the *wak'a* where the goods produced in different places were accumulated, stored, and reapportioned.

As a result of these attempts to be self-sufficient, the landholding patterns and the location of the settlements of each group resembled a chain of islands; each "island" was situated in or near a different resource area and was separated from similar holdings by lands that were typically controlled by the members of other social units. In other words, the countryside of the central coast of Peru was a social mosaic in which the members of different groups lived side by side or at least had fields or claims in the same resource area (Murra, 1972, pp. 444-454).

Since a model is supposed to represent the essential features of reality, the question we must pose is how does the one outlined above reflect what happened on the central coast and its environs during the Early Intermediate Period. In other words, what should we expect to find in the archaeological record? It seems that we should expect some of the following patterns. First, since the social groups in the region were ideally, if not actually, independent production units, there will be numerous production centers or localities for pottery and other items. Second, since the landholdings of these production units were spread throughout the area, the goods produced by the members of one group will occur throughout the region but will be concentrated in a particular area yielding a spatial distribution for the region as a whole which resembles a nonrandom mosaic characterized by the mutual interpenetration of items manufactured in different places. Third, since components of these groups specialized in the production of particular goods or in the utilization and maintenance of particular resources, there will be economically specialized settlements in the region. Fourth, since the social and political position of these groups was continually changing, there will be almost continual construction of shrines or pyramids in different places at different times, which reflects changes in the status of their *wak'a*.<sup>6</sup> Fifth, since the landholdings of a group expand or contract with changes in status, there will be some settlements with aggregates or assemblages of goods, like pottery, composed exclusively of items manufactured at one production center and other settlements with aggregates or assemblages of items manufactured at more than one center; shifts in the composition of assemblages or aggregates reflect changes in landholding patterns in that locality.

### The Methodology

This study is based on an analysis of surface collections made in 1966 at 96 archaeological sites in the Lurín Valley which contain pottery dating to the Early Intermediate Period (Dunn, ms.). It incorporates the results of excavations by William Duncan Strong and John M. Corbett at Pachacámac (Strong and Corbett, 1943; Patterson, 1966, pp. 113-115, 130-132), by Timothy K. Earle at various Early Intermediate Period site in the valley (Earle,

ms.; 1972) and by Rogger Ravines and Karen E. Stothert at the Huaca Villa Salvador in the lower part of the valley (Stothert, 1980).

The initial problems we had to deal with were concerned with the surface collections themselves which, regardless of how they were collected, are at best aggregates of objects that may or may not have been manufactured in the same locality or area and may or may not have been contemporary. In other words, we had to consider three questions simultaneously. What procedures were used in making the collections? Assuming that pottery vessels were discarded in places where they were broken, where were they manufactured? And, assuming that these vessels had relatively short life expectancies (Foster, 1960), when were they used?

The procedures used in making the pottery collections yielded non-random samples. Rims, decorated fragments and sherds with distinctive stylistic or ware features were selected. As a result of the procedures, these collections contain a higher proportion of unusual, decorated or diagnostic sherds than would be found in randomly selected samples from the same sites. It also means that many of the sites plotted as "mixed aggregates or assemblages" in figs. 2-9 yielded collections that contained materials manufactured in both of the two production areas we could identify in the valley on the basis of preliminary analyses while random collections from the same sites would have been composed predominantly of materials that were manufactured in one or the other of the two production areas.

Determination of the area of manufacture of the pottery vessels represented in the various collections has involved preliminary analyses of their ware characteristics, the kinds and sizes of the natural inclusions in the clays and the colors which reflect a combination of chemical composition, degree of oxidation and firing temperature, as well as certain stylistic features reflected by surface treatment. The clays used in the production of "upvalley" ceramics in the Lurín Valley and adjacent areas, judging comparisons with broadly contemporary materials from the Huarochirí region in the upper Mala Valley to the south and east and the Mamaq region at the confluence of the Rímac and Santa Eulalia rivers to the north and with later pre-Columbian and modern materials from this region in general and from the modern pottery-making center of Santo Domingo de Olleros at the headwaters of the Chilca River, appear to be different from those used by "downvalley" potters in the lower parts of the Lurín Valley during the Early Intermediate Period. They seem to contain more feldspars, biotite mica and dark quartz particles than those used by downvalley potters. The natural inclusions also exhibit a much greater range of variation in size than those found in the downvalley clays. And, the core and surface colors of pottery vessels produced from them vary from dark red through brown tones while those manufactured in the lower part of the valley range from orange through pinks and light reds to brown.<sup>7</sup> The differences in ware characteristics, defined by the kinds of inclusions and their sizes as well as by the colors of the finished pottery vessels, are also associated to a significant extent with differences in shape and decoration.

Local phases were defined for both production areas on the basis of excavated assemblages composed of contemporary objects or single-phase aggregates. The excavated assemblages were characterized by high proportions of particular configurations of shape, design and ware features which suggested that they were made by potters using the same clays and manufacturing vessels according to the same canons of shape and design. Single-phase aggregates,

collections that lacked associations of contemporaneity but displayed limited ranges of variation similar to those characteristic of the excavated assemblages, were treated as assemblages and used in the same manner. Phases defined in this way were ordered chronologically on the basis of stratigraphic and seriation evidence. The local sequences were cross-dated by the presence of trade sherds, items conforming to the stylistic canons characteristic of the pottery manufactured in the production area which was least represented in the materials composing the assemblage or aggregate. The remainder of the collections was examined for chronologically distinctive or diagnostic pieces manufactured in either production area of the valley or outside of it; the results of these analyses were employed to establish when each site was occupied or used.

After determining the temporal distribution of the materials in each collection as well as the production area in which they were manufactured, we used a computer mapping program, the Synagraphic Mapping System (SYMAP) (Dougenik and Sheehaw, 1976), to clarify the relationships that existed among contemporary components in the Lurín Valley and make them visually apparent and meaningful. The product was a series of eight computerized representations of the spatial relationships that existed among the assemblages or aggregates assigned to each major epoch of the Early Intermediate Period. These representations are reproduced in conjunction with site distribution maps which indicate not only the location of each site but also the composition of the ceramic assemblage or aggregate found at it during that particular epoch (figs. 2-9). The positions of the data points on the computerized representations approximate the actual locations of the archaeological sites plotted on outline maps based on the 1:200,000 topographic sheets of the Instituto Geográfico Militar.

For the purpose of this paper, the most important feature of the SYMAP program is that it employs a modified gravity model to describe and represent the interaction between contemporary archaeological components or sites, the data points. It is a modified gravity model in the sense that it considers only the distance between data points and ignores differences in their magnitudes regardless of whether these are defined in terms of surface area, estimated population size, sherd density or some other characteristic that can be expressed quantitatively. As a result, the program probably over-emphasizes the significance of some sites, such as cemeteries, quarries or herding camps in the *lomas*, and under-emphasizes the importance of other sites, such as villages with large surface areas, estimated populations or special functions.

The particular SYMAP program we used recognizes only qualitative distinctions between data points. In this paper, these are defined in terms of the composition of the pottery assemblage or aggregate found at archaeological sites that were occupied or used during each epoch of the Early Intermediate Period. We have assigned one of three mutually exclusive values to each archaeological component: upvalley (U), downvalley (D) or mixed (M). Upvalley units are composed mainly of pottery manufactured from upvalley clays. Downvalley units are composed mainly of pottery manufactured from downvalley clays. And mixed units consist of vessels manufactured in both the upvalley and downvalley production areas.

When adjacent data points have the same value, i.e., the compositions of their pottery assemblages or aggregates are plotted as identical, the program makes no distinction between them. When adjacent data points have different values, i.e., the composition of their pottery components is different,

SYMAP draws a boundary midway between the two. The spaces on either side of this boundary are plotted as having different values which reflect those of the sites incorporated in them. Consequently, the spaces surrounding particular data points incorporate the limitations of the modified gravity model: the importance of some sites is enhanced while that of others is diminished.

#### What do the Maps Reveal?

The maps reproduced in figs. 2-9 reflect the spatial distributions of upvalley, downvalley or mixed pottery assemblages or aggregates in the Lurín Valley during each epoch of the Early Intermediate Period. Although the spatial distribution of each epoch is unique, there is a general similarity between those of one epoch and the next. Consequently, it is possible to describe a typical pattern for the Early Intermediate Period as a whole, though it is one that reflects the spatial arrangement of no epoch in particular. This typical pattern has the following characteristics: (1) upvalley assemblages or aggregates occur almost exclusively above Sisicaya and in the Atocongo *lomas* near the mouth of the river; (2) downvalley assemblages or aggregates occur almost exclusively below Cieneguilla where the valley begins to widen; and (3) there is a shifting frontier on the peripheries of the two areas which is located mainly between Cieneguilla and Sisicaya and which is composed of a few upvalley and downvalley units but primarily of mixed ones. The most significant feature of this spatial pattern is that the three kinds of assemblages or aggregates (upvalley, downvalley and mixed) are partially segregated.

This spatial pattern reflects the existence of two distinct social formations in the Lurín Valley during the Early Intermediate Period. Sites with pottery manufactured from upvalley clays were occupied or used by individuals who participated exclusively during that epoch in exchange relationships that involved the circulation of upvalley pottery. Presumably, these groups sent colonists to the lands, fields and resource areas in the frontier zone between Sisicaya and Cieneguilla and seasonal *mit'a* or age set laborers to the July season pastures in the coastal *lomas* plant formations. Sites with pottery manufactured from downvalley clays were occupied or used by individuals who participated exclusively during that epoch in exchange relationships involving the circulation of pottery produced in that area. These groups also sent colonists into the frontier on the periphery of their area, the lands and fields between Cieneguilla and Sisicaya, and, at times, controlled or had exclusive access to resource areas as far up the valley as Antioquia.

The frontier zone is more difficult to interpret, because it reflects a number of different situations. The upvalley and downvalley assemblages or aggregates indicate the presence of colonists from those areas. The mixed components occur at places that were used simultaneously or sequentially by individuals affiliated with both the upvalley and downvalley production centers or that were occupied or used by the same group of individuals who participated sequentially in exchange relationships that involved the circulation of pottery produced in one area and then in relationships that involved the circulation of pottery produced in the other area. In other words, there were always groups with different social, economic, and political affiliations in the frontier area; they shared access to some resource areas, contested others, and occasionally changed their alliances.

The typical pattern is remarkably persistent throughout the Early



Intermediate Period. It is as characteristic of Epoch 1 as it is of Epoch 8. What changes between the beginning and end of the period is the number of residential populations, i.e., assemblages or aggregates, participating in upvalley and downvalley relationships. It reverses. During the first four epochs, the majority of the residential populations, though not necessarily the largest number of individuals, used pottery produced in the upvalley production area. The shift began in Epoch 5 with a significant increase in both the number and frequency of mixed components, a situation that continued throughout the remainder of the period. During the last three epochs, the majority of the residential populations used pottery produced in the downvalley production area.

Our preliminary analyses suggest that this shift was more the product of socio-economic factors than an artifact of or deficiency in the patterns of archaeological exploration. It reflects the expansion of the downvalley social formation through the incorporation of upvalley residential populations, especially those in the frontier area between Cieneguilla and Sisicaya and the area immediately above Sisicaya. This process began in Epoch 5 and culminated in Epoch 8. It was also associated with (1) the construction or extension of the irrigation canals in the frontier area during Epoch 7 to their modern limits, (2) the diminished presence of upvalley herdsman in the Atocongo *lomas* and the increased presence of downvalley herds in these pastures,<sup>8</sup> and (3) the construction of a major pyramid complex at Pachacámac during Epoch 8 (Patterson, 1966, pp. 116-117).

What happened in the Lurín Valley was similar in a general way to what took place elsewhere in the area during the Early Intermediate Period; however, it cannot be treated in isolation from those events or understood except in relation to them. The reason is that the groups involved in the upvalley and downvalley social formations in the Lurín Valley had closer ties to groups living in similar locales in other valleys to the north or south than they had to each other. For example, the downvalley pottery produced in the Lurín Valley during epochs 5 to 8 has similarities to that found in assemblages and aggregates as far north as the lower Chancay Valley and in the Mamaq area at the confluence of the Rímac and Santa Eulalia rivers. Though these units share numerous features, there were also significant local and regional differences in shape, design and ware characteristics that indicate the existence of between four and eight independent production centers in the area during this period.

### Conclusions

We described a model of what Andean social formations were like on the central coast and its environs at the time of the conquest and suggested that similar conditions prevailed in the area during the Early Intermediate Period. We also indicated how interactions between two distinct social formations would appear in the archaeological record of the area. We used a computerized mapping technique to examine the spatial distributions of different kinds of pottery assemblages or aggregates in the Lurín Valley during each epoch of the Early Intermediate Period and found that they conformed quite closely to the predictions of the model.

While computers do not resolve all problems of archaeological interpretation, the combination of a reasonably detailed survey and ceramic analysis with a computerized mapping technique has provided us with a very detailed

picture of differences in the spatial distributions of three kinds of pottery assemblages or aggregates in the Lurín Valley during each epoch of the Early Intermediate Period. Within the space limitations of this paper, we have provided some interpretations of the significance of these spatial distributions and the changes that occurred from one epoch to the next. Further interpretations will be possible when these results are integrated with analyses of other kinds of information.

#### Acknowledgements

This paper ultimately stems from one that was written in Berkeley in 1960, when John Rowe was directing a research seminar in Andean archaeology, Dorothy Menzel was analyzing Andean archaeological materials in the basement of the Lowie Museum, and the senior author was a beginning graduate student in the Department of Anthropology at the University of California (Patterson, ms.a). Rowe and Menzel contributed significantly to that paper through their questions and constructive criticism. More importantly, they helped to create an intellectual environment which encouraged curiosity, a healthy respect for the importance of archaeological associations, and meticulous analytical methods. We dedicate this paper to them.

We wish to acknowledge the generous support of the National Science Foundation, International Institute of Education, Wenner-Gren Foundation for Anthropological Research, Archaeological Research Facility of the University of California at Berkeley, Peabody Museum of American Archaeology and Ethnology of Harvard University, Yale University and Temple University, all of whom have provided financial assistance at one time or another during the past twenty years, for the research on which this paper is based. We wish to acknowledge the institutional support of the Patronato Nacional de Arqueología, the Museo Nacional de Antropología y Arqueología (Lima), Universidad Nacional Mayor de San Marcos, and the Museo de Pachacamac. We especially want to thank Timothy K. Earle for access to his unpublished research on archaeological collections he made in the Lurín Valley in 1968. We also want to thank Stephen Graff, Richard Burger, Karen Spalding, John Murra, Patricia Netherly, Craig Morris, Lucy Salazar de Burger, Arturo Jiménez Borja, Alberto Bueno and María Rostworowski de Diez Canseco for their support, curiosity, constructive criticism or theoretical clarity while the information discussed in this paper was being assembled, processed or analyzed.

#### NOTES

<sup>1</sup> The theoretical basis for their position lies in Julian H. Steward's (1977) view of the hydraulic state and Robert Carneiro's (1970) circumscription theory of the origins of the state.

<sup>2</sup> Dillehay's concern with the redistributive aspects of the relations of production is based on John Murra's (1967; 1972) verticality model in which groups sent out colonies to exploit and control a series of discontinuous resource areas.

<sup>3</sup> Arriaga, 1920; Dioses y Hombres, 1966; Murra, 1972, pp. 444-454; Rostworowski de Diez Canseco, 1970; 1972; 1973; 1974; 1976; 1978; Spalding, ms.

<sup>4</sup>Karen Spalding is the one person who has contributed most through conversations and her writings to the development of the model (Spalding, ms.).

<sup>5</sup>Patterson (1983; ms.b) discusses the utility of the concept for archaeologists and suggests ways in which it can be used to organize and interpret archaeological evidence.

<sup>6</sup>Patterson (1974, p. 70) indicates the relationship between the location of a *wak'a* and shrine construction at Pachacámac during the early part of the Middle Horizon.

<sup>7</sup>Dillehay (1979, p. 27) notices the same situation at Huancayo Alto in the Chillón Valley and Patterson (1966, pp. 99-100) has made the same observation for pottery produced at middle elevations in the Chancay Valley.

<sup>8</sup>In the Chillón Valley, camelid remains became more prevalent in refuse deposits during Epoch 7, which is the time when campsites with Lima 6 pottery appear in the *lomas* plant formations of the area. This suggests that herding was becoming a more important economic activity in the coastal social formations than it had been earlier.

#### BIBLIOGRAPHY

- Arriaga, Pablo Joseph de  
1920 La extirpación de la idolatría en el Perú [1621]. Colección de Libros y Documentos Referentes a la Historia del Perú, segunda serie, tomo I. Imprenta y Librería Sanmarti y Cia., Lima.
- Carneiro, Robert L.  
1970 A theory of the origin of the state. *Science*, vol. 169, no. 3947, 21 August, pp. 733-738. Washington.
- Dillehay, Tom D.  
1979 Pre-Hispanic resource sharing in the central Andes. *Science*, vol. 204, no. 4388, 6 April, pp. 24-31. Washington.
- Dioses y Hombres  
1966 Dioses y hombres de Huarochirí. Edición bilingüe. Narración quechua recogida por Francisco de Avila [1598?]. Traducción: José María Arguedas. Estudio Biobibliográfico: Pierre Duviols. Museo Nacional de Historia and Instituto de Estudios Peruanos, Lima.
- Dougenik, James A., and Sheehaw, David E.  
1976 SYMAP user's reference manual, fifth edition, revised. Laboratory for Computer Graphics and Spatial Analysis, Graduate School of Design, Harvard University, Cambridge.
- Dunn, Robert A.  
ms. Early Intermediate Period ceramic assemblages from the Lurín Valley of central Peru. M.A. thesis in Anthropology, Temple University, Philadelphia, 1979.

- Earle, Timothy Keese  
 1972 Lurin Valley, Peru: Early Intermediate Period settlement development. *American Antiquity*, vol. 37, no. 4, October, pp. 467-477. Washington.
- ms. The Early Intermediate Period settlement of the Lurín Valley, Peru. Senior Honors Thesis in Anthropology, Harvard University, Cambridge, 1969.
- Foster, George M.  
 1960 Life-expectancy of utilitarian pottery in Tzintzuntzan, Michoacán, Mexico. *American Antiquity*, vol. 25, no. 4, April, pp. 606-609. Salt Lake City.
- MacNeish, Richard Stockton, Patterson, Thomas Carl, and Browman, David Ludwig  
 1975 The central Peruvian prehistoric interaction sphere. Papers of the Robert S. Peabody Foundation for Archaeology, vol. VII. Andover.
- Middendorf, Ernst Wilhelm  
 1894 Peru: Beobachtungen und Studien über das Land und seine Bewohner während eines 25 jährigen Aufenthalts. Band II, Das Küstenland von Peru. Robert Oppenheim (Gustave Schmidt), Berlin.
- Murra, John Victor  
 1967 La visita de los chupachu como fuente etnológica. Visita de la provincia de León de Huánuco en 1562, Iñigo Ortiz de Zúñiga, visitador. Documentos para la Historia y Etnología de Huánuco y la Selva Central, tomo I, pp. 381-406. Huánuco.
- 1972 El "control vertical" de un máximo de pisos ecológicos en la economía de las sociedades andinas. Visita de la provincia de León de Huánuco en 1562, Iñigo Ortiz de Zúñiga, visitador. Documentos para la Historia y Etnología de Huánuco y la Selva Central, tomo II, pp. 427-476. Huánuco.
- Netherly, Patricia Joan  
 1978 Local level lords on the north coast of Peru. Ph.D. dissertation, Anthropology, Cornell University, 1977. University Microfilms International, 78-7792. Ann Arbor.
- Patterson, Thomas Carl  
 1966 Pattern and process in the Early Intermediate Period pottery of the central coast of Peru. University of California Publications in Anthropology, vol. 3. Berkeley and Los Angeles.
- 1974 Pachacamac revisited: some comments on methods of interpreting archaeological evidence. Perspectives in palaeoanthropology; Professor D. Sen Festschrift, edited by Asok K. Ghosh, pp. 65-62. Firma K. L. Mukhopadhyay, Calcutta.
- 1983 The theory and practice of archaeology; a workbook. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.
- ms.a A ceramic sequence from Cerro de Trinidad and its relationships with the Early Intermediate Period pottery of the coast of Peru. Unpublished dittoed manuscript, Berkeley, 1961.

- ms.b      Structure, variation, and transformation in Andean social formations. Unpublished manuscript in possession of the author, Philadelphia, 1981.
- Rostworowski de Diez Canseco, María
- 1970      Etnohistoria de un valle costeño durante el Tahuantinsuyu. Revista del Museo Nacional, tomo XXXV, 1967-1968, pp. 7-61. Lima.
- 1972      Breve ensayo sobre el Señorío de Ychma o Ychima. Boletín del Seminario de Arqueología, Arqueología PUC, no. 13, enero-diciembre, pp. 37-51. Lima.
- 1973      Las etnias del valle de Chillón. Revista del Museo Nacional, tomo XXXVIII, 1972, pp. 250-314. Lima.
- 1974      Plantaciones prehispánicas de coca en la vertiente del Pacífico. Revista del Museo Nacional, tomo XXXIX, 1973, pp. 193-224. Lima.
- 1976      Pescadores, artesanos y mercaderes costeños en el Perú prehispánico. Revista del Museo Nacional, tomo XLI, 1975, pp. 311-350. Lima.
- 1978      Señoríos indígenas de Lima y Canta. Historia Andina 7. Instituto de Estudios Peruanos, Lima.
- Rowe, John Howland
- 1954      Max Uhle, 1856-1944; a memoir of the father of Peruvian archaeology. University of California Publications in American Archaeology and Ethnology, vol. 46, no. 1, pp. 1-134. Berkeley and Los Angeles.
- Spalding, Karen W.
- ms.      Huarochirí. Manuscript to be published by Stanford University Press, Palo Alto, 1982.
- Steward, Julian Haynes
- 1977      Wittfogel's irrigation hypothesis. Evolution and ecology; essays on social transformation edited by Jane C. Steward and Robert F. Murphy, pp. 87-99. University of Illinois Press; Urbana, Chicago and London.
- Stothert, Karen Elizabeth
- 1980      The Villa Salvador site and the beginning of the Early Intermediate Period in the Lurín Valley, Peru. Journal of Field Archaeology, vol. 7, no. 3, Fall, pp. 279-295. Boston.
- Strong, William Duncan, and Corbett, John M.
- 1943      A ceramic sequence at Pachacamac. Archeological studies in Peru, 1941-1942. Columbia Studies in Archeology and Ethnology, vol. I, no. 2, pp. 27-121. New York.
- Stumer, Louis Michael
- 1955      History of a dig. Scientific American, vol. 192, no. 3, March, pp. 98-104. New York.

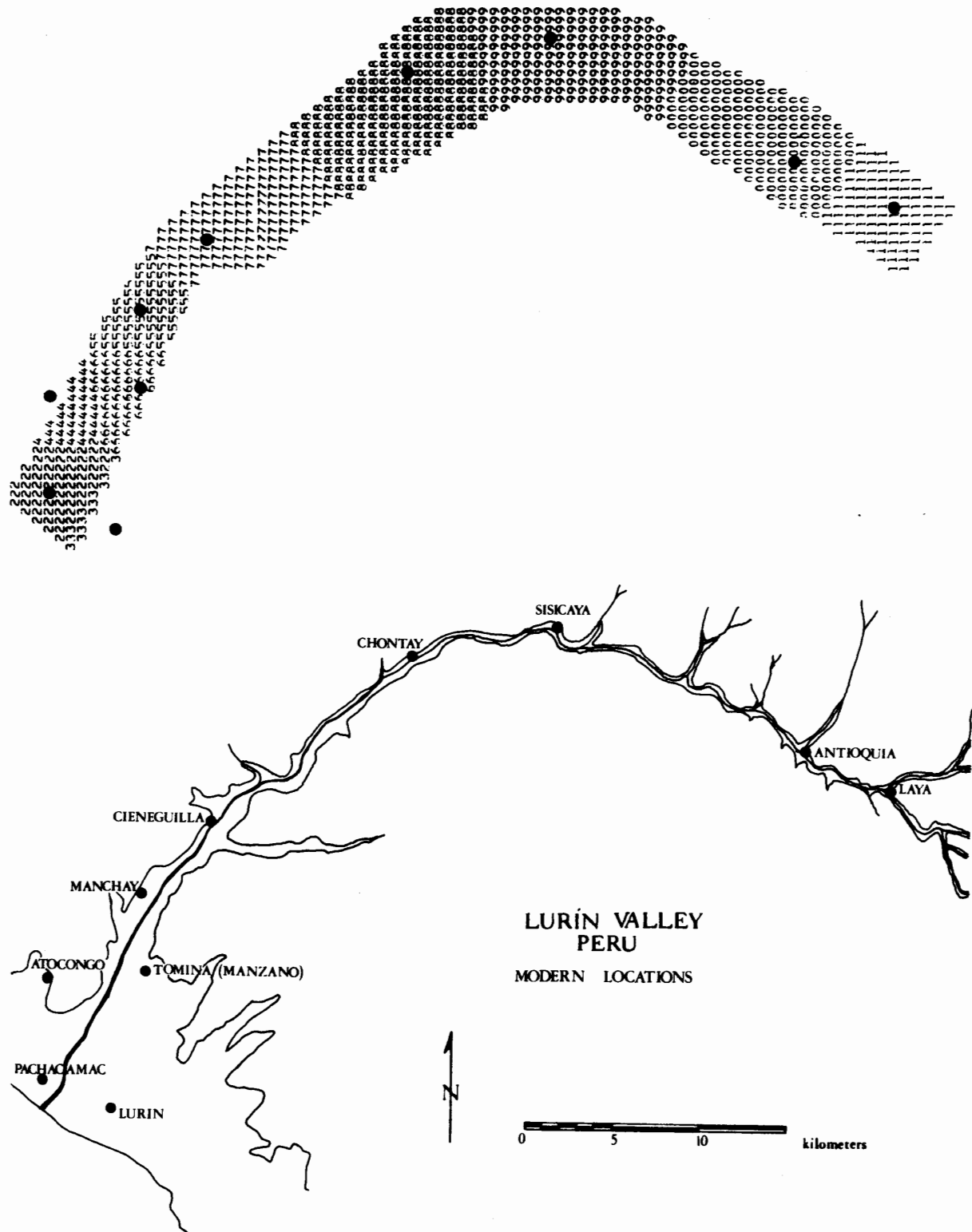


Fig. 1.

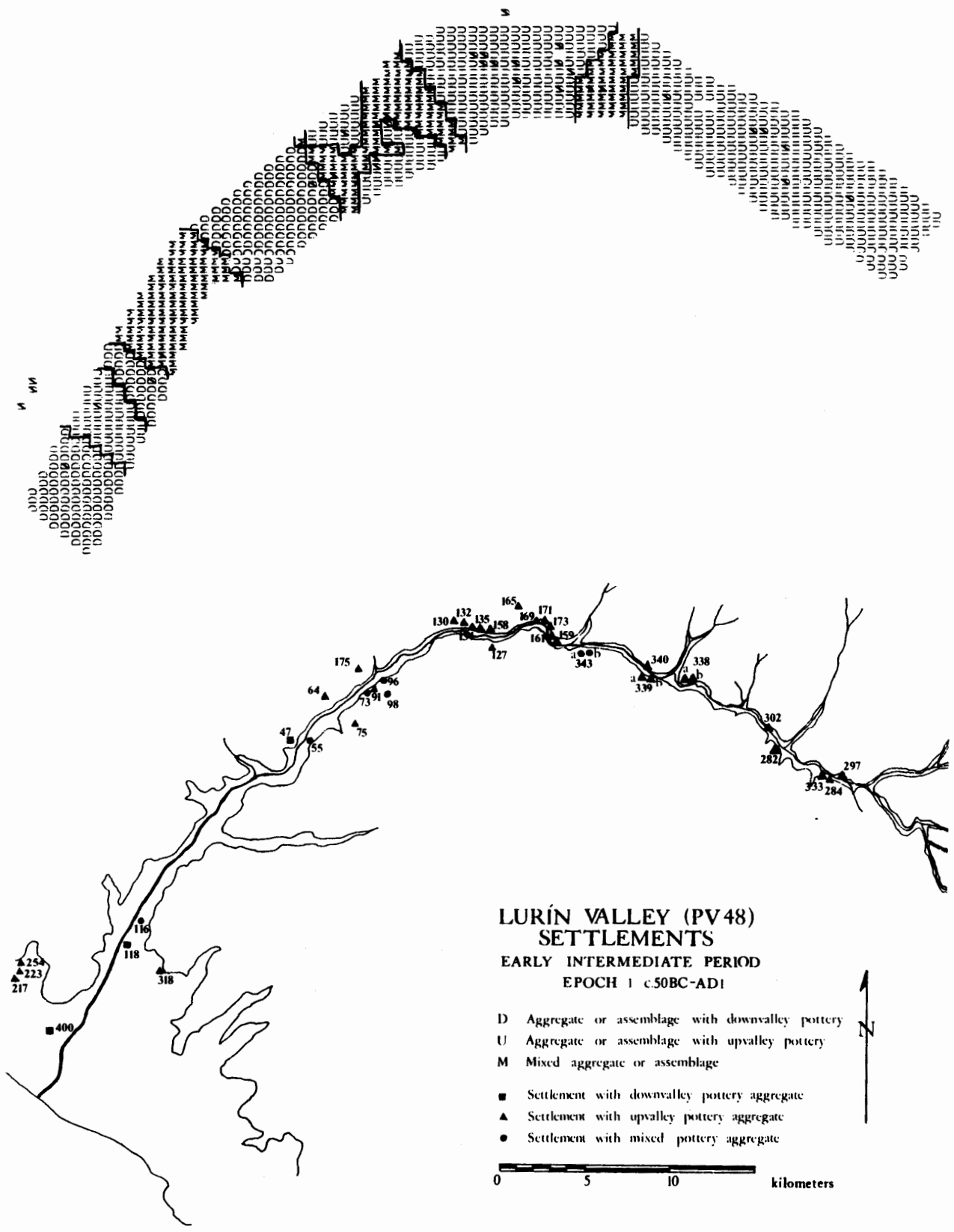


Fig. 2.

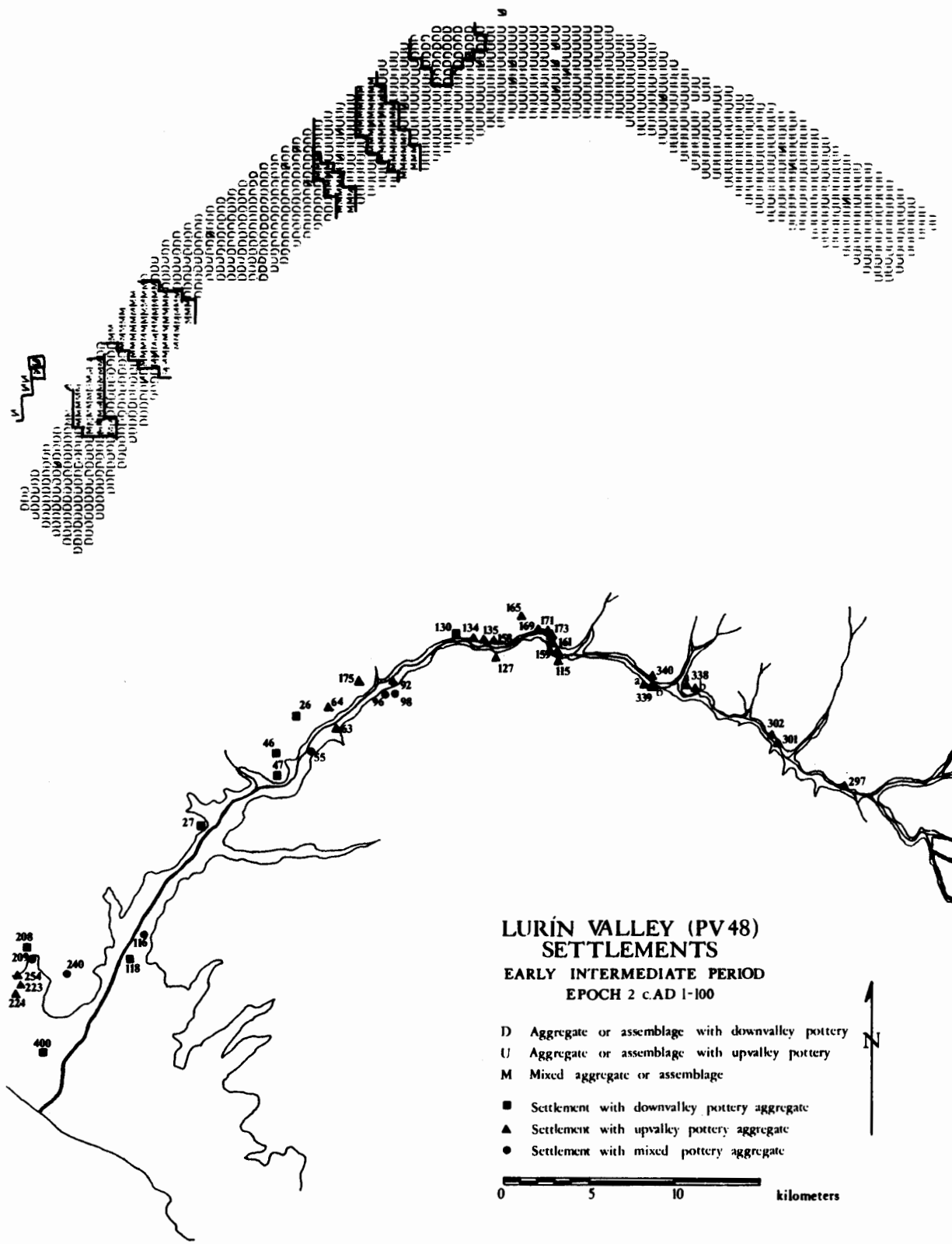


Fig. 3.



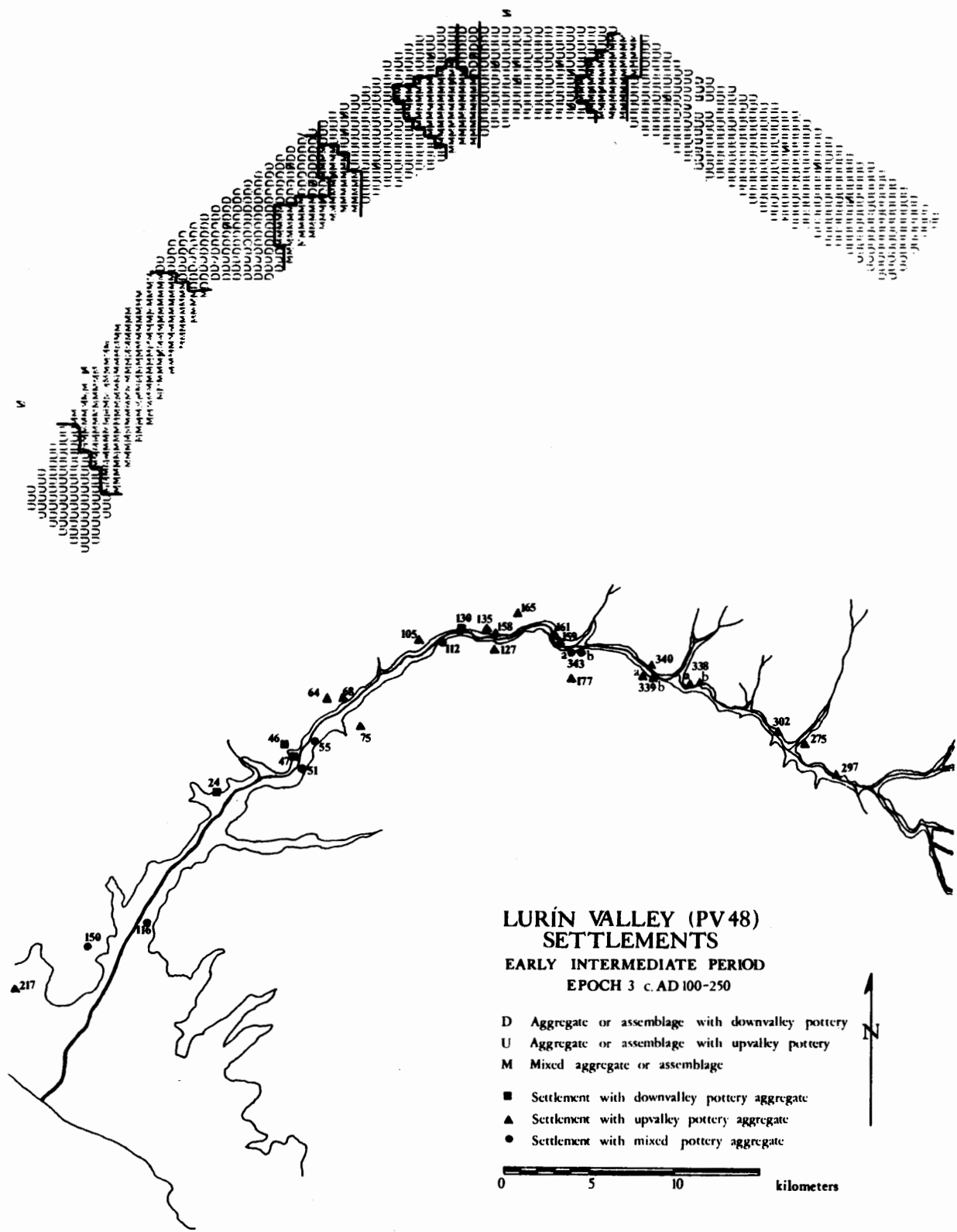


Fig. 4.

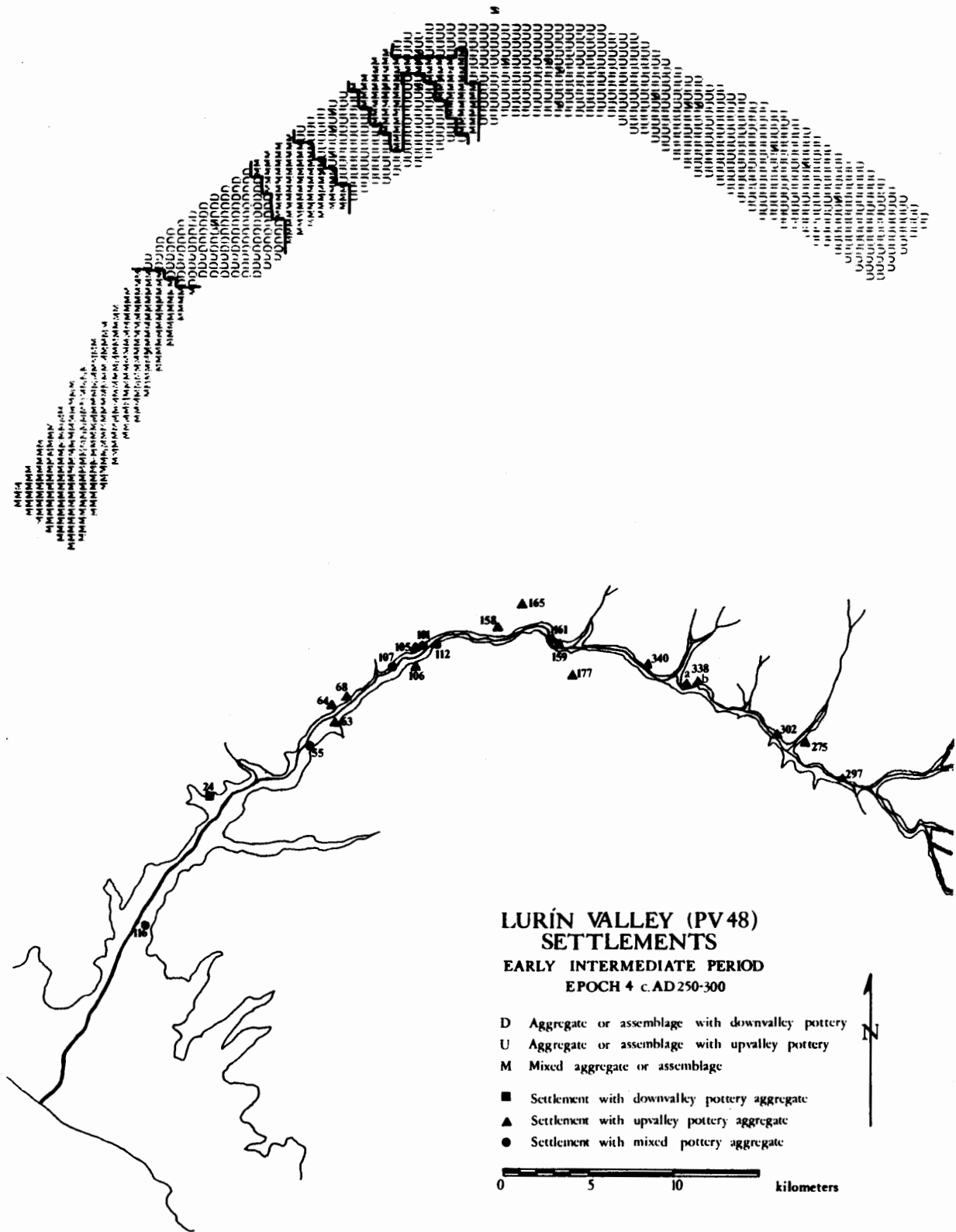


Fig. 5.

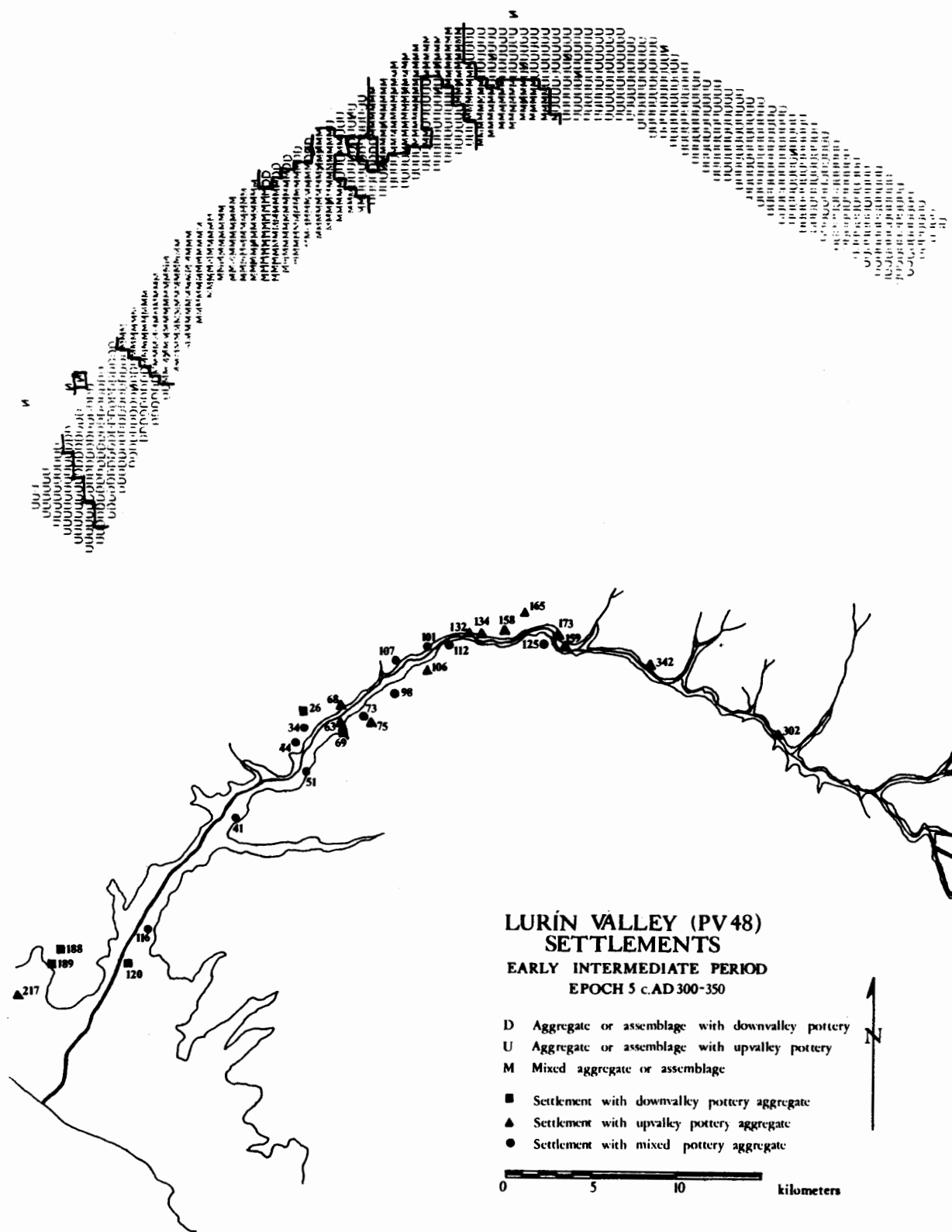


Fig. 6.

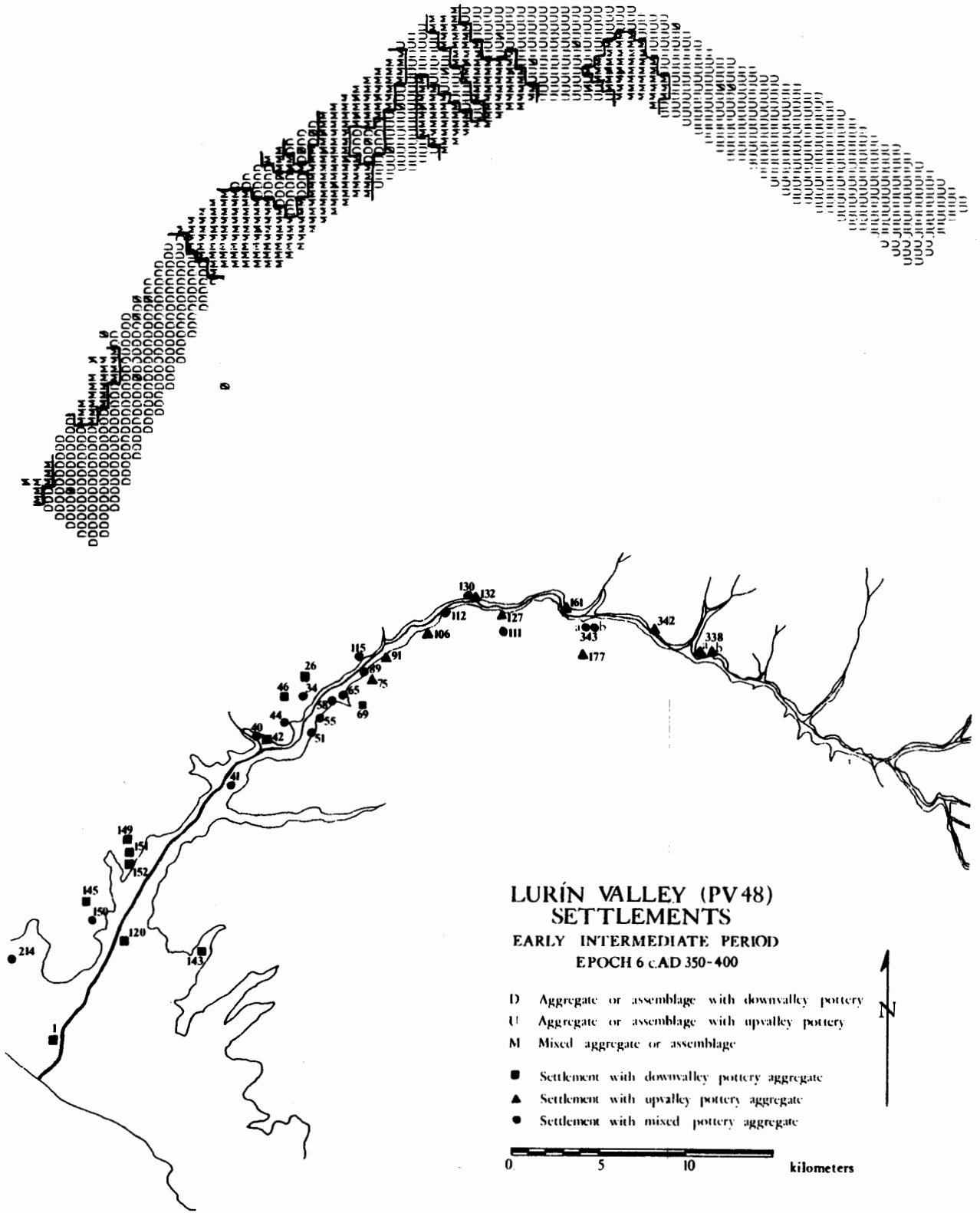


Fig. 7.

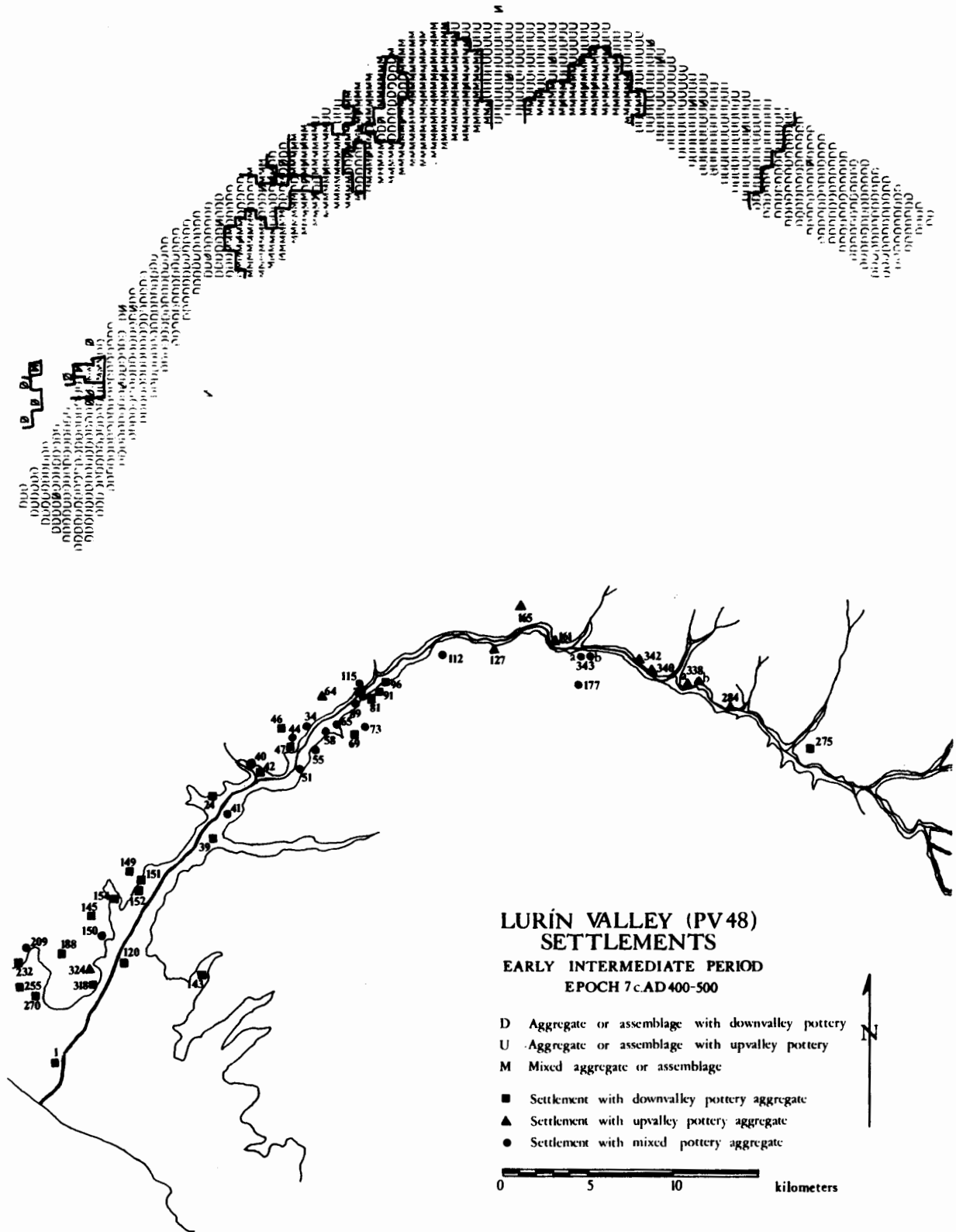


Fig. 8.

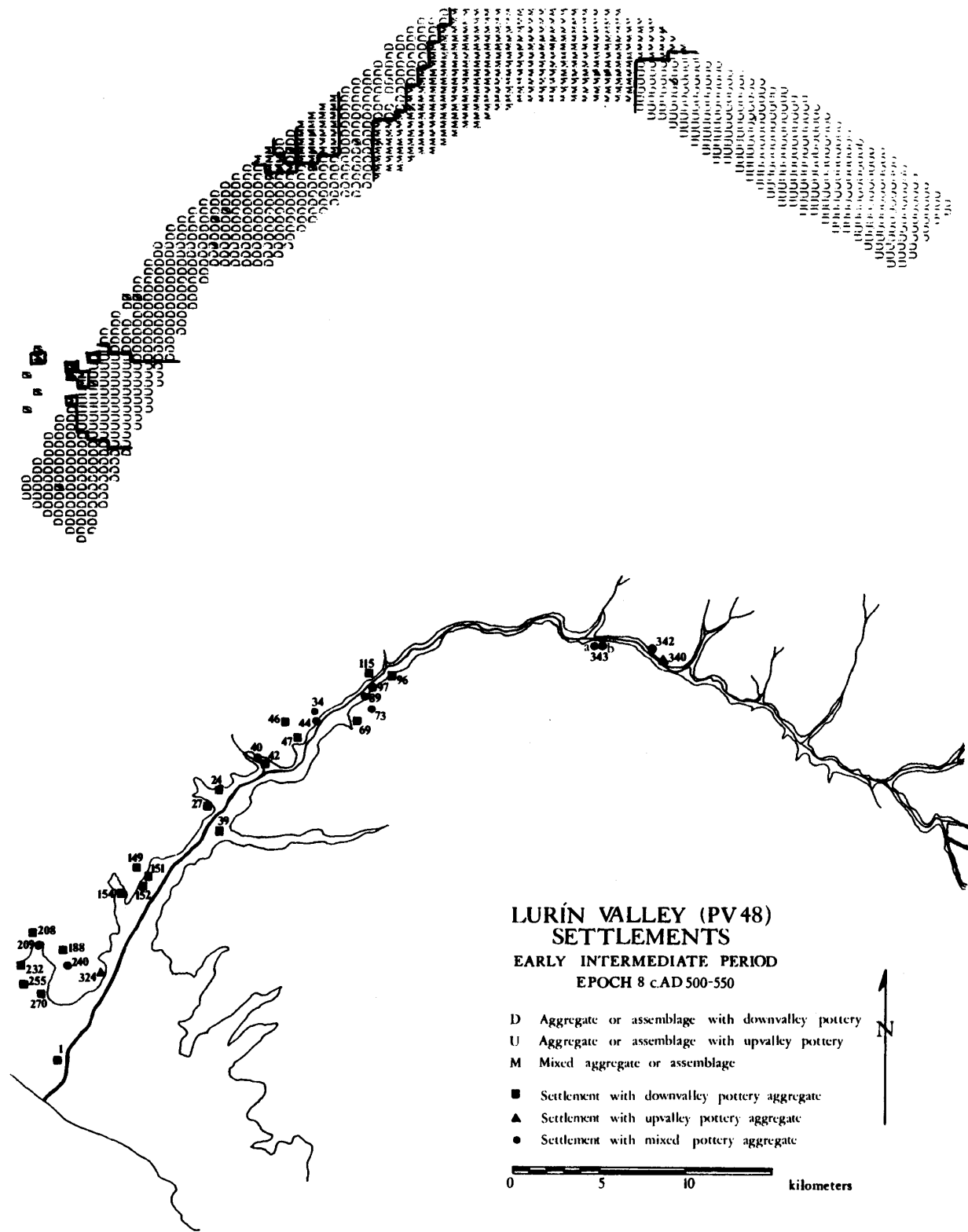


Fig. 9.