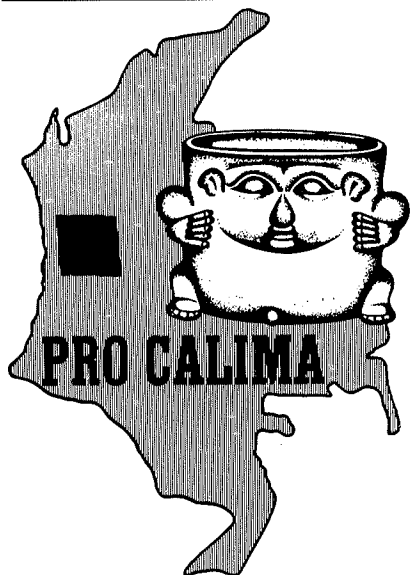




PRO CALIMA

Archäologisches Projekt
im westlichen Kolumbien/Südamerika

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Pro Calima, Basel, Switzerland

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Report on the 1984 Field Season in Calima

By Warwick Bray, Leonor Herrera and Marianne Cardale Schrimpff

1. Introduction

With apologies to our friends and sponsors, we present this much delayed report on the 1984 field season. As more and more specialists are drawn into the project, the difficulties of coordinating and editing information from several countries (and in various languages) become more complex. The present issue of *Pro Calima* has contributors from Colombia, Britain, Switzerland, the United States and the U.S.S.R. In keeping with our policy of publishing reports by other scholars working in Calima, we are especially pleased to include two articles summarizing the results of excavations at Jiguales. These excavations complement our own, and provide the first house-plans of the Yotoco and Sonso periods.

Archaeologically the 1984 and 1987 campaigns were profitable and exciting. At the personal level, however, the years since our last report have brought unforeseen losses. In Switzerland, one of our first, and most generous, sponsors, Dr. Max Graf, died in April 1987 after a short illness. Of colleagues who took part in the field work over the years, Bob Eidt was tragically killed when his plane crashed at Milwaukee, and Rene Hoens disappeared without trace, somewhere in the Sierra de Cocuy, after completing his part of the Calima vegetation survey. Professor Earle Smith Jr., one of the best-known archaeobotanists in the U.S.A., also died prematurely in a car accident in Alabama. His report on our plant remains is included in this issue. And finally, as this manuscript was going to press, we learned with great sadness of the death of Ann Osborn, a personal friend and professional colleague for more than 25 years, and a member of the Calima Project from 1984 onwards. We dedicate the present issue of *Pro Calima* to the memory of all these friends.

Field work in 1984 followed the usual pattern: a short reconnaissance visit early in the year and a full campaign in July-September. As

promised in *Pro Calima* 4, the work had three main objectives: (1) excavation of the recently discovered Ilama settlement at El Topacio, (2) completion of work on the large platform (No. 1) at El Dorado, and (3) another assault on the problems of the agricultural 'field lines' and the history of sedimentation in the Valley of El Dorado.

Each year, too, sees new material added to our photographic corpus, an essential, if undramatic, aspect of the work, which has provided information of a kind not obtainable from our own excavations. This year's cover (v. also Fig. 1) illustrates a recent addition to the archive.

2. Research on the Ilama Phase

As mentioned in the last issue of *Pro Calima*, in the 1984 field season we finally discovered and excavated an Ilama settlement site at El Topacio. This goal, long pursued, had proved difficult to achieve, partly because these sites had often been modified or destroyed by later indigenous settlement and partly as a result of our rather limited knowledge of Ilama plain wares. The opportunity El Topacio has provided for studying Ilama plain wares has greatly facilitated the recognition of this material elsewhere, and two more



Fig. 1. Double chambered jar in the form of a standing human figure with the head of a leaf-nosed bat. Red paint on rear of body and forehead, white on chest. Probably Yotoco period. h. 15 cm. Hda. Playa Rica. Restrepo. Private collection.

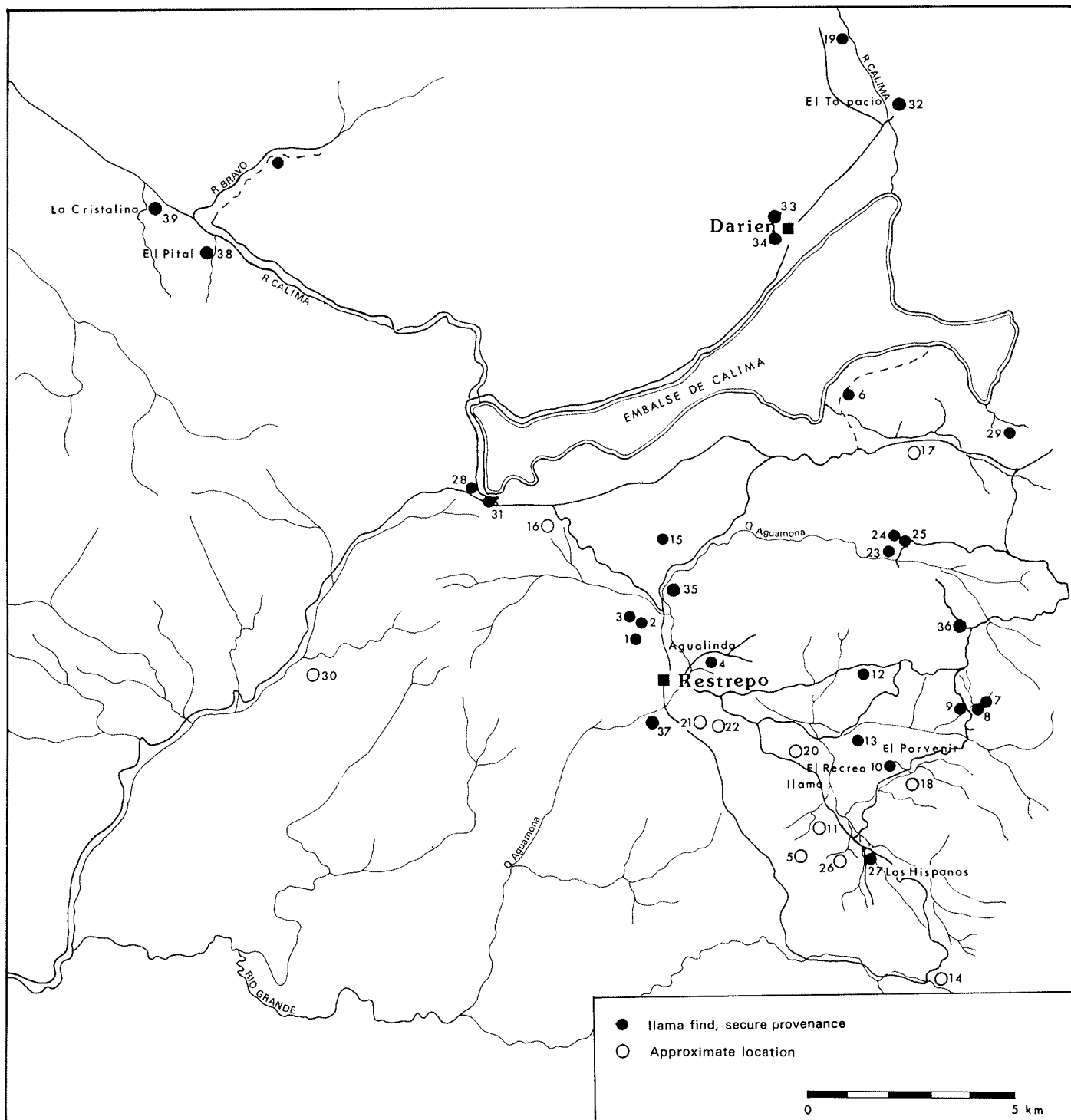
Ilama sites, El Pital and La Cristalina (Fig. 2) have since been discovered by Hector Salgado in the Middle River Calima area, during the course of his survey of the area to be affected by the Calima III reservoir (Salgado 1986).

In our last issue of *Pro Calima* we mentioned our strategy of compiling information on burial sites belonging to the Ilama culture. We have now been able to map over 30 sites (most of them cemeteries) where Ilama finds have been reported.

While the Ilama settlement of the Calima area was undoubtedly intensive, it has proved more difficult to plot the extension of the culture outside this geographical region. Occasional finds of characteristic Ilama vessels have been reported from a number of places – from Belen de Umbría in the north, to Santander de Quilichao in the south. However, although the areas indicated in the accompanying map (Fig. 3) have been visited, it has not yet been possible to find evidence of

Ilama settlement in these places. One of the most intriguing features is the possible presence of a modified version of Ilama culture in the jungles of the Pacific lowlands. Some of the incised ware from the initial level at Catanguero, on the lower river Calima (a site discovered by Reichel-Dolmatoff 1965: 85, 100, 114), is identical to Ilama pottery from the highlands, while a frequently occurring vessel form at Catanguero appears related to one which is characteristic of the Ilama

Fig. 2. Map of the Calima region, showing Ilama period sites.



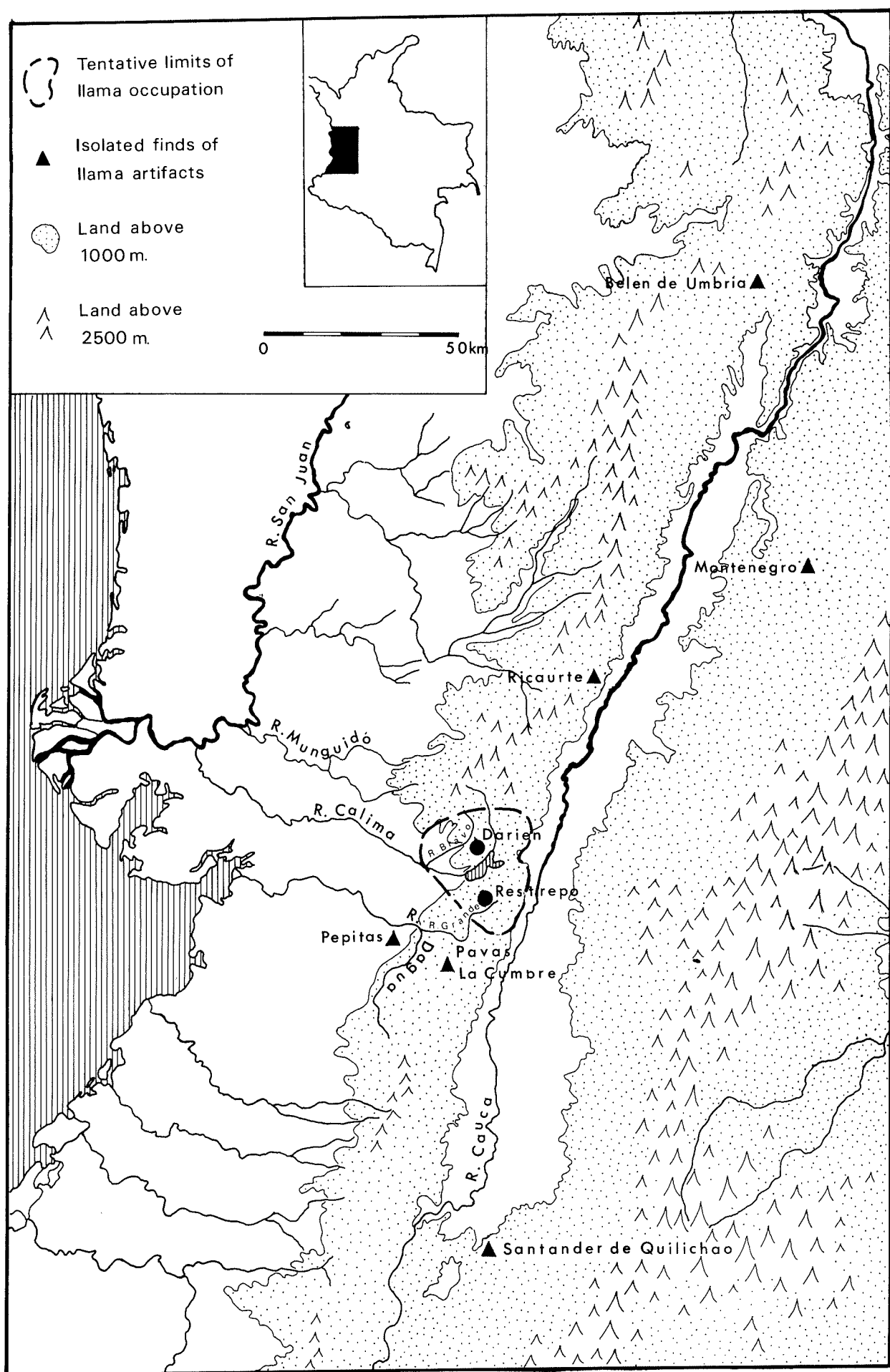


Fig. 3. Central-Western Colombia, showing Calima (centred on Darien and Restrepo)

levels at the geographically intermediate site at El Pital (Salgado 1986, Fig. 5, no. 2). Detailed reports of both sites are in preparation and their publication will undoubtedly throw fresh light on the issue.

Eight radiocarbon dates are now available for the Ilama period (Figs. 4 and 5), anchoring it fairly firmly in the first millennium B.C.: the date for La Iberia is at present anomalous. Although the outline is becoming clearer, we can still only guess at the internal developments that took place during this period of, probably, almost a thousand years. It is to be hoped that, sooner or later, a series of dated grave groups will help resolve this problem.

Excavations at El Topacio

The hacienda El Topacio is situated 5.5 km. north-east of the town of Darién, and the Ilama site was excavated by kind permission of the owner, Don Otoniel Navarrete. A detailed report of the excavation is in preparation. Our attention was first drawn to an Ilama cemetery which had been recently excavated by Don José Gilmer Gallego and Don Omar Muñoz García who very kindly put their information at our disposal.

Picturesquely situated on a low spur overlooking the river Calima (Figs. 6 and 7), a number of factors suggested that this site would have been a highly desirable place to live. The river would not only have provided fish such as sabaleta (*Brycan* sp.) and bocachico (*Prochilodus Magdalenae reticulatus*), but its pebbles and boulders were an important source of stone for tools in an area where the bed-rock is usually buried beneath a layer of clay many meters thick, and where outcrops are heavily weathered. At El Topacio the river Calima emerges from a hilly area into a large shallow valley, much of which has now been flooded by the Calima reservoir. During the first millennium B.C., however, this valley must have been a prime example of the swampy bottom lands near which Ilama sites are often found.

Don Omar and Don José Gilmer had combed the entire spur for graves, particularly in the area where the overburden was shallow. When this is deep, proportionately more

Fig. 4. Radiocarbon dates for the Ilama culture.

Lab. No.	Site	Context	Publication	Date (Radiocarbon yrs b. c.).	Calibrated Date B.C.
Beta-2830	La Iberia, Restrepo	graves 4, 10, 11	Bray et al. 1981: 4	1590 $\pm$ 70	1888 (2125–1695)
Beta-14809	El Topacio, Darien	hearth, base Ilama level	C. de S. 1986: 37	720 $\pm$ 100	823 (1040–540)
Beta-19515	El Topacio, Darien	middle of Ilama level	–	500 $\pm$ 80	752, 709, 530 (800–390)
Beta-19516	El Topacio, Darien	re-use of eroded area	–	300 $\pm$ 70	374 (410–123)
Beta-9858	El Topacio, Darien	end occ. Ilama	C. de S. 1986: 37	160 $\pm$ 100	160, 138, 124 (390 B.C. –80 A.D.)
Beta-1837	La Aurora, Restrepo	buried soil (Ilama)	Bray et al. 1981: 16	395 $\pm$ 85	399 (770–200)
Beta-13349	El Pital	Tr. V. base Ilama occ.	Salgado 1986: 10	310 $\pm$ 80	379 (489–120)
Beta-5100	Agualinda, Restrepo	grave	Bray et al. 1983: 29	80 $\pm$ 90	43 (358 B.C. –130 A.D.)

time and effort are needed to sample the soil by the 'cateo' method, using a media caña (*Pro Calima* 3, Fig. 10). The numerous 'cateos' in the area which we excavated give an idea of the persistence of these explorers.

The Ilama cemetery consisted of 6 graves, most of them clustered towards the western end of the spur (Fig. 8). Four of the graves were grouped in a small area, the surface of which seems to have been specially flattened, leaving a low bank which is now some 20 cm high on the eastern side. All the graves

were of the shallow shaft and chamber type usual for the Ilama period (Fig. 9), in which the chamber is little more than an alcove or niche where the remains of the dead person were presumably laid. All trace of the skeleton has long since vanished in the acid soil, and all that is left are the grave goods: pots and, usually, stone tools. These were generally placed at each end of the niche, at what were presumably the head and feet of the corpse.

So far, of the dozens of Ilama graves from different sites about which we have collected information,

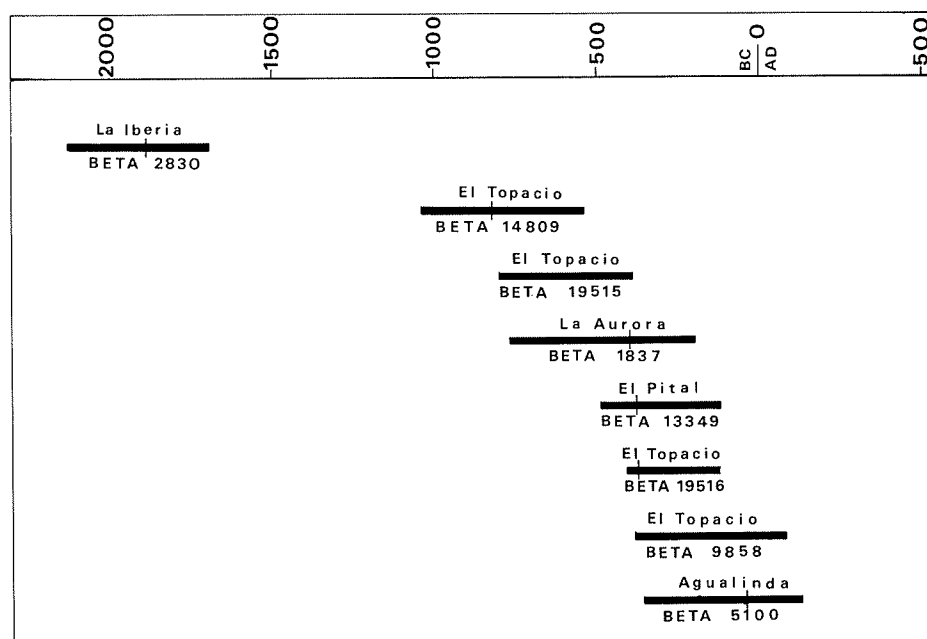


Fig. 5. Calibrated radiocarbon dates from sites of the Ilama period. The bar indicates the two sigma range (95% probability). Calibrations are based on the computer calibration programme provided by Dr. Murry Tamers of Beta Analytic Inc.

we have heard of only one which still had traces of a skeleton. This was on a farm belonging to Abelardo Buriticá in the vereda of La Palma, near Restrepo. Presumably the soil is somewhat less acid here but, even so, the bones were reported to have been in very poor condition. The burial was extended, occupying most of the 2 m. long niche, with two pots near its head.

At El Topacio, the niche is invariably on the western side of the shaft. A number of other 'holes' reported by Don Omar may also have been graves but, since they contained no durable grave goods, this could not be proved. As in many other Ilama cemeteries, additional graves were dug here later, in both the Yotoco and the Sonso periods.

Pottery vessels were the only grave goods mentioned by the señores Omar and Gilmer, and five of the six graves each contained a classic Ilama jar (2 with, and 3 without, incised decoration). Four graves contained double-spout and bridge-handle pots modelled in the shape of birds and animals. Two of these represent woodpeckers, one a dove and one an armadillo. It is interesting to note the preponderance of birds and the total absence of anthropomorphic vessels in this cemetery.

The Ilama settlement may once have occupied the whole spur. However, the archaeological evidence is best preserved at the eastern end where it is covered and protected by the cultural debris of later periods and by slopewash from the hill behind. Although the spur was probably fairly flat when the first Ilama group decided to settle on it, these people completed the process by removing the top soil and the soft volcanic ash wherever necessary. At the back of the spur, near the slope, they cut a bank about a metre high (Figs. 10 and 11). As preserved, it consists of two steps each of which is now some 40 cm high. In the small area uncovered, it was not possible to determine whether this was the original form of the bank (a form that would provide greater stability and resistance to erosion for a structure lying at the foot of a considerable slope), or whether the lower step represents a period of re-cutting. In the latter case the lowest preserved layer with archaeological

material would in fact represent a comparatively late phase in the occupation of the site.

The earliest feature preserved was a hearth excavated in a shallow hollow in the volcanic ash, close against the lower bank (Fig. 11 and 12). Charcoal collected from the hearth and the surrounding area gave a radiocarbon date of 720 ± 100 b.c. (Beta-14809). Two further hearths, also excavated in shallow hollows in the volcanic ash, were found at some 4 and 7 metres away from the bank and may have been in use at a slightly later period, when the area at the foot of the bank was already beginning to silt up.

The hard, lumpy, clayey surface in the area round these hearths and to the south of them, showed that this part of the site had been heavily trampled. The same effect was noted on the stepped bank at the back of the area, suggesting that this was the route to the slope behind. Pedro Botero, who visited the site and studied the soils and stratigraphy, suggested that there may even have been a fire which would have accelerated the transformation of the surface. In contrast, over the northern area of the excavation the cultural deposit lay directly on the volcanic ash. It was also thicker and darker in colour. It seems possible that this area may have been protected by a roof, though no post holes or other structural remains were found. However, to judge from present day practices in the area, if a house supported on foundation posts were to be built, it would almost certainly be necessary to remove the relatively unstable volcanic ash so that the posts could be embedded in the underlying red clay. Some contemporary houses are built without foundation posts; instead a frame of timber and bamboo is constructed (see *Pro Calima* 3, Fig. 52). To prevent the wood coming into contact with the damp earth, which would considerably shorten its life, the timbers that support the floor are laid, at each crossing, on suprisingly small and irregular stones, often not more than 12 or 15 cm. in diameter. However, until further settlement sites are excavated, any hypothesis about Ilama house foundations can only be speculative.

Whether or not we are correct in picturing a small rectangular dwelling (c.f. *Pro Calima* 2, Fig. 14) surrounded by a patio area where the cooking was done in the open, at a somewhat later phase of the occupation the southern part of this well-trodden patio was scoured and eroded by rainwater pouring off the slope behind. The water cut through the hard, well-trodden surface, forming a narrow, irregular gully 3–40 cm. deep, and it left the rest of the surface looking like a miniature lunar landscape. With time, both the ditch and the pocked surface silted up and this part of the site was again brought into use. Charcoal from the base of the re-occupation gave a date of 300 ± 70 b.c. (Beta-19516).

The site produced a considerable amount of evidence about precolumbian crops and also about the local vegetation. Although pollen was not preserved, phytoliths were abundant and some 125 seed fragments were found in the Ilama levels. These were recovered partly as a result of flotation, but often just by picking the charred, black fragments out of the yellowish soil during excavation. Ninety-nine of these were maize, kindly identified by the late Earle Smith Jr. (see Kaplan and Smith, this vol.). Although most of the material was too fragmentary to measure, the dimensions of a single complete kernel, and the general characteristics of the rest, suggested to Smith that a Chapalote/Nal Tel/Pollo precursor was being grown. Four further seed fragments were tentatively identified as bean (*Phaseolus vulgaris*), and a single, broken seed from the upper part of the Ilama level may be achioté (*Bixa orellana*).

The record for the Ilama levels is filled out by the phytolith samples, identified by Dolores Piperno. These corroborate the presence of maize but also provide evidence for squash and arrowroot. In addition palms were present in large numbers. Piperno has been able to detect genera such as *Scheelia* and *Eleis*, *Chrysobalanus* and *Hirtella*, some species of which are still important tree crops for Indians today.

Among the cultural debris at the site was a suprisingly large amount of stone (nearly 60 lbs, ~27 kilos). This does not occur naturally on the spur

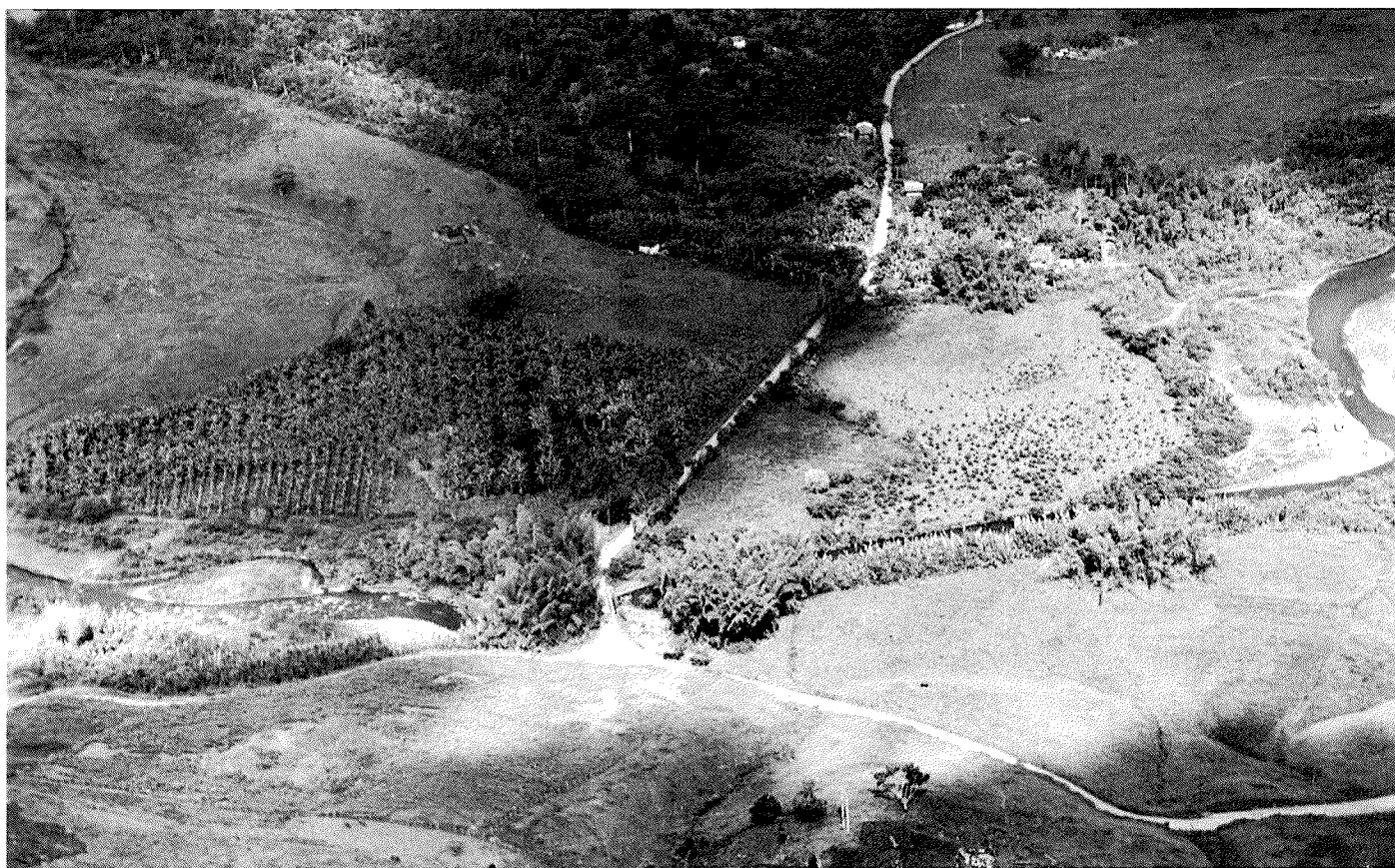
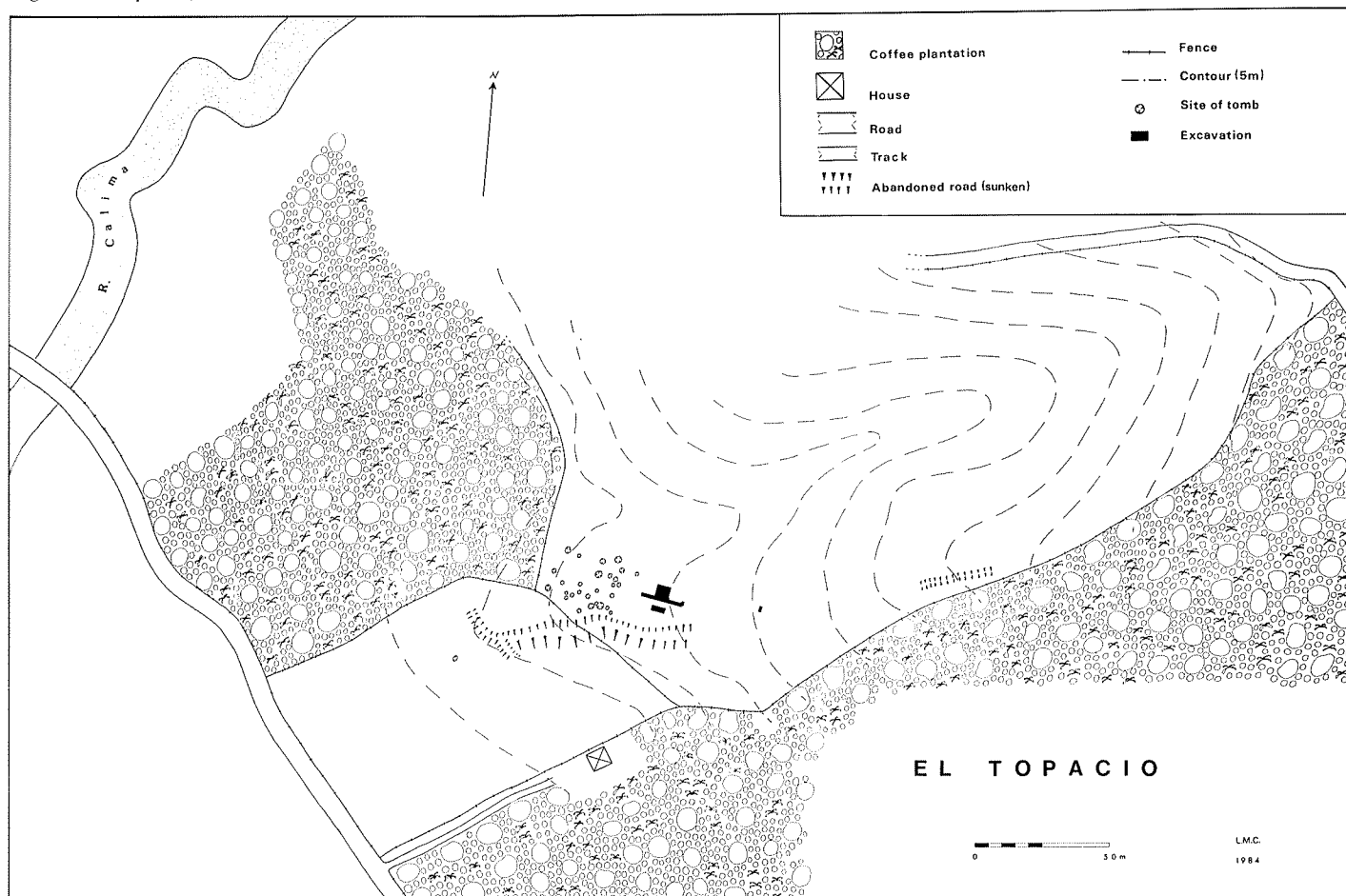
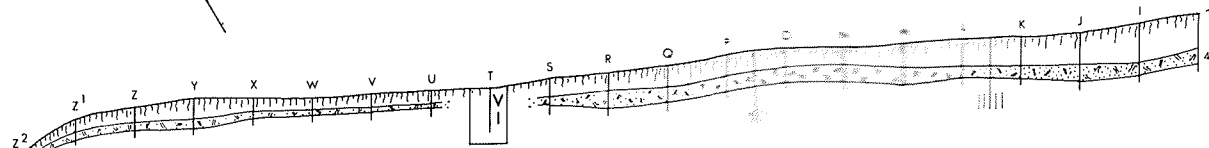
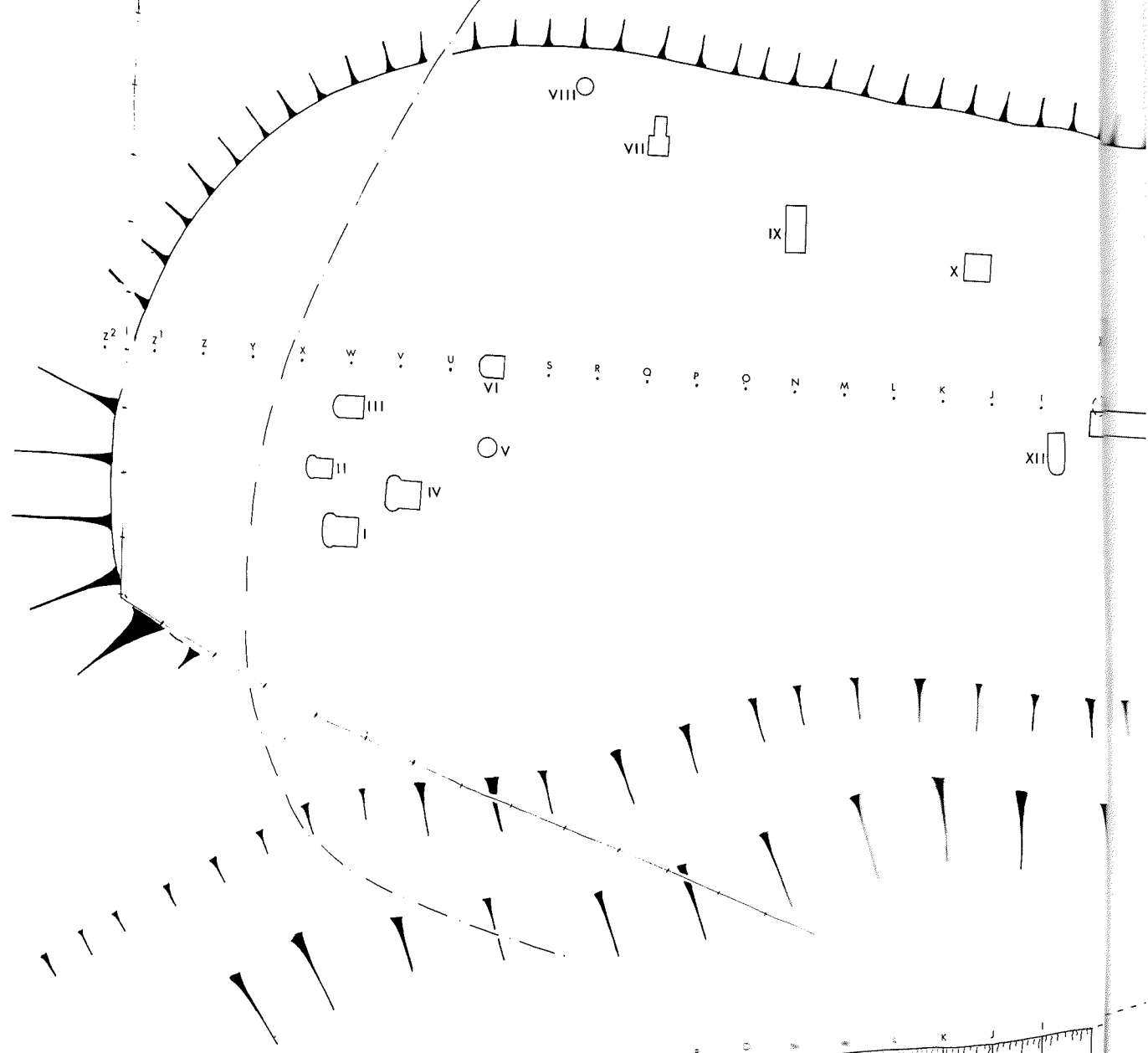


Fig. 6. Air photo of the Hacienda El Topacio with the R. Calima in the foreground. The excavation is visible on the spur to the left of the road.

Fig. 7. El Topacio; the excavation site.



EL TOPA



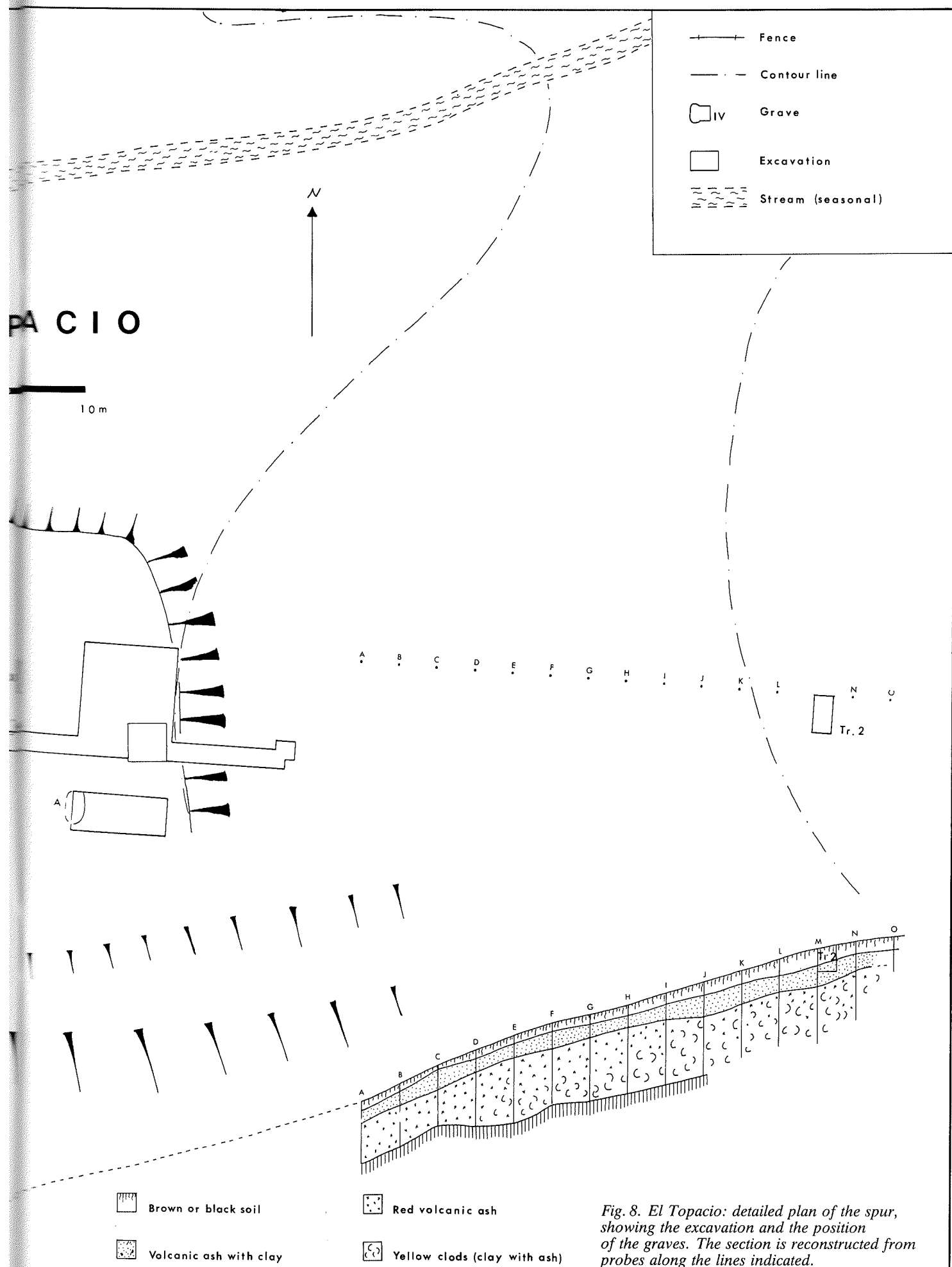


Fig. 8. El Topacio: detailed plan of the spur, showing the excavation and the position of the graves. The section is reconstructed from probes along the lines indicated.

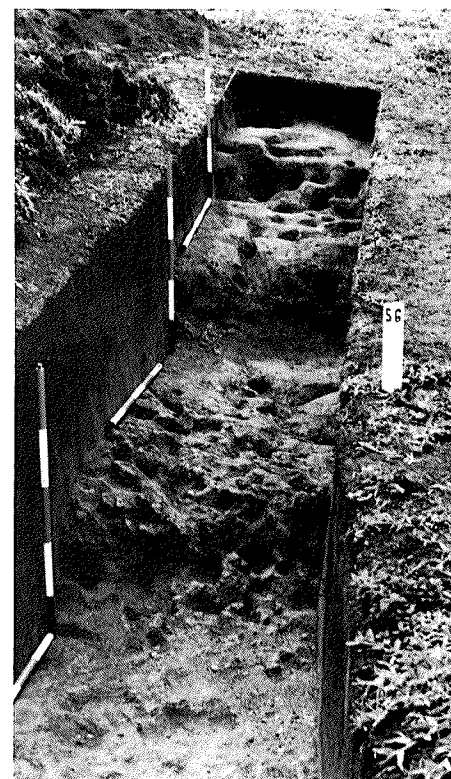
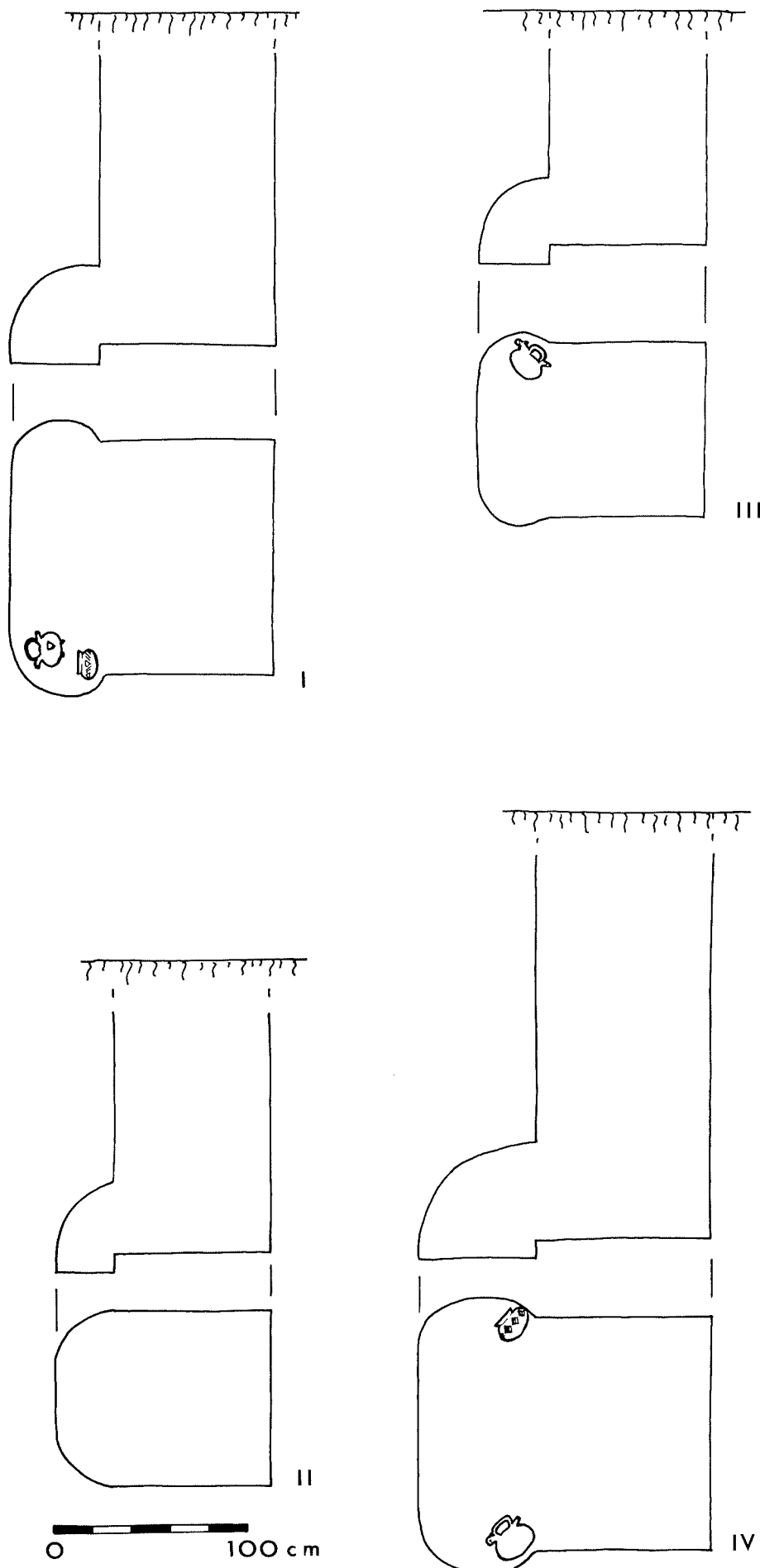


Fig. 10. El Topacio excavation: the cut dug into the hillside when first levelling the site.

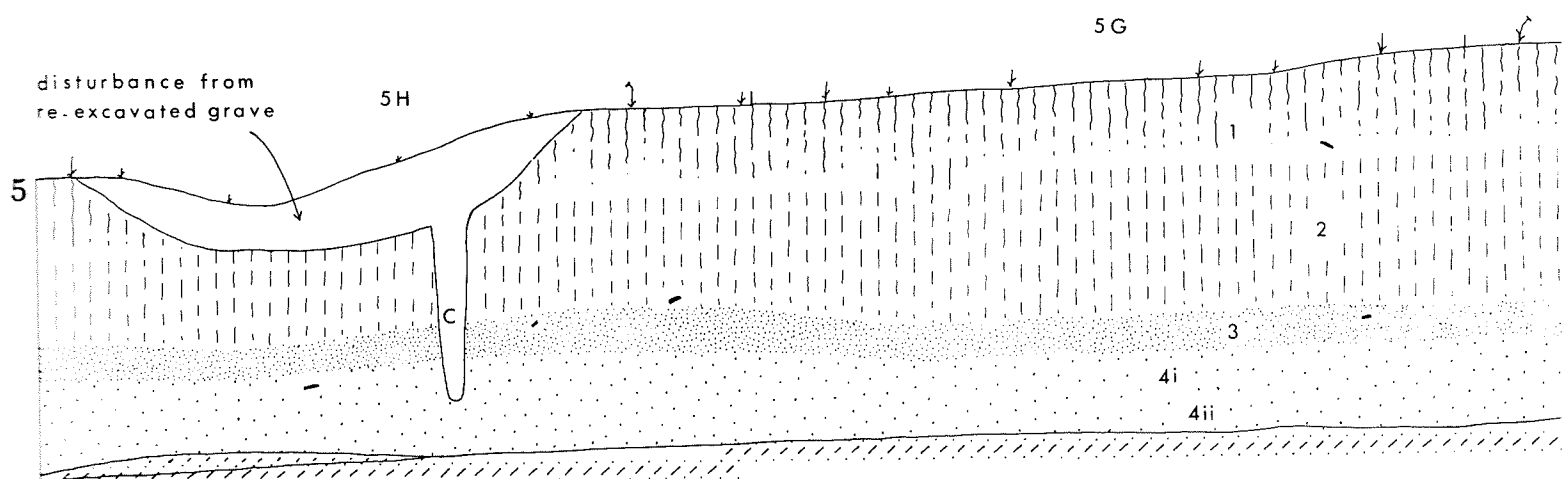
and seems to have been brought up from the river in the form of boulders and pebbles. Most of the stone was volcanic in origin and could be chipped to produce chunks with an edge sharp enough to cut effectively, or suitable for use as a scraper. The example in Fig. 13 A is unusually elaborate.

Although chert is found locally, it is almost always heavily flawed and unsuitable for making tools of any size. It was, however, used for making tiny instruments with one sharply pointed end and a blunted butt (Fig. 13, B, C). Twenty examples were found. Comparison with similar microliths from elsewhere (Semenov 1964, Fig. 25; Yerkes 1983), suggests that they may well have been hafted at the end of a wooden rod to form the bit in a bow drill which could have been used to cut and perforate materials such as shell, bone or antler.

The llama pottery from El Topacio is technically well made, with assured, symmetrical outlines and a high proportion of slipped and polished surfaces. As far as could be determined by examining the paste with a hand lens (x 10), most of the sherds belong to Roe's fine ware category (*Pro Calima* 1985 and this

Fig. 11. El Topacio excavation: sections.

EL TOPACIO



plough soil



black silty loam (Sonso and Yotoco)



dark brown loam (Yotoco)



yellow brown silty clay loam (Ilama)



yellow volcanic ash



yellow volcanic ash with clay



clay



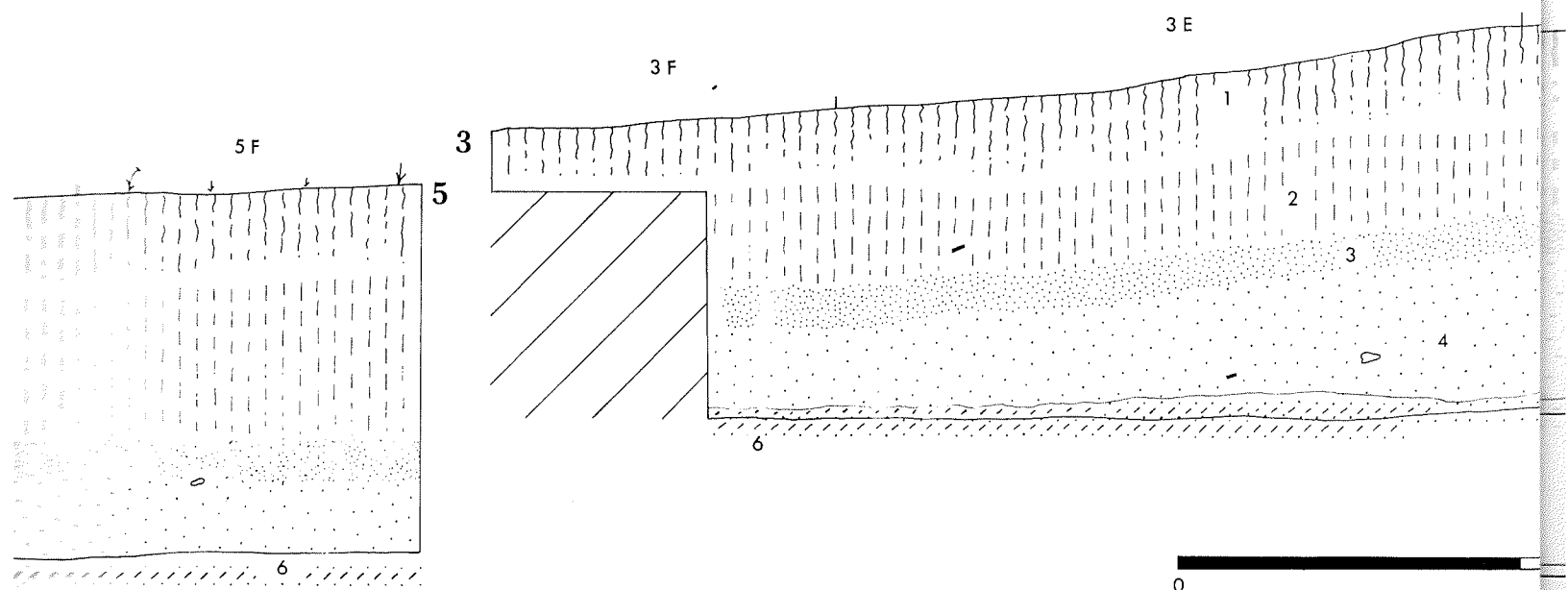
trodden surface



reddish volcanic ash



transitional (2 with volcanic ash)



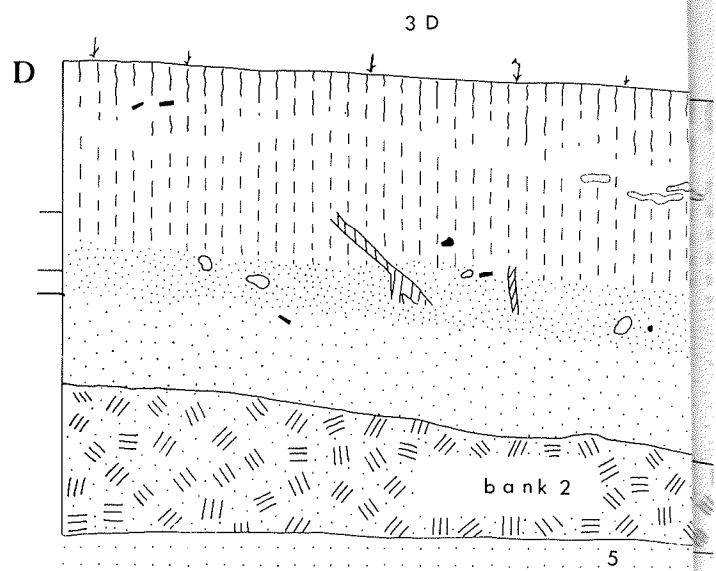
clay

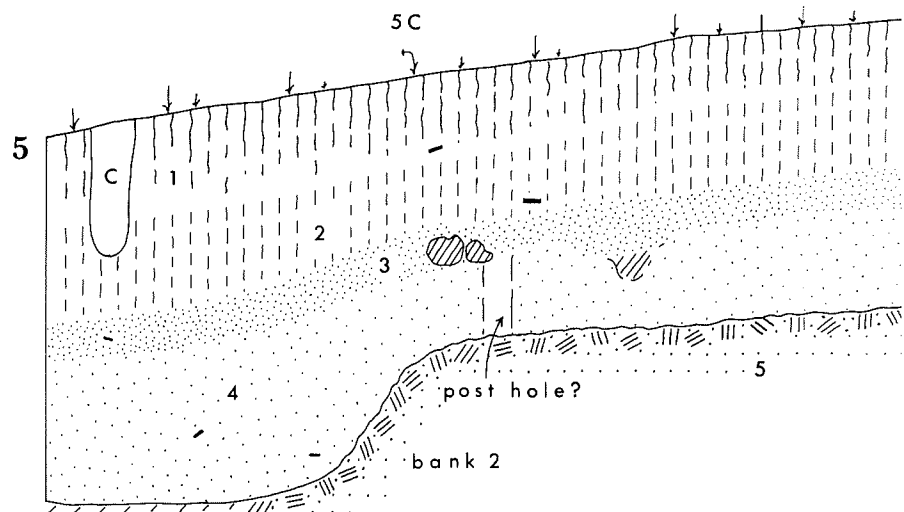
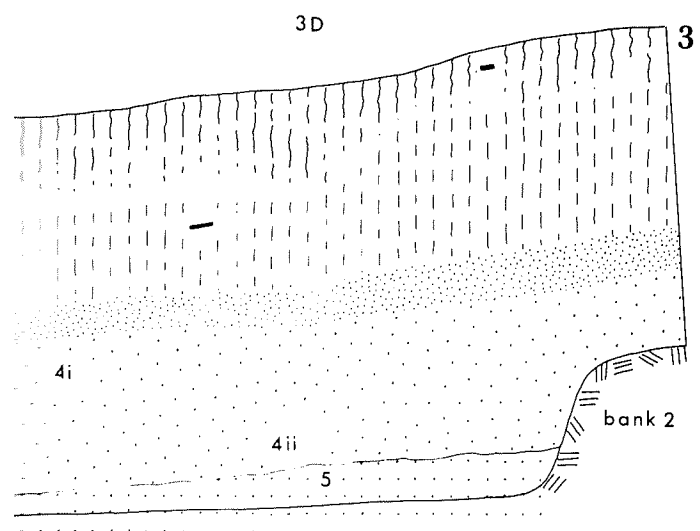
camic ash)

840 $\pm$ 90 a.d.

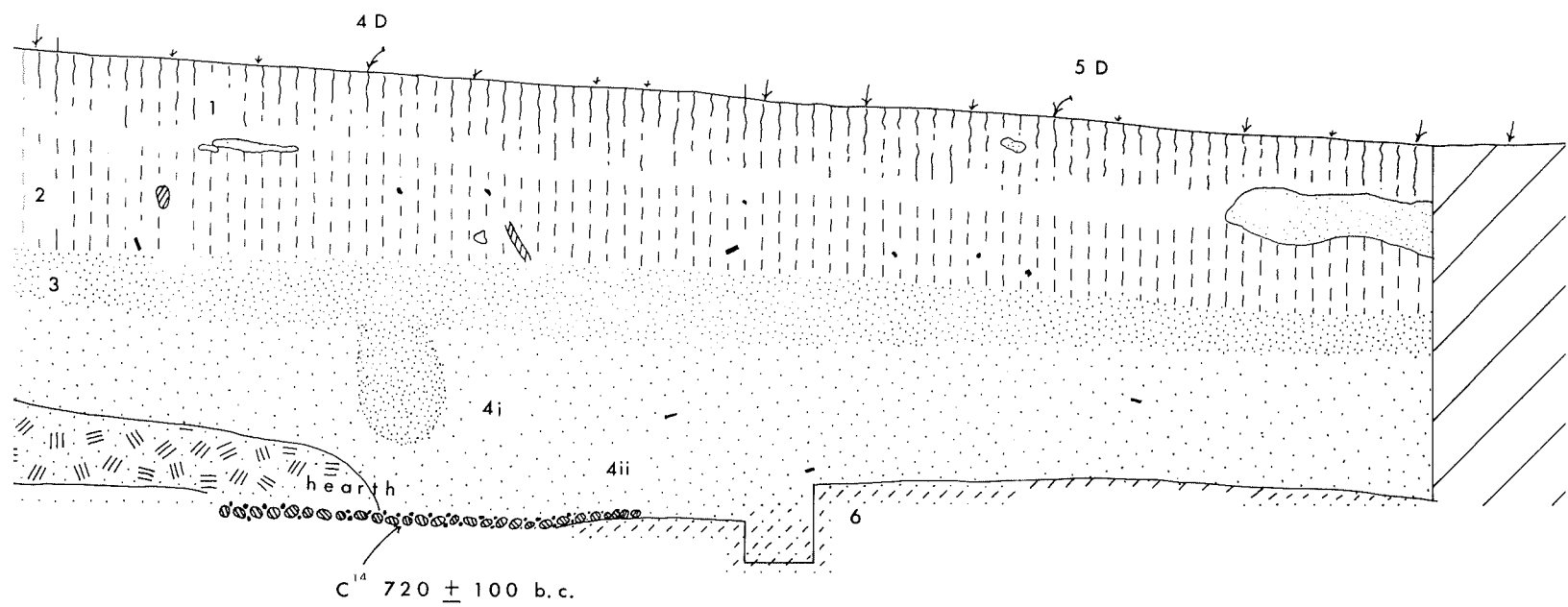
240 $\pm$ 70 a.d.

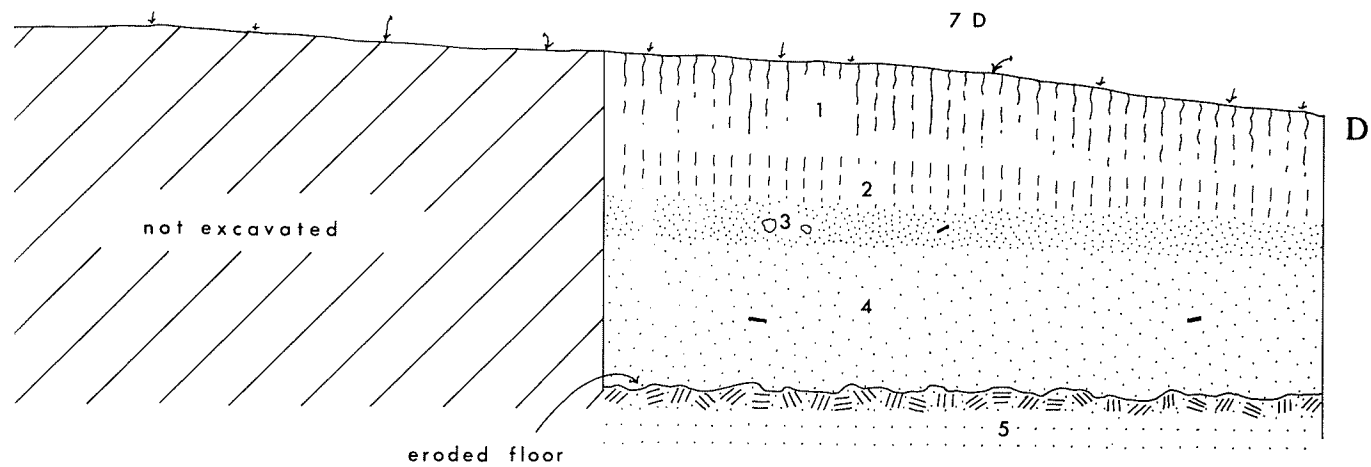
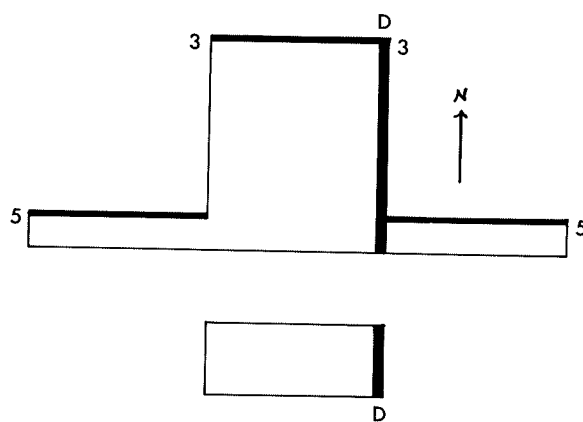
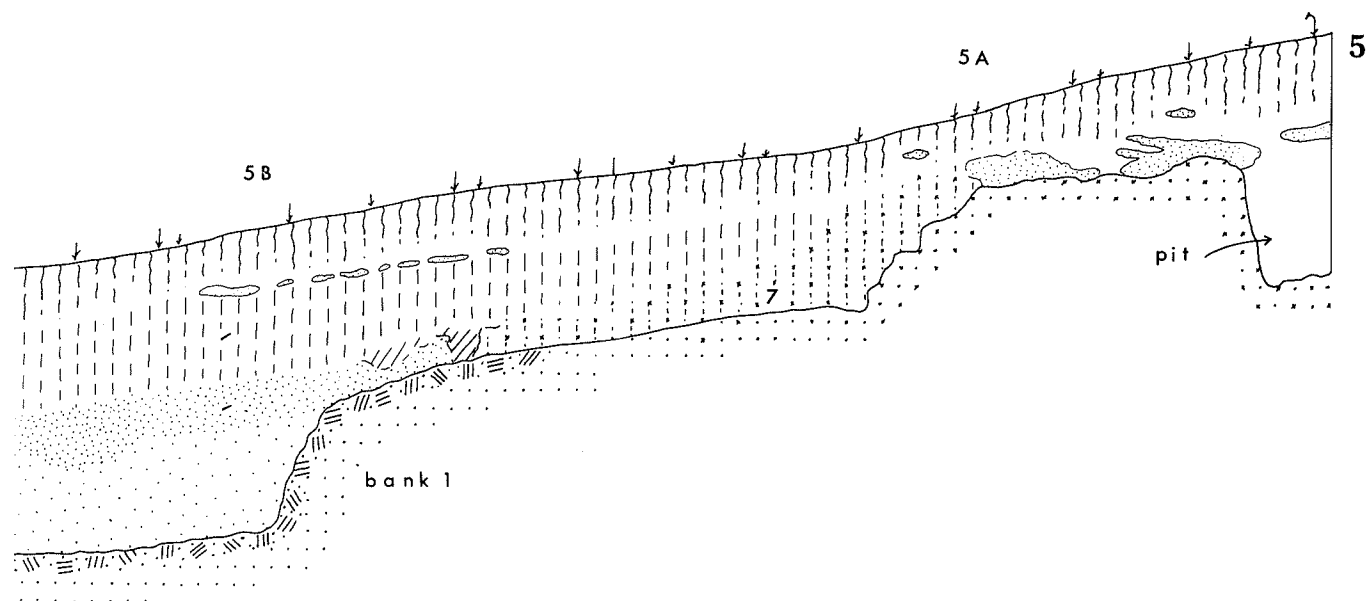
160 $\pm$ 100 b.c.



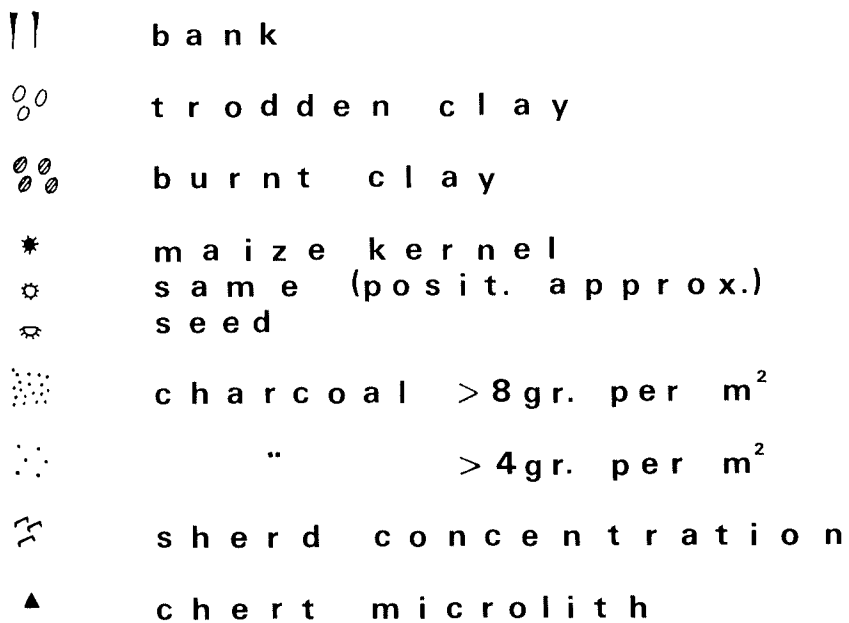


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issue). In a sample of 505 sherds, only 32 (6.3%) had a coarser paste. Some of these are to be analysed for comparison with Roe's Tonalite Gritted Group from other Ilama sites. No clear correlation emerged between the coarser ware and any particular vessel shape, and the ware occurred in roughly similar proportions in both the earlier and the later parts of the deposit.

A rather limited range of shapes appears to have been in use, mainly jars, which are also the commonest pots in the graves and which here comprise about 70% of the recognizable forms (Fig. 14). Bowls of various types were found (Fig. 15), and a single example of a rather crude plate, a shape that has not hitherto been recognized for the Ilama period. It is difficult to gauge the number of double-spouted vessels, since these can usually be recognized only from spout or handle fragments. At least 5 were present in the Ilama levels, and one of the fragments, a quadruped's leg in the form of a snake (Fig. 16), probably belonged to a vessel modelled in the

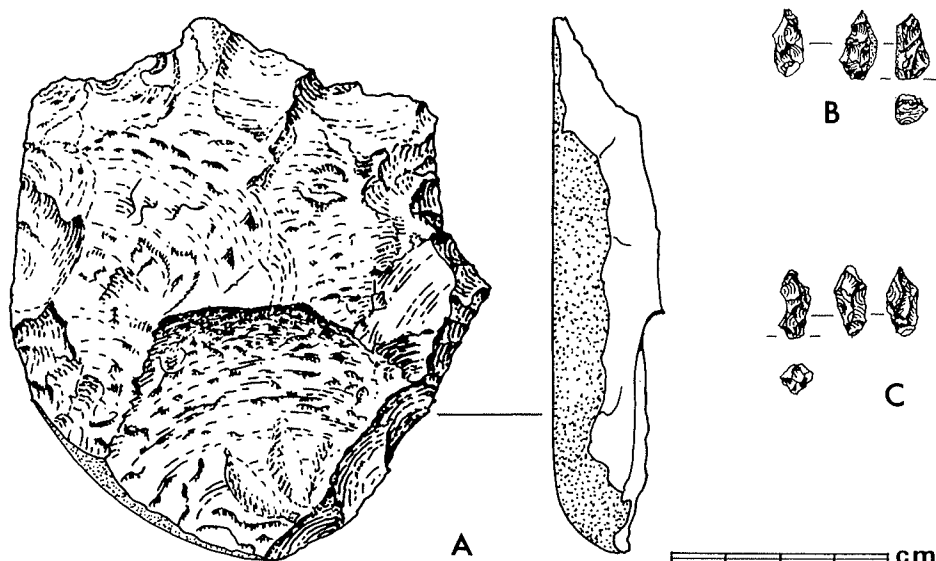


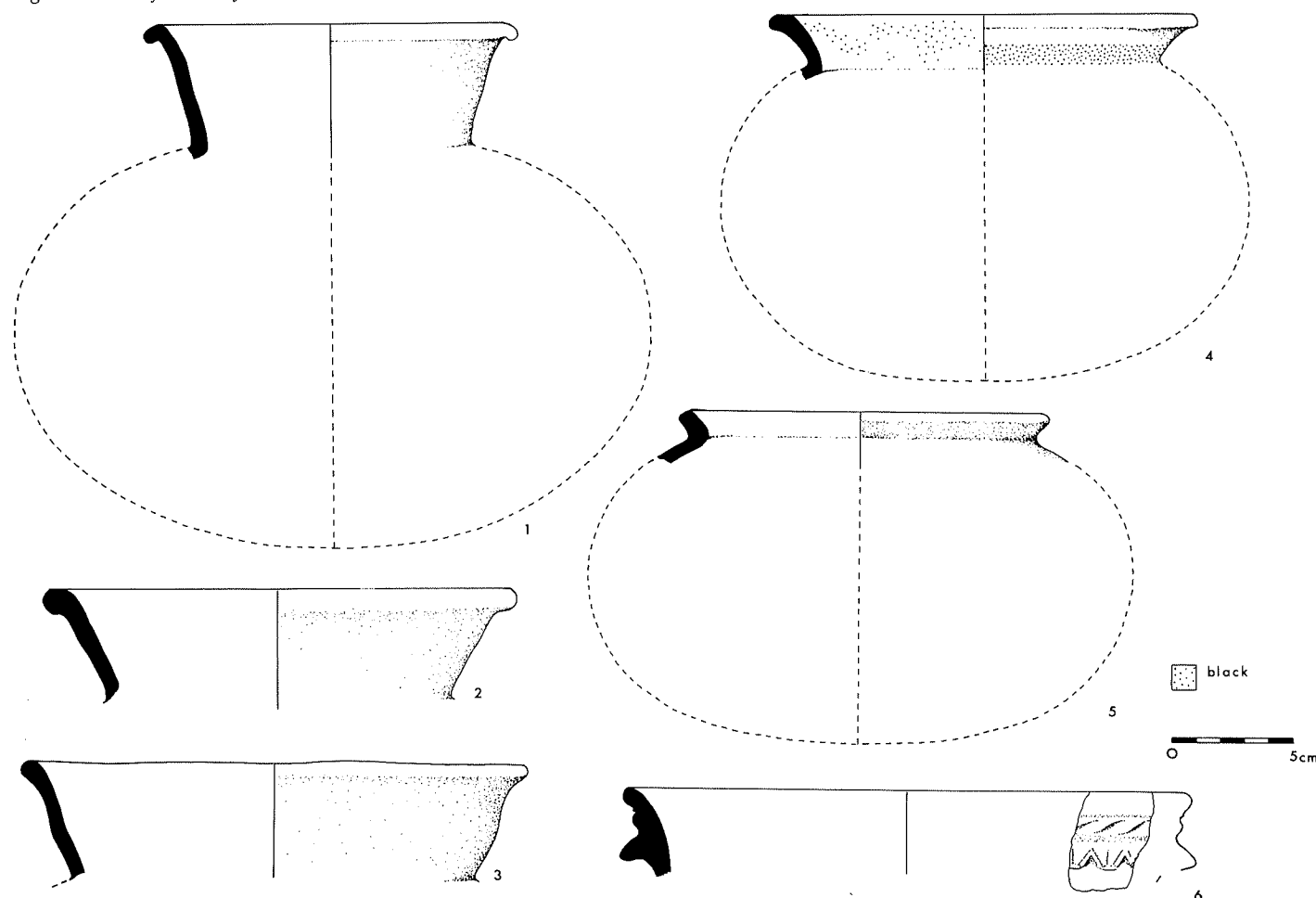
Fig. 13. Most of the stone tools found at El Topacio were very roughly made. The ones illustrated here are exceptions. The scraper (A) is made of tonalite, and the tiny, pointed chert instruments may have been drill bits.

shape of a composite, 'fabulous beast' such as the one illustrated in Herrera, Cardale de Schimpff and Bray 1984, fig. 6, no. L; (see also Cardale de Schimpff, in press).

Decorated fragments are scarce, and the classic Ilama incised motifs

are virtually absent from the lower part of the level (0.5%), whereas they reach 3.8% in the upper zone. A charcoal sample from the base of this upper zone gave a date of 500 ± 80 b.c. (Beta-19515), suggesting that incised decoration became

Fig. 14. Ilama jar rims from the settlement site at El Topacio.



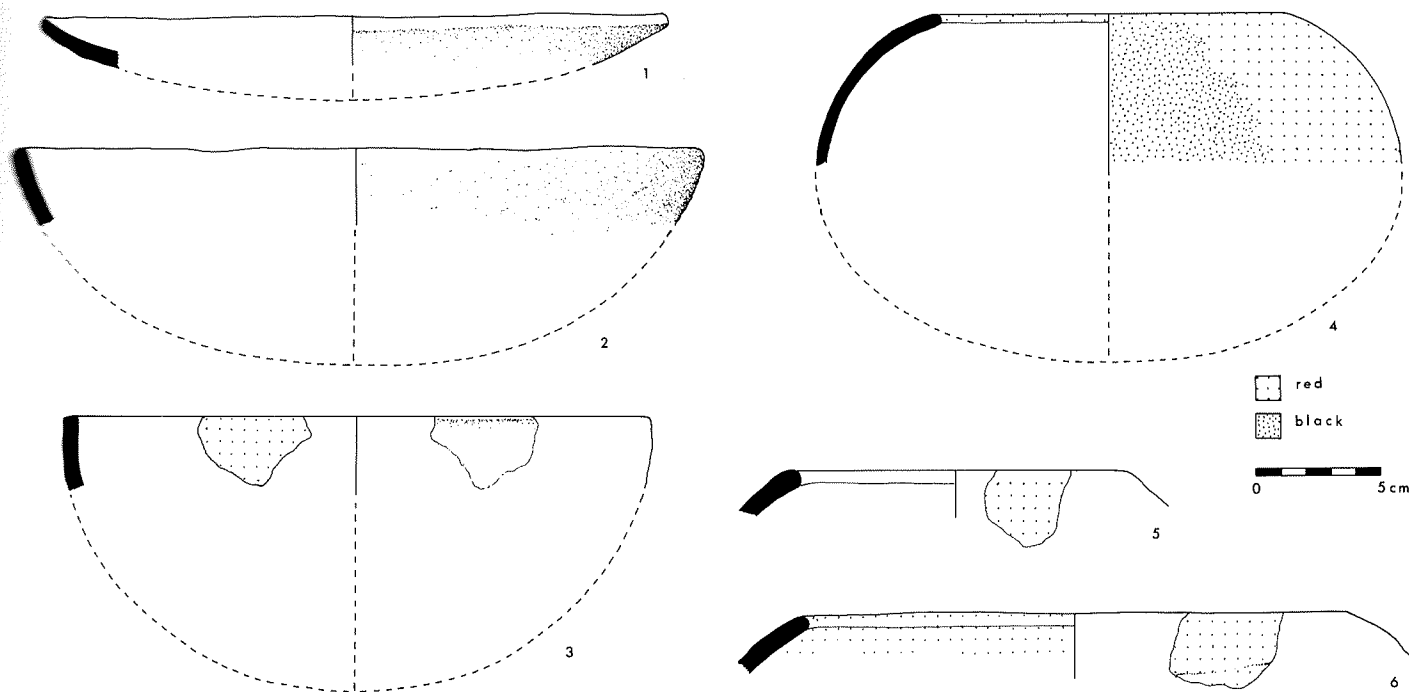


Fig. 15. Ilama bowls and plates from the settlement site at El Topacio.

popular somewhere about the late 5th or early 6th century, a hypothesis that needs corroboration from other sites. Painted motifs (black on red negative) are found in both the earlier and the later parts of the level (0.9% and 1.5%). These percentages would certainly be higher if preservation was better and if individual sherds were larger, so that one could recognize the presence of a design rather than just an area of black paint. This, too, is common throughout the Ilama levels but is difficult to quantify owing to irregular preservation.

A charcoal sample taken from the upper part of the level gave a date of 160 ± 100 b.c. (Beta-9958) and represents an approximate date for the end of the Ilama occupation at this site. Thereafter, this part of the spur became marginal to the settlement area, and traces of numerous thick roots indicate that large trees now grew here. Under these, rubbish of the Yotoco period slowly accumulated.

At the start of the Yotoco period there is a striking change in the pottery inventory, marked particularly the appearance of heavy, comma-shaped rims. These rims belong to capacious, wide-mouthed pots, large enough to require a strong reinforcement at the rim and a fairly heavily tempered paste containing fragments of crushed rock 3–4 mm in diameter. These new shapes are a sharp contrast to the

Fig. 16. El Topacio: incised sherds from the Ilama level.



small vessels with narrow mouths of the preceding Ilama period, and must surely reflect some profound social and domestic change stemming from differences in the kinds of food prepared and the methods of preparing it, and also in the numbers catered for. There is now a very clear division between these coarse wares and the extremely thin-walled (2–3 mm), highly burnished, fine wares with elaborate, resist-painted designs in red, orange, white and black. Although the surfaces of the coarser vessels are merely smoothed over, all the Yotoco pottery has clean, assured outlines, and carinated vessels are frequent.

In the same level (3) are found a number of sherds whose paste, finish, thickness and colour are indistinguishable under the hand lens from those of Ilama wares. Some of these sherds may be intrusive, due to the difficulties of distinguishing the subtle stratigraphic differences between the Ilama and Yotoco levels, or to the many factors in a re-occupied site which mix earlier items with later ones. However, jar rims similar to the Ilama ones (but without their characteristic bevel) and made in Ilama-like fabric, do suggest there may have been some continuity in pottery traditions onto which the new elements were grafted.

The stone industry of the Yotoco period is broadly similar to that from the Ilama levels, except that no microliths were found.

The next phase at this site is represented by a layer of very dark soil, layer 2. By this time the vegetation on the slope behind was fairly sparse and consisted, probably, of bushes or grass or, perhaps, crops. The dark colour of layer 2 is partly due to material derived from this slope as a result of gradual sheet erosion. It is possible that this area of the spur was also being cultivated, since both the appearance and the colour of this soil are very similar to Yotoco cultivation soils excavated in the El Dorado valley and described in *Pro Calima* 4. The layer is thicker towards the western end of the excavation where the diagnostic sherds in the lower part (2b and 2c) are all of the Yotoco period. The upper part also contains a relatively small proportion of Sonso sherds.

The pottery in the final layer (1) is almost entirely Sonso. This layer, which is some 30 cm thick, has been considerably disturbed by recent cultivation.

Sonso body sherds are at first sight not easily distinguishable from coarse Yotoco sherds, in spite of the marked difference in the appearance of the complete pots. The wide-mouthed Yotoco vessels with their heavy, reinforced rims disappear abruptly and instead we find a predominance of rather large jars. Although there are some fine examples with well-executed resist designs in black on red, the majority have rather baggy, slightly irregular outlines, with little of the crispness and precision of the preceding periods. Rims are commonly decorated with red paint when the rest of the vessel is left unslipped, and undulations, irregularities or lumps of extraneous clay are frequent. Although quite a number of other vessel shapes, besides the characteristic jars, are known from the Sonso period, relatively few of them have been recognized at El Topacio.

Examples of all three of the characteristic Sonso decorative techniques are present – the somewhat sloppy incision, rather irregular, applied plastic cordons, and black-on-red painted designs.

A striking feature of the Ilama settlement at El Topacio is its longevity. The soil studies carried out by Pedro Botero at the site suggested that the 30–50 cm. representing the Ilama level would have taken a number of centuries to form. This is amply borne out by the radiocarbon dates, which, as we have seen, indicate that the Ilama settlement, whether intermittent or continuous, lasted about five centuries.

Two factors may have played a part in making this possible. One was that, throughout the Ilama occupation, volcanic ash from the volcanoes in the Central Cordillera was falling on the site and was presumably constantly adding to the fertility of the surrounding soils. At the same time the swampy valley should have provided a constant source of animal protein in far greater concentrations than, for instance, a stretch of tropical forest. As a result, the Ilama people may

well have been living in an environment almost as favourable from the point of view of fish and game as that provided by the swamps and rivers of the coastal lowlands (G. Reichel-Dolmatoff 1965: 66–67), where resources were sufficiently abundant to allow settlement debris at sites like Momil to accumulate to a depth of several metres. Unfortunately, due to the almost total absence of preserved bone in the Calima area, we can only guess at the extent to which the swamp fauna was exploited during the Ilama period.

Good soils and the proximity of extensive swamps may not have been the only factors that allowed such a long occupation of the same site. If we take into account Andean subsistence patterns recorded for contemporary or recent ethnographic groups in other parts of Colombia (e.g. Osborn 1985: 32 ff.; Reichel-Dolmatoff 1982), it seems reasonable to suspect that the Ilama people may have augmented the local resources with products from other altitude zones. They may well have had farms in these other zones which they occupied at certain times of the year. This is impossible to perceive in the very limited archaeological record available at present, but it is worth bearing in mind when planning future research.

Another intriguing problem concerns the cemetery. What members of the Ilama population were buried there, and when? Six burials for a settlement that appears to have lasted for five centuries clearly indicates that most of those who lived at the site were buried elsewhere or disposed of differently. The fact that the majority of the six graves contained vessels with incised decoration might suggest that these tombs belong to the later part of the occupation.

3. Excavations at Platform 1, Hacienda El Dorado.

Of the three large artificial platforms (Fig. 17) situated close to the floor of the El Dorado valley, No.1 (the biggest) appears to have had the most complex history. The earliest strata, identified in Trench 4 (*Pro Calima* 4: 13–14), represent a period of agricultural use followed by evidence for settlement, with an occupation floor dated to the 12th century a.d. On top of this were dumped tons of constructional fill, which give the platform its present configuration. Our activities in 1984 were designed to obtain further information about the use of the platform and the nature of the final occupation, on top of the fill.

No archaeological material was visible on the platform surface, which is not surprising, since the area is entirely covered by pasture. However, augering at regular intervals over most of the platform surface confirmed that the soil on top of the fill contained only very small quantities of sherds, worked stone and charcoal. This soil, as revealed in Trenches 1 and 2, is a thin, hard layer which has weathered to a light brown colour, except at the back of the platform where it is covered by slopewash, preserving the original dark brown colour and soft, loose texture. Our original hypothesis, that the imposing platforms at El Dorado were village sites, had already been discarded because of the paucity of cultural material or of features such as post holes, and we clearly needed more information about the activities carried out on the levelled surface. Platform 1 has two unusual features which we have not so far noticed in other similar structures: a low bank running along the outer edge of the platform for most of its length and, nearby, a concentration of biggish stones. In 1982 these stones were half hidden by long grass (Fig. 18). Both the earthen bank and the group of stones lay on top of the constructional fill at a point where this was at least 2 m. deep.



Fig. 17. Platform 1 in the Valley of El Dorado. North view during the excavation of Trench 7 (marked by arrow).



Fig. 18. El Dorado Platform 1: some of the stones forming the alignment visible in the dry grass beside the debris from Trench 4 in 1982.

The excavation of Trench 7 (1982 season)

In 1982 Trench 7 was laid out on the edge of the platform to coincide with the bank and the concentration of stones (*Pro Calima* 4: 15–16). Scraping of the top 5 cm. of topsoil revealed a roughly curved alignment of stones, and around them many smaller, rough and unworked stones,

and also a concentration of sherds (*Pro Calima* 4, Fig. 23). This abundance contrasts with the sparse cultural material on the other two platforms we have excavated, and (with the stones) emphasizes the unique nature of the Trench 7 locality.

All cultural material was left in situ, then plotted and photographed before being removed and bagged.

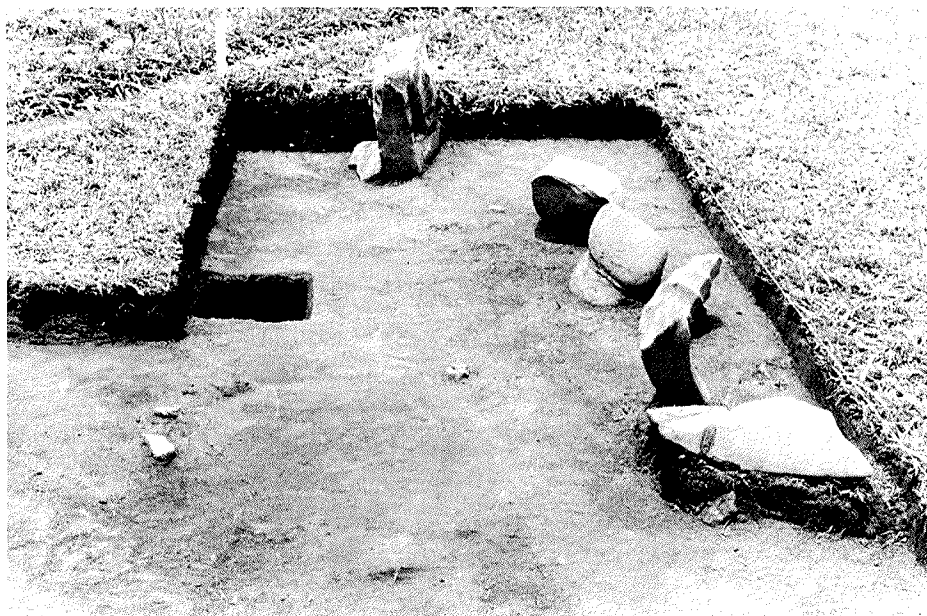


Fig. 19. El Dorado, Platform 1: reopening Trench 7 during the 1984 season. The cut had been backfilled at the end of 1982, and this fill had to be removed before excavation could start.

Four 5 cm. layers were taken out following the same procedure, until artifacts became scarce and the soil changed into a reddish, clayey, mixed deposit. Initially this mixed deposit was interpreted as constructional fill, an identification that proved correct for part of the trench, but not for all of it (v. below).

Underneath the topsoil were found patches of dark brown, loose earth surrounding some of the stones and penetrating the underlying fill. The stones had clearly been brought to the site, set in prepared holes, and then packed with soil scraped from the surface. This activity may have taken place a considerable time after the constructional fill was deposited, and is part of a complex series of events described in the following section.

At this point, late in the 1982 season, excavation had to stop, and there was no time to extend the trench into the bank at the platform edge.

The 1984 excavations at Trench 7

With these questions in mind, excavation was resumed in the second part of the 1984 season. Since our original cut had been backfilled to comply with the landowner's wishes, work began with the removal of the previous season's fill (Fig. 19). This proved far from easy, since this material had been dumped directly on top of the original constructional fill of the platform. Although only

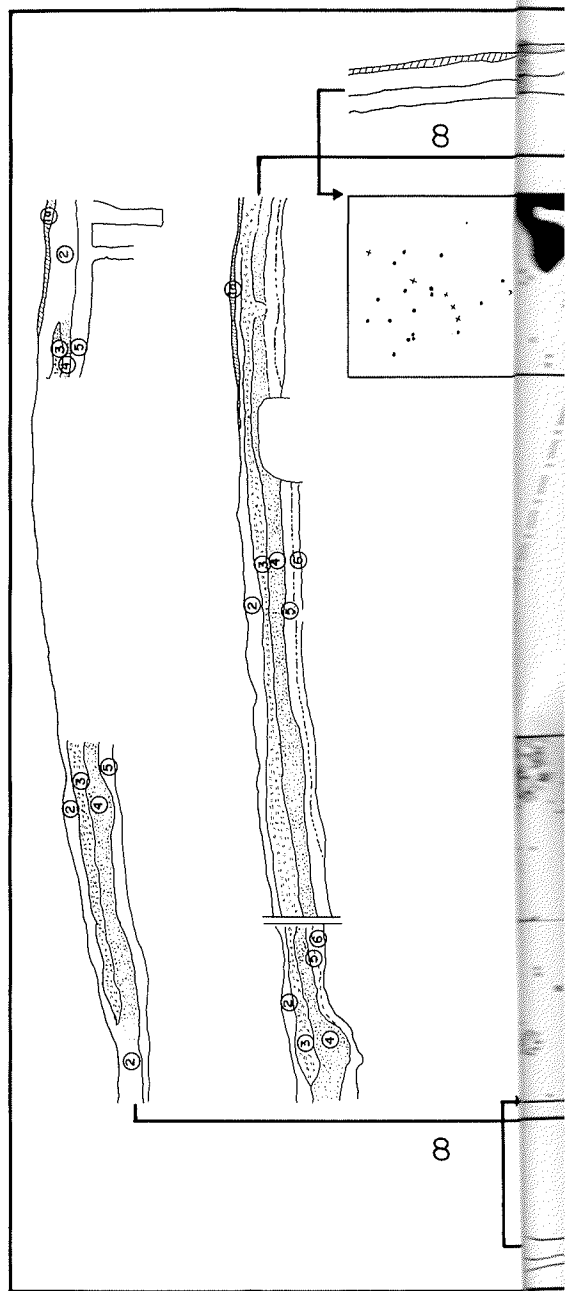
two years had elapsed, grass had grown over the excavation and there had been a degree of amalgamation of the two very clayey, and mixed, soils.

The irksome process of trying to find the division between these two made us aware of a *third* fill, resulting from the activities of treasure hunters. The extent and depth of this disturbance became evident only at the end of the excavation. Apparently the looters had become aware of the stone alignment and had dug on its inner side, leaving at least part of the structure untouched.

Squares 3C, 3D, 4C and 4D (Fig. 20) lay within the disturbed area, and excavation showed that they contained an accumulation of boulders of varying sizes, which continued for more than 2 m. below the surface. The largest boulder measured 1.60 m. by more than 1 m., and must weigh more than a ton. Because of the danger of working among precariously balanced rocks (some of them impossible to remove without enlarging the trench), and the fact that the stratigraphy was thoroughly disturbed, excavation was abandoned in most of this area.

However, some idea of the extent and configuration of the treasure hunters' pit was obtained in Square 4C, where we were able to dig down further, removing the looters' fill in a 30 cm. gap between the biggest stone and the undisturbed constructional fill which formed the pit wall. When

Fig. 20. Hacienda El Dorado, Platform 1 Trench 7, showing features of the first occupation on the recently built platform. The ground plan is drawn at the base of Stratum 4 in the area covered by the thin fill (Squares 5B-E, 7B), and at the base of Stratum 2 in all other squares, with the exception of those corresponding with tomb looters' fill. The surface at this stage of the excavation was of a yellowish-red mottled brown with patches of darker soil.



this latter was exposed in section, a very dark brown, loose stratum was visible directly below the platform fill at a depth of 1.50 m. This dark layer appears identical to one of the buried soils studied in more detail in the adjoining Trenches 4 and 5 during the 1982 campaign (v. *Pro Calima* 4, Fig. 20). On the other side of the gap, in the region of the stone, the looters' disturbance continues down for at least another metre.

Four more large stones, lying on top of the huge examples already mentioned, had undoubtedly been displaced by the treasure hunters. Since all of the boulders are now within the disturbed area of the looters' pit, we know nothing about their original function, whether they

are more or less in situ (i.e. were incorporated in the original fill of the platform), or whether they had once rested on the platform surface. Nor have we information about what, if anything, the treasure hunters found in their pit.

Given the weight of the largest stones, the looters are unlikely to have moved them very far, and we must assume that the boulders were transported to the site by the people who built and used the platform. One possibility is that the stones were brought in to strengthen and stabilize the constructional fill, but in that case we would expect to find them distributed throughout the site. This does not seem to be the case. They were absent from Trenches 3 and 4, and systematic augering of the

platform fill to a depth of 2 m. failed to reveal large obstructions. Stones may have been missed during this survey (since borings were made at 4 m. intervals along lines 10 m. apart), but it is quite possible that the use of large boulders was limited to the excavated area, since this is where the constructional fill is deepest.

This argument would not apply if the boulders had lain on the platform surface and formed part of some kind of structure. Turning to religion and ritual as a source for clues is risky, but it is worth noting the proximity of the boulder group to the stone alignment, for which a ritual or ceremonial function cannot be ruled out. Although (v. below) the alignment may have been erected

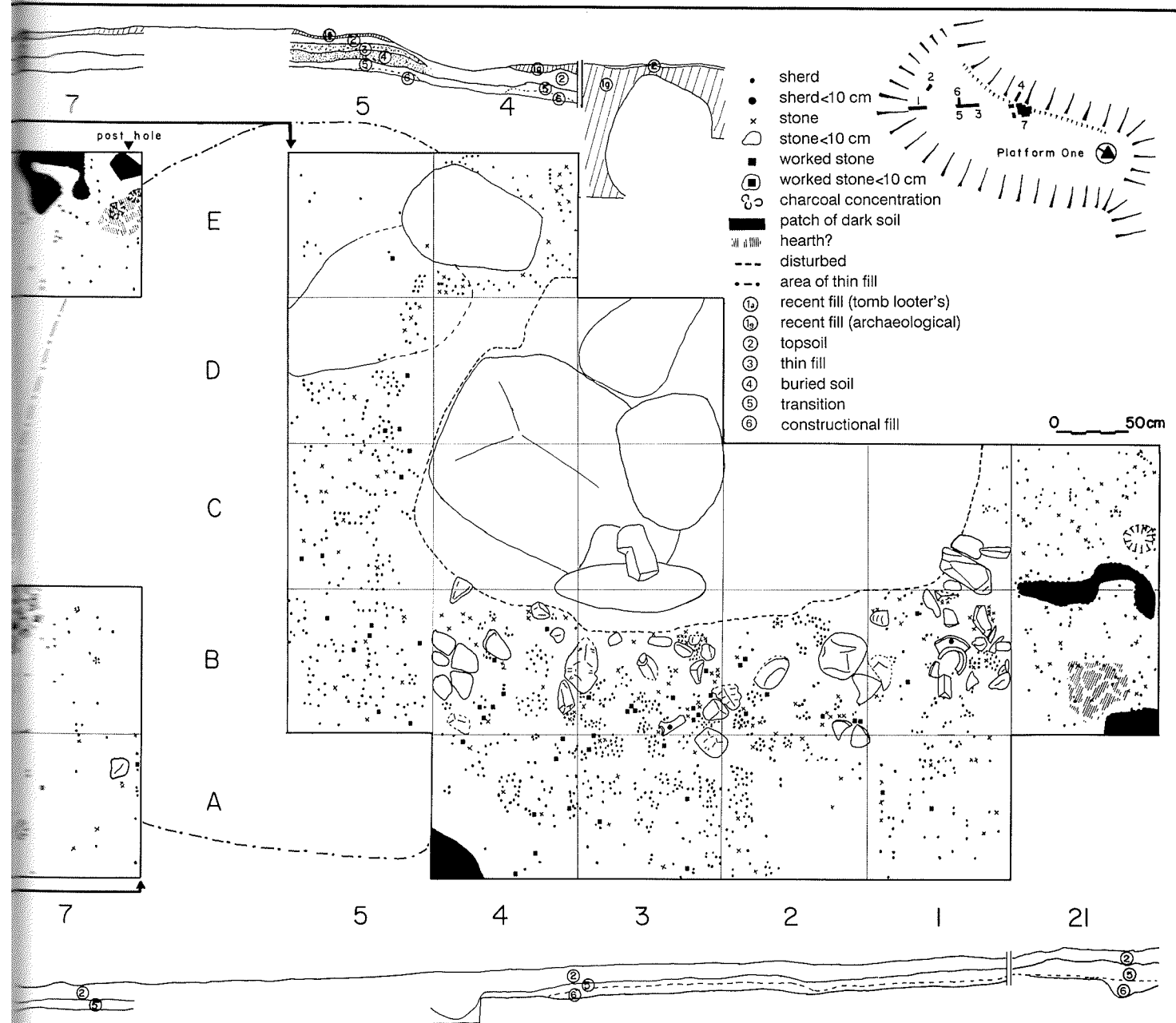




Fig. 21. El Dorado Platform 1. Features of stratum 5 in squares 5B to E.

later, it is possible that this sector of the platform retained its unique character as a focal point throughout the history of the site.

Information on changes in the use of the platform through time came from adjoining squares, especially 5B to 5E (Fig. 21). This 4 m. $\times$ 1 m. strip was placed in the slightly raised area close to the platform's edge. Although the looters' disturbance extended into Square 5C, and Square 5E contained a large boulder invisible at ground level, enough space was left to allow the excavation of a series of strata which had formed on top of the constructional fill. All these layers contained sherds and worked stone of the Sonso period.

The initial construction of the platform can probably be dated to the early part of the Sonso period, since a radiocarbon date of a.d. 1160 ± 50 (Beta-6819) was obtained during the 1982 season from the final occupation surface below the fill (*Pro Calima* 4: 14, Fig. 20).

The evidence from Squares 5B-E in Trench 7 indicates that after the platform had been built at least part of it was used for agricultural purposes. In Pedro Botero's interpretation of the soil profile, the red, clayey constructional fill (Level 6) is overlain by a reddish brown (10YR 3/3), rather hard, clayey loam (Level 5 in Fig. 20), which is transitional to a well developed loamy soil, Level 4, dark brown (10YR 2/3) in colour and loose in texture. Plants, probably gramineae, must have

grown regularly on this soil for a long time for it to have evolved in such a way. In confirmation of this, three carbonized maize kernels were found in Level 4 (v. Kaplan and Smith, this volume).

At some later period a relatively thin layer of fill (Level 3) was thrown over the loamy soil, thus raising up the bank at the edge of the platform. This bank was only a few metres wide, and towards the eastern limit of Trench 7 was already petering out (Fig. 20, sections, Squares 4A and 7A). The material of the bank is dark brown (7.5 YR 5/6), speckled with red and yellow; in texture it is hard and clayey. The construction of this bank preserved the original soil, formed during the early stages of platform use, from erosion in modern times. Where not protected by the bank, this stratum (Level 4) can be identified as the lower part of the humus; it is also dark brown, but is looser and more porous than the upper humus.

Eventually, a soil (Level 2) developed on top of the fill which constitutes the bank. This soil is a dark greyish brown (10 YR 3/2, 3/3), compact clayey loam, with occasional red and yellow flecks. Finally, in Square 5E, a thin layer of debris (Level 1), derived from our earlier excavations in Trench 1, completes the sequence of deposition.

Why a layer of fill was laid over the area of the platform, after it had been used for some time as agricultural land, is difficult to assess. Evidence from other trenches

shows the limited extent of this fill. Square 7E, on its outer border, gives a clue to the possible function. Here, the second fill is replaced by a patch of light brown, hard, compacted clayey soil with small lumps of red and yellow clay and charcoal lenses. Below this, the buried soil thins out and is paler in colour than elsewhere. This area could possibly be within, or near to, a hearth.

Square 7E has other interesting features which further complicate the story. Deep down, in the transitional stratum (Level 5) and therefore corresponding with an earlier stage of use, was a dark stain with a concentration of charcoal and sherds. This dark material filled an irregular depression in the surface of the constructional fill (Fig. 22). There was also a very clear post hole, which contained abundant charcoal. This feature definitely appeared in Level 5, but not above. The depression and the post hole must therefore belong to the very first stage of platform use, before the development of an agricultural soil on top of the fill.

Two fragments of carbonized maize kernels were found in the thin layer of fill (Level 3) overlying the cultivation soil (v. Kaplan and Smith, this volume).

In Squares 7A and 7B, at the lower part of the agricultural soil, Level 4 contained a concentration of sherds and large lumps of charcoal in a patch of darker, grittier soil with red, hard flecks. In the underlying Level 5, this feature still shows as a harder patch, with the same speckles and charcoal lenses, as well as big lumps of hard red clay, and a small (5 cm.) stone. This patch seems to have been another hearth, in use when the platform was newly built. In Square 7B was a small hole that might possibly have been for a post.

At the opposite side of the looters' disturbance, in Squares 21B and 21C (Fig. 23), which are outside the area of the bank and the second fill, the stratigraphy is much simpler: humus, transition, construction fill. In the humic layer there was a slight difference between the upper and lower parts, and it became softer and lighter with depth. Besides sherds, some fairly large, rough stones were found in this layer. Below the humus, on the transition, was a

patch of hard red clay surrounded by red and yellow flecks and bits of charcoal (? another hearth), which slips towards the corner adjacent to the eastern limit of the excavation. In Square 21C was an irregular patch, similar to the one in 7E, filled with dark brown soil. A slanting hole about the same size as the post hole in 7E, but without the black fill or charcoal, was found in Square 21B. Defined by a softer fill, this feature could be the site of an old tree or a *media caña* hole, though it does not show in the humus layer.

The final area excavated in 1984 was strip A1 to A4, on the flat part of the platform. In the eastern corner of Square 4A there is still a small area of thin fill, with the Sonso agricultural soil (Layer 4) buried beneath it. In this sector the buried soil fills a hollow in the constructional fill. No outstanding feature was present in this strip, aside from the presence of sherds and worked stones in all the excavated levels.

Discussion

Overall interpretation of the various stages of platform-use revealed in Trench 7 is not easy. Since work was limited to a small, though important, sector of the platform, the excavation poses more questions than it answers (Fig. 24). Nevertheless, a tentative reconstruction of the history of the platform can be offered.

1. Immediately after the main fill was laid down, a bank was raised at the edge of the level platform floor. Just after this was completed, a structure (represented by a post hole and a hearth) was built in this slightly raised area, on top of the fresh fill. The area surrounding this building may have been a kitchen garden, and probably the whole platform was cultivated.

2. Time passed; the building disappeared and the space where it had stood was covered by vegetation, which grew for sufficient time for a dark brown humus to develop. The presence of sherds throughout the section suggests that the area was permanently close to a dwelling, and that organic refuse was in part responsible for this soil formation.

3. Later on, the low bank was covered with a thin layer of fill. This may have been placed there in order



Fig. 22. El Dorado Platform 1: square 7E, the base of stratum 2. The post hole shows as a faint stain in the corner, and towards the left of the photo the depression is visible after the removal of the dark fill. Excavated holes are *media caña* probes.

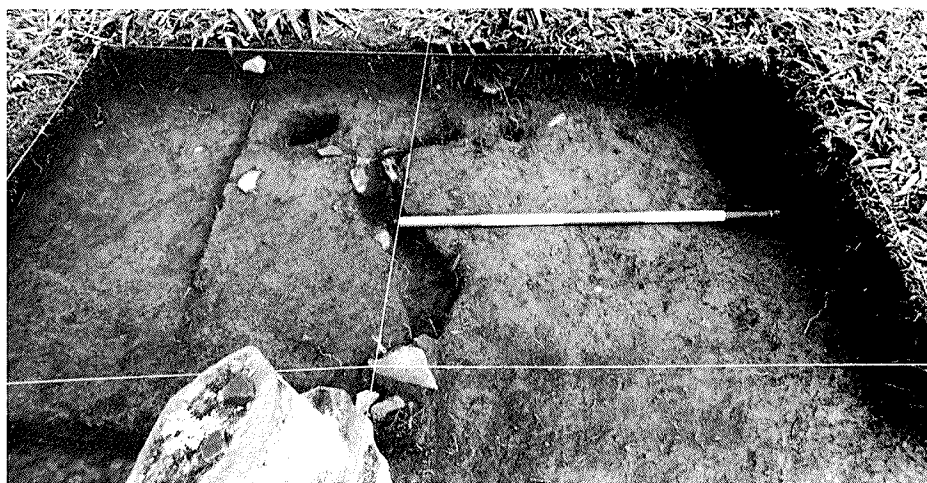


Fig. 23. El Dorado Platform 1; squares 21B & C at the end of the excavation, showing shallow depressions left after removal of the darker soil and, to the right, hard baked clay.

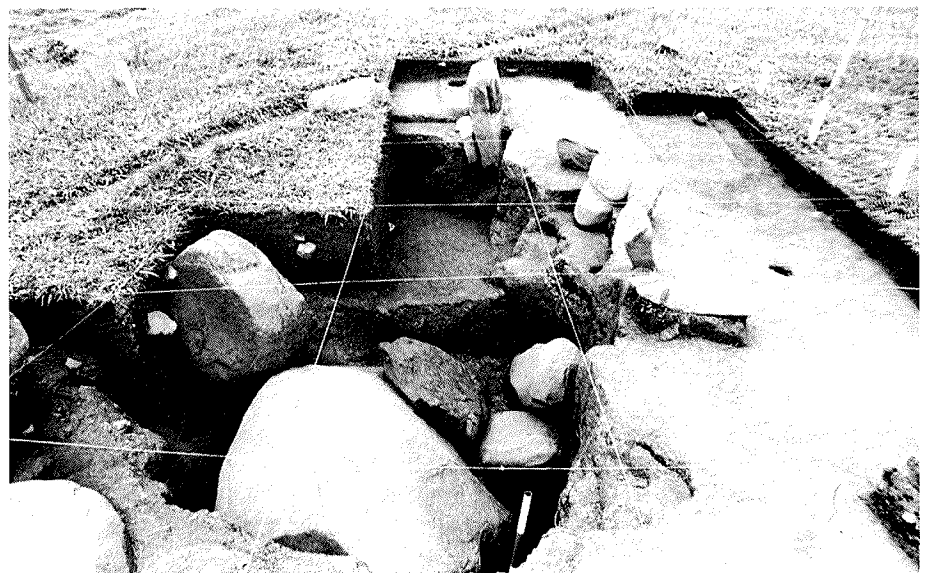


Fig. 24. El Dorado Platform 1: the main section of Trench 7 at the end of the excavation, showing the stone alignment and (to the left) stones covered by tomb looters' fill.

to consolidate a new occupation surface, and possibly at this stage a building was once more erected on this spot.

4. The stone alignment is outside this area, and could have been erected either before or after the second fill was spread. This fill might even correspond with debris from scraping the surface and from digging holes in preparation for the setting of the stones. On present evidence, the construction of the alignment cannot be tied to the sequence of events in the adjacent area.

The concentration of archaeological material close to this line of stones is puzzling. The spot may simply have been a rubbish dump, but alternatively may have been the site of ritual activities during which offerings of various kinds were deposited and pots were smashed.

The principal stones of the alignment are only partly worked, if at all; it seems as though they were chosen for their naturally unusual shapes, and then slightly retouched. Crude anthropomorphic stone sculpture is found elsewhere in the Calima region, usually in tombs of the Sonso period (*Pro Calima* 1, Figs. 24, 25), but the stones comprising the alignment do not belong to this category. In other areas of Colombia, alignments of partially worked stones (admittedly of larger size and greater complexity) have been considered sites for astronomical reference. In the Calima region there is at least one occurrence of standing stones on big Sonso platforms. This site, the Hacienda La Ofelia (visited in 1984) is relatively near, in the hilly area between El Dorado and the Calima valley. It, too, has a notable cluster of large Sonso platforms of various forms. One of these is oval and, like the platform at El Billar (*Pro Calima* 3: 8), has near its back wall a 'hump' which is the residue of the old ridge top, untouched when the platform was constructed. Another of the platforms at La Ofelia is squareish like El Dorado No. 1; a third is more angular, with a ground plan in the shape of a T with a short foot; a fourth platform has a plan resembling a shoe-print; and, finally, there is a hill with a flattened top. In one of these platforms the present day owner found two large, menhir-like stones,



Fig. 25. Hacienda La Ofelia: upright stone, removed from its original position on a Sonso platform.

approximately 1.50 m. high. These are now in the garden of the nearby hacienda house (Fig. 25). Standing stones, of unknown age, have also been recorded at the Hacienda Ceilán (*Pro Calima* 3, Fig. 55).

4. Soil studies in the valley of El Dorado

The excavations carried out in 1982 (v. *Pro Calima* 4) had given us a basic outline of the stratigraphy of the swampy valley floor from the Quaternary period to the present, but this sequence proved difficult to correlate with the dry-land stratigraphy of the adjacent slopes. In road cuts and excavations all over the Calima region, the same three soil units are visible:

(a) At the base is a hard red-yellow clay (alterite) derived from the diabase bedrock. This stratum is ancient, and contains no human occupation. The soils that once existed on top of the alterite are no longer present on the slopes, but were identified in the waterlogged deposits of the valley bottom (Fig. 37).

(b) Above this is a yellowish-brown unit composed of volcanic ashes and

of soils derived from these. The nature of this unit is far from clear, but it has a complex internal history, with various epochs of ash deposition and the formation of buried soils. Preceramic sites of the 8th millennium b.c (El Sauzalito, excavated in 1987) and the 6th millennium b.c. (El Pital, v. Salgado 1986) have been found in the upper part of this 'ashy' unit.

(c) The uppermost unit consists of a series of dark soils containing Yotoco and Sonso sherds. This unit, which spans the last two thousand years, also poses problems. On the slopes it is rarely more than 50 cm. thick; the stratigraphy is compressed, erosion has removed parts of the sequence, and the soils have been churned by prehispanic cultivation.

Since the material eroded from the slopes will eventually come to rest in the valley bottoms, it seemed likely that excavation in one of the little dry valleys (locally called *vagas*) might reveal thicker deposits and give a more detailed history of deposition. In addition, we suspected that these *vagas*, with their deeper soils and better moisture-retention qualities, might have been favourable sites for cultivation and might offer a better opportunity for the recovery of pollen and phytoliths.

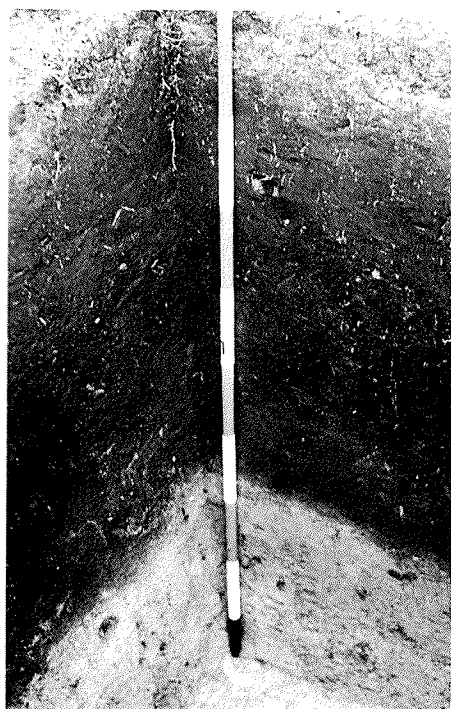
a. The 'Vaga Trench'

The locality chosen for excavation is shown in Fig. 26. The *vaga* is a sinuous, dry valley, situated between two ridges and opening onto the floor of the main El Dorado valley. On the other three sides it is surrounded by house sites, including the large platforms (Nos. 1 and 3) excavated in 1982 (v. *Pro Calima* 4, centrefold map). Sherds from the settlement area were incorporated into the soils of the *vaga* and provided a guide to the age of the more recent strata, though – because of downslope movement and redeposition of older material from the slopes – there was a degree of mixture throughout the deposit. Some of the sherds are older than the strata in which they occur, and the same may be true of pollen grains and phytoliths. This mixture is proved archaeologically by the presence of redeposited Yotoco sherds alongside materials of Sonso age in Strata 2 and 3 (Fig. 28).



Fig. 26. The valley of El Dorado, with some of the sites excavated in 1984.

P1 = Platform 1; V = the 'Vaga Trench'; G = 'Trench Geo' on the margin of the lake which once occupied the valley bottom. In the foreground, on the dried-out bed of this former lake, are drained fields of the Yotoco period.



Our soil pit in the *vaga* bottom measured 1.5 m. $\times$ 1.5 m. and was excavated down to 185 cm., below which the sediments were augered to a total depth of 510 cm. Soil descriptions were made at the site by Dr. Pedro Botero. A pollen core was taken from the upper 150 cm. of the deposit, and these samples were analysed by Dr. Richard Smith (Department of Geography, University of Leeds).

In the *vaga* pit the usual three units (clay, 'ashy', dark soils) were recognizable and, as predicted, were much thicker than on the slopes (Fig. 27). This allowed internal subdivisions to be identified within

the major units. A synopsis of the stratigraphy is given in Fig. 28, and Botero's descriptions of the soil horizons are presented below.

1. 0–22 cm.

A1

Dark brown (10YR 2/2); silty loam; moderately fine, subangular blocky, almost granular; friable, slightly sticky but not plastic, very high biological activity, with compaction of the upper 5 cm. due to cattle trampling; pH 6; high volcanic ash content (strong reaction to NaF).

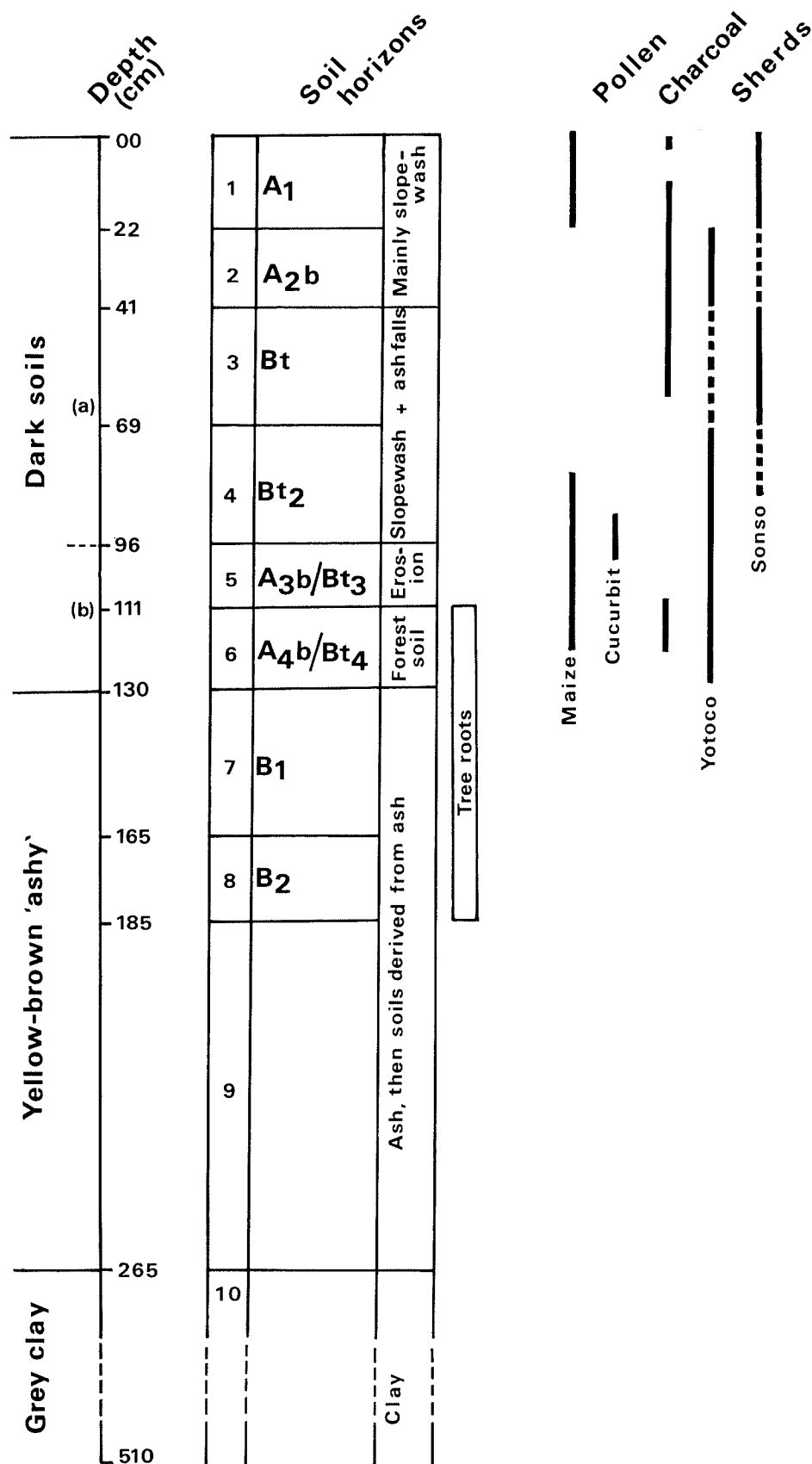
Archaeological material: 2 stone chunks, 4 Sonso sherds, 28 undiagnostic (probably Sonso) sherds.

2. 22–41 cm.

A2b

Dark brown (10YR 2/1); silty loam; a rather weak prismatic structure

Fig. 27. El Dorado, the 'Vaga Trench'. Several strata of dark soils overlie the lighter volcanic ash.



3. 41–69 cm.

B_t

Dark blackish brown (10YR 1.7/1); moderately fine, prismatic structure; very friable, slightly sticky but not plastic; clay skins thick and continuous; abundant mica; upper limit poorly defined; present day roots abundant; pH 6; high volcanic ash content, strong reaction to NaF.

Archaeological material: 1 chunk of granular stone, 1 fragment of a weathered nodule, 1 fine-grained flake or scraper, 5 Sonso sherds, 4 probable Yotoco fine paste sherds, 57 undiagnostic sherds (mainly Sonso).

4. 69–96 cm.

B_{t2}

Dark blackish brown (10YR 2/1); small to medium-sized, moderately angular blocky structure; very friable, slightly sticky, not plastic; abundant mica; clay skins thick and continuous; present day roots abundant, much biological activity; pH 6; no ash (NaF) reaction (some process, probably severe weathering, must have removed or transformed the reactive principle).

Archaeological material: above 85 cm. are possible Sonso sherds and 3 Yotoco fine paste sherds (including an alcarraza fragment); from below 85 cm. came 2 chunks and 1 flake of stone, 2 unmistakable Yotoco sherds, 18 undiagnostic sherds.

5. 96–111 cm.

A_{3b} or B_{t3}

Dark blackish brown (10YR 1.7/1); silty loam; small to medium-sized, moderately angular blocks; very friable when damp, slightly sticky, not plastic; clay skins thin and continuous; abundant mica and quartz; upper limit gradual and undulating; present day roots common, much biological activity; pH 5.5; no ash (NaF) reaction (v. 4 above).

Archaeological material: 1 chunk of stone, 3 Yotoco sherds.

6. 111–130 cm.

A_{4b}, possibly B_{t4}

Dark brown (10YR 2/1 to 10YR 2/2); silty loam; small, moderately sub-angular blocks, almost granular; friable to firm when damp, slightly sticky, but not plastic, when wet; clay skins present; upper limit clear

Fig. 28. Hacienda El Dorado; natural and cultural stratigraphy of the 'Vaga Trench'.

with a tendency to be massive, although it breaks into small weak granules; very friable, slightly sticky, not plastic; the upper limit is poorly defined; present day roots very abundant, biological activity consid-

erable; pH 6; high volcanic ash content, strong reaction to NaF.

Archaeological material: 1 stone chip and 1 chunk, 2 Yotoco fine paste sherds, 15 undiagnostic sherds (probably Sonso and Yotoco).

and undulating; present day roots in upper (A4b) part of the deposit, almost absent below; abundant biological activity; evidence of ancient tree roots; pH 5.5; no ash (NaF) reaction (v. 4 above).

Archaeological material: 1 Yotoco fine paste sherd, 2 Yotoco coarse sherds. Below 125 cm. no further archaeological material was recovered.

7. 130–165 cm.

B1

Yellow-brown café au lait (10YR 4/3); silty loam; small to medium-sized, weak sub-angular blocks; friable when damp, sticky and slightly plastic when wet; clay skins; abundant mica; upper limit gradual and undulating; considerable biological activity, many ancient tree roots; pH 4.5; no ash (NaF) reaction (v. 4 above).

8. 165–185 cm.

B2

Yellowish (40% of 2.5Y 8/1, 60% of 10YR 6/4); silty clay loam; small, weak, sub-angular blocks; slightly sticky, slightly plastic; clay skins abundant, thick and continuous; upper limit gradual and undulating; evidence for roots of large trees; pH 4.5; no ash (NaF) reaction (v. 4 above).

9. 185–265 cm.

Yellowish with grey admixture (40% of 5Y 7/2, plus 2.5Y 6/2, 2.5Y 6/3, 2.5Y 7/2, with inclusions of 5YR 5/8); silty clay loam; gradual transition to the underlying grey clay.

10. 265–510⁺ cm.

Grey, with small inclusions of reddish-yellow (5Y 8/1); silty clay.

Interpretation: On the basis of Botero's soil data and Smith's pollen study, we can attempt to reconstruct the history of deposition on the slopes of the valley of El Dorado (Fig. 28).

At the base of the sequence (Stratum 10) is a stiff grey clay, of unknown thickness. This is thought to be the *vaga*-bottom equivalent of the reddish clay (alterite) which directly overlies bedrock everywhere on the slopes. The grey colour of this stratum in the *vaga* is due to deposition in a damp, humid depression.

Above the clay is the yellow-brown 'ashy' unit found throughout the region. Botero's data confirm that this unit accumulated over a long period of time, and that it consists of volcanic ashes and (in the upper portion) of soils derived from these. Elsewhere in Calima the upper volcanic ash corresponds with the preceramic, but no evidence for human occupation of this age has yet been found in El Dorado.

Strata 5 and 6 (96–130 cm.) represent a distinct, noticeably darker, sub-unit at the base of the soils which overlie the yellow-brown 'ashy' deposits. Stratum 6 is a soil derived from the volcanic ash, and the top of it represents an old land surface. The presence of large tree roots, which penetrate down to 185 cm., indicates a forested landscape. At this point in the sequence Yotoco sherds appear, and also comminuted charcoal in the pollen core (Fig. 28), as well as the earliest maize. This stratum, then, marks the first substantial occupation of the slopes, with some clearance of the forest to create agricultural fields. In support of this, Botero suggests that Stratum 5 represents a period of erosion of the now unforested land.

Strata 1–4 (0–96 cm.) constitute the upper sub-unit of the dark soils. At its base (below 41 cm.), Strata 3 and 4 are made up of a series of small ash falls, with continuous admixture of slopewash. This stage seems to have lasted for some time and to have been relatively stable, allowing the formation of soils of fairly advanced development. At the top of Stratum 3 is a land-surface which remained stable for a long time, and might represent a hiatus in the cycle of ash falls and erosion. On the principle that, when redeposition is involved, it is the youngest archaeological material in a stratum which gives the approximate age of formation, Stratum 3 belongs to the Sonso period.

The uppermost strata (1 and 2, 0–40 cm.) are mainly slopewash mixed with ash from small falls. The abundance of pebbles suggests that erosion was severe, and the presence of Yotoco sherds in a stratum of Sonso age (no. 2) confirms that the erosion and redeposition of older material was taking place at this time. By the Sonso period (if not

before) it seems that the forest cover had been largely removed, and that the human population was at its maximum.

At the very top of the sequence, the compaction of the soil in the uppermost 5 cm. probably represents the 20th century reoccupation, with conversion of the land to cattle pasture. In many parts of Calima, a layer of charcoal at just this level marks the same modern clearance (Fig. 42).

In general terms, the information from the *vaga* trench on the slopes of El Dorado is consistent with our pollen data from the swampy bottomland of the main valley (Monsalve 1985; Bray et al. 1987). In both zones the most conspicuous archaeological event is a major episode of forest clearance and land reclamation early in the Yotoco period, with evidence for the cultivation of maize, squash and other crops.

b. Trench 'Geo'.

This excavation was designed to locate the margin of the lake which filled the valley of El Dorado until the Yotoco period, and which is represented by the grey clay found in our 1982 trenches in the valley bottom. It was hoped that a trench at the break of slope would allow us to correlate the stratigraphy on the hillsides with the sedimentation in the valley floor. To improve the chances of finding archaeological material, Trench 'Geo' was sited just below a house platform which had previously yielded Sonso sherds (Fig. 26 and *Pro Calima* 4, centrefold map).

These hopes were not entirely fulfilled. Instead of giving a transect across the lake edge, the trench proved to be entirely within the bed of the lake, though very close to its margin. For lack of time, we were unable to extend Trench 'Geo' upslope to reach the dry-land strata. At this stage of the season, too, we did not know that there had been more than one period of lake formation in El Dorado, and that these lakes were of slightly different extents. Because it contains Yotoco sherds at its top, we assume that our Stratum 4 (or, at least, the upper part of it) represents the most recent of these lakes.

El Dorado Tr. Geo

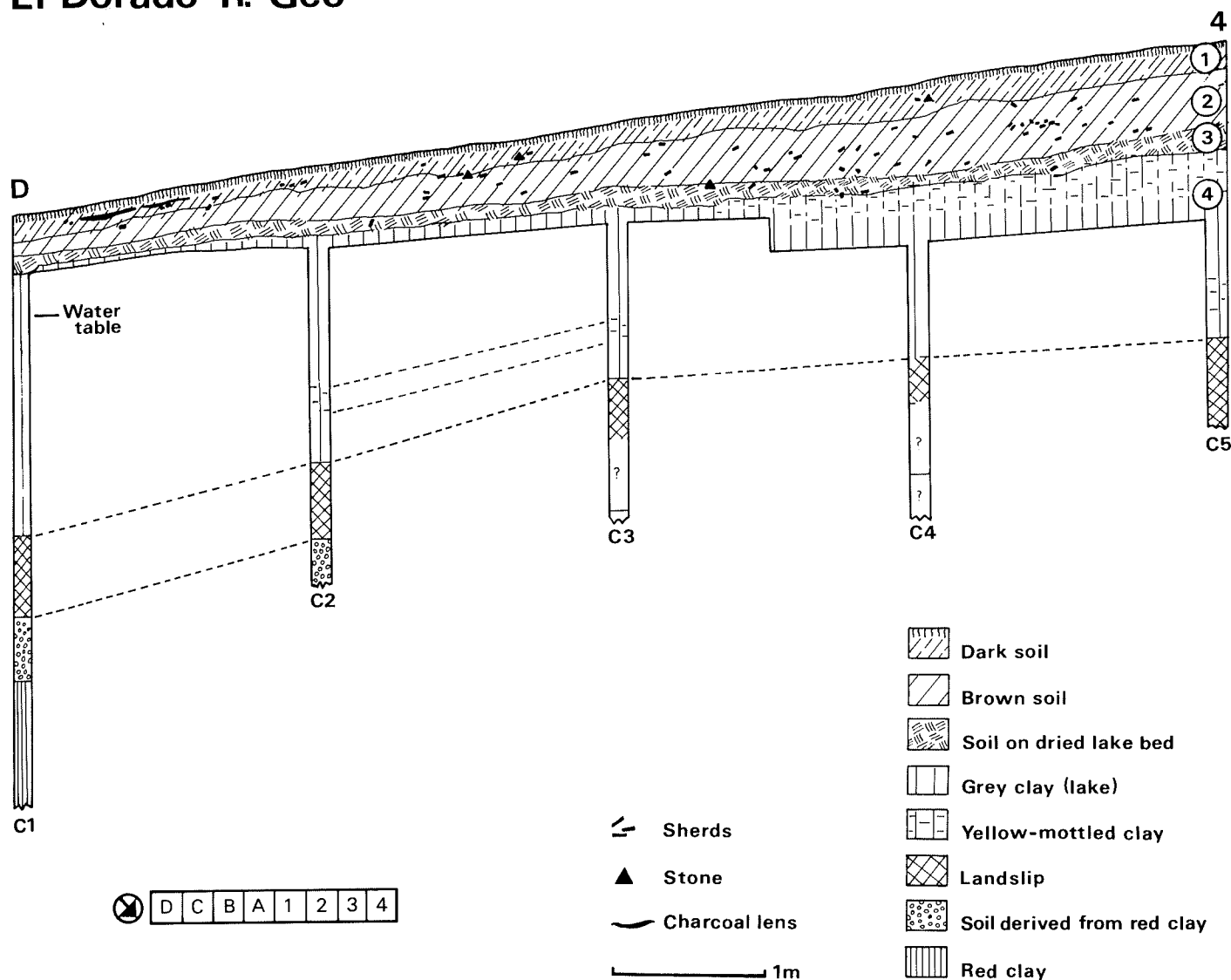


Fig. 29. Hacienda El Dorado, Trench 'Geo'; the south-west wall.

Trench 'Geo' measured 8 m × 1 m., and the section is shown in Fig. 29. The upper parts of the deposit (Strata 1–4) contain archaeological material, and the sequence is identical to the one from our 1982 excavations nearer the centre of the valley floor, in the zone of fields and ditches (Bray et al. 1985).

Stratum 1 is a dark soil formed under stable conditions. Patches of charcoal at the base of the turf derive from 20th century land-clearance. Sherds, stone and charcoal are fairly evenly distributed throughout the stratum. The archaeological finds consist of 15 typical Sonso sherds (Fig. 30, 1–12), 170 undiagnostic sherds (most of which appear to be Sonso plain wares), stone debitage, a retouched flake, a scraper, and a split cobble with flakes removed from the edge.

Stratum 2 is a brown soil, becoming more clayey and yellow-mottled with depth, and consisting of a mixture of volcanic ash with slopewash. In the lower 4 m. of the trench (Squares A–D), where this stratum begins to thin out, it was excavated as a single unit. The finds from this sub-area were 2 Sonso sherds, 1 Yotoco sherd, 63 undiagnostic sherds (probably belonging to both periods), and various stone fragments.

In the upper 4 m. of the trench (Squares 1–4) *Stratum 2* was excavated in arbitrary levels, following the natural slope of the surface. From the upper 10 cm. (which show clear admixture from *Stratum 1*) came 7 Sonso sherds, 3 Yotoco sherds, and 85 undiagnostic ones, apparently of both periods. Stone items included 1 metate fragment

and a piece of black chert imported from the zone of metamorphic rocks west of the Rio Calima. At 10–20 cm. below the top of this layer Sonso sherds disappear. Yotoco sherds numbered 131, many of them from a smashed, plain, fine paste alcarraza. One, presumably redeposited, llama sherd (Fig. 30, 21) was recovered from Square 3. The remaining 60 sherds were undiagnostic, but generally of Yotoco appearance. Below 20 cm. the finds consisted of 68 Yotoco sherds (including coarse wares and fragments of a second alcarraza), 67 undiagnostic sherds (generally comparable to Yotoco coarse wares), and stone work including 2 pieces of imported black chert.

Stratum 3 is transitional from the brown soil to the lacustrine clay of *Stratum 4*. There is much mixing

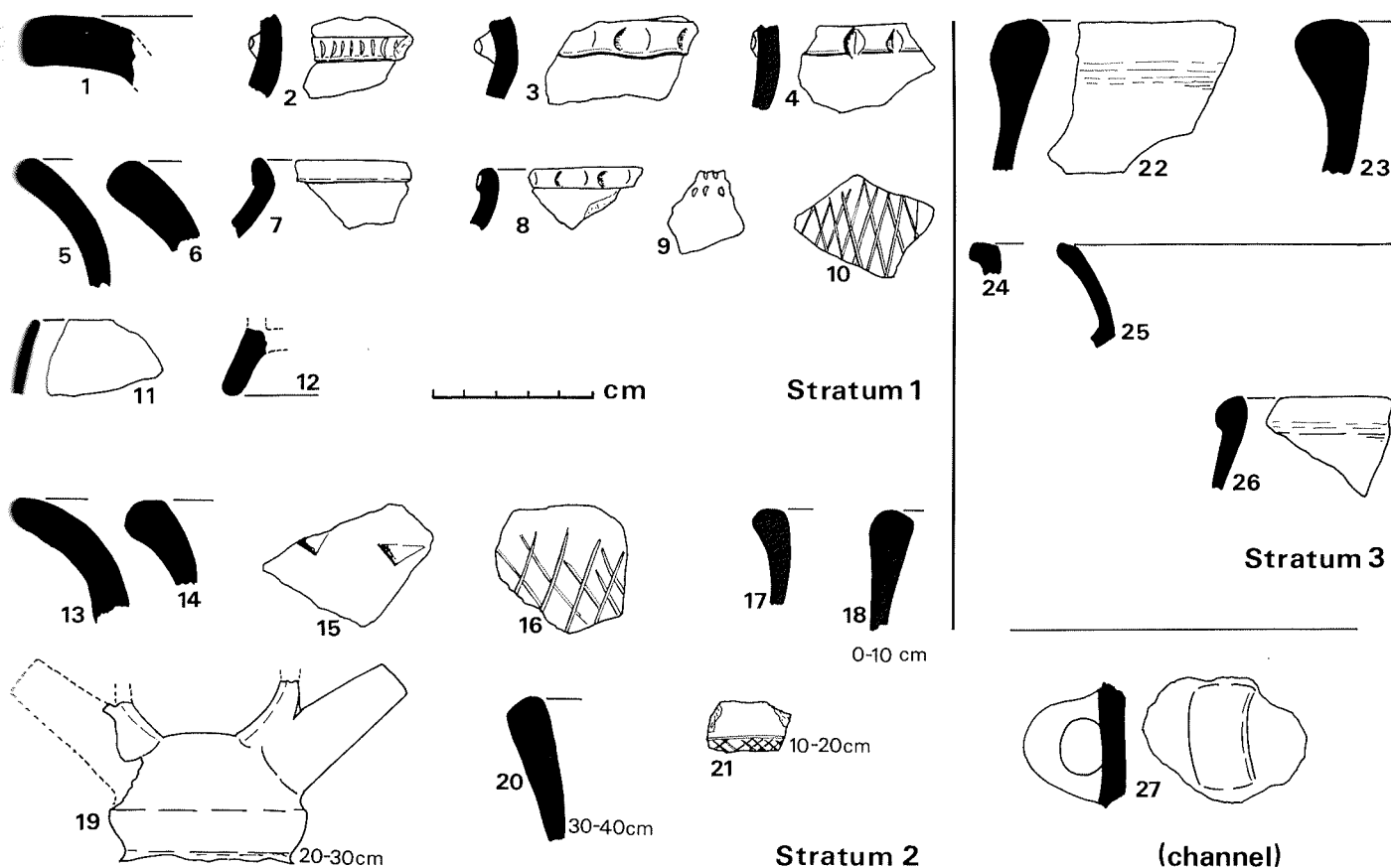
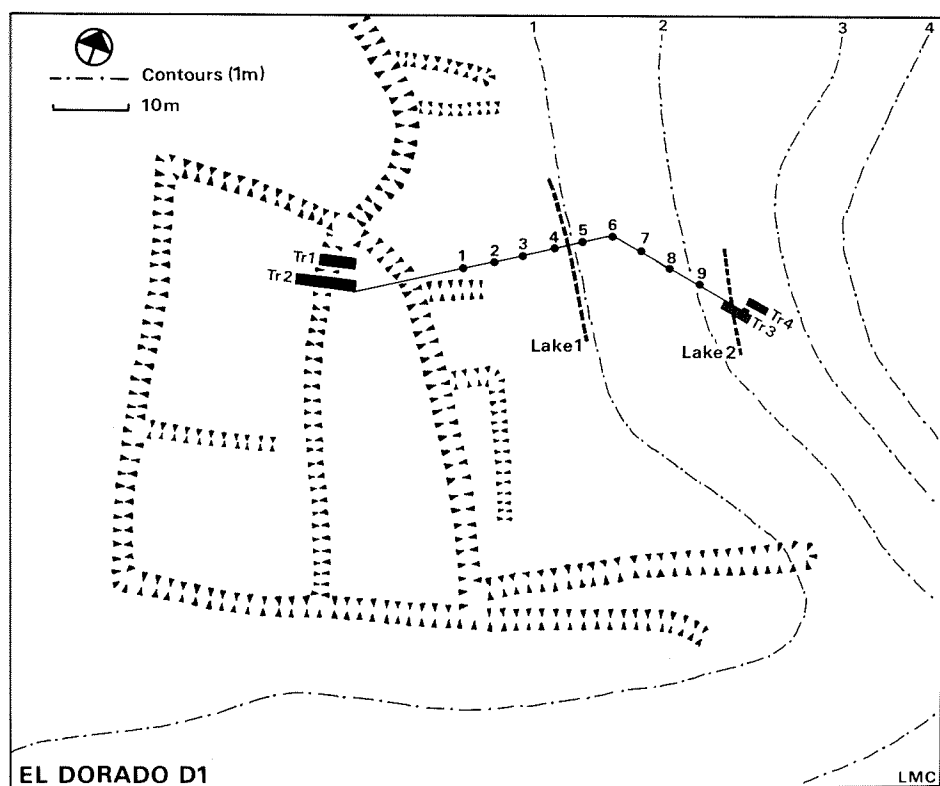


Fig. 30. El Dorado: pottery from Trench 'Geo' (for stratigraphy v. Fig. 29). Nos. 1-16 are Sonso sherds; nos. 17-20 and 22-26 are Yotoco fragments; no. 21 is an Ilama sherd; no. 27 is undiagnostic.

Fig. 31. Hacienda El Dorado, Ditch 1, showing the position of the 1981 and 1982 excavations (Trenches 1 and 2), the Sonso settlement tested in 1984 (Trenches 3 and 4), the locations of the auger holes (1-9), and the margins of the successive lakes which once covered the valley floor.



from above and below, with abundant worm holes and imprints of large roots. Stratum 3 represents the original soil which formed after the old lake had dried out. This level yielded 29 Yotoco sherds (fine and coarse), 113 sherds of generally Yotoco appearance and, in a scrape or channel cut into the underlying level 4, the little handle in Fig. 30, 27.

Stratum 4 is the grey lacustrine clay which underlies the first Yotoco occupation all over the valley floor (v. *Pro Calima* 4). In Trench 'Geo', which is almost at the margin of the lake, the upper surface of this stratum grades from grey (indicative of waterlogging) at the downslope end, to mottled and predominantly yellow (oxidized under dry conditions) at the upper end of the trench. A similar phenomenon was recognized across the valley in the Ditch 1 area (Fig. 32). With increasing depth, the yellow mottling disappears and the stratum consists of a stiff grey clay, deposited in open water. Archaeological material is confined to the upper interface of this

stratum, and consists of 2 Yotoco sherds, 29 undiagnostic (probably Yotoco) sherds, a sliver of black chert, and a scraper made from fine-grained rock.

In summary, Strata 1–4 at Trench ‘Geo’ repeat the story from other parts of the valley floor. A lake (4), which once filled the valley, shrank and dried, leading to the formation of a swamp and then of a soil (3) derived from this. Stratum 2 is also a soil of the Yotoco period. At the top of this, and throughout Stratum 1, are Sonso sherds deriving from the adjacent settlement, upslope from the trench.

The water table was encountered just below the surface of Stratum 4, and at this point formal excavation ceased. In an attempt to see what was below the grey clay, five cores (C1–C5) were taken, using an auger.

In C1, C3 and C5 there are signs that Stratum 4 is not homogeneous, and that there may have been some oscillation between wet and drier periods. On the basis of our experience elsewhere on the valley floor we had expected to find a buried forest below the lake clay. Instead, we came upon evidence of a landslide, marked by a thoroughly mixed deposit containing red and yellow elements (from the clay and volcanic ash of the hill slopes) and smaller quantities of the grey lacustrine clay. Since this landslide stratum does not occur in our other trenches, it must represent a localized phenomenon, not a valley-wide event.

In C3 and C4 the lower parts of the cores are difficult to interpret, but in C1 and C2 the landslide appears to overlie a coffee-coloured clayey stratum, which is the A Horizon of a soil formed on top the red clay (alterite) derived from the diabase bedrock.

c. Excavations at the Ditch 1 locality

This group of ditches lies on the eastern edge of the valley of El Dorado, almost opposite the large platforms and Trench ‘Geo’ (Fig. 31). The ditches themselves were tested in 1981 and 1982 (*Pro Calima* 3 and 4), and the work in 1984 was designed primarily to give information about the earlier, pre-archaeolo-

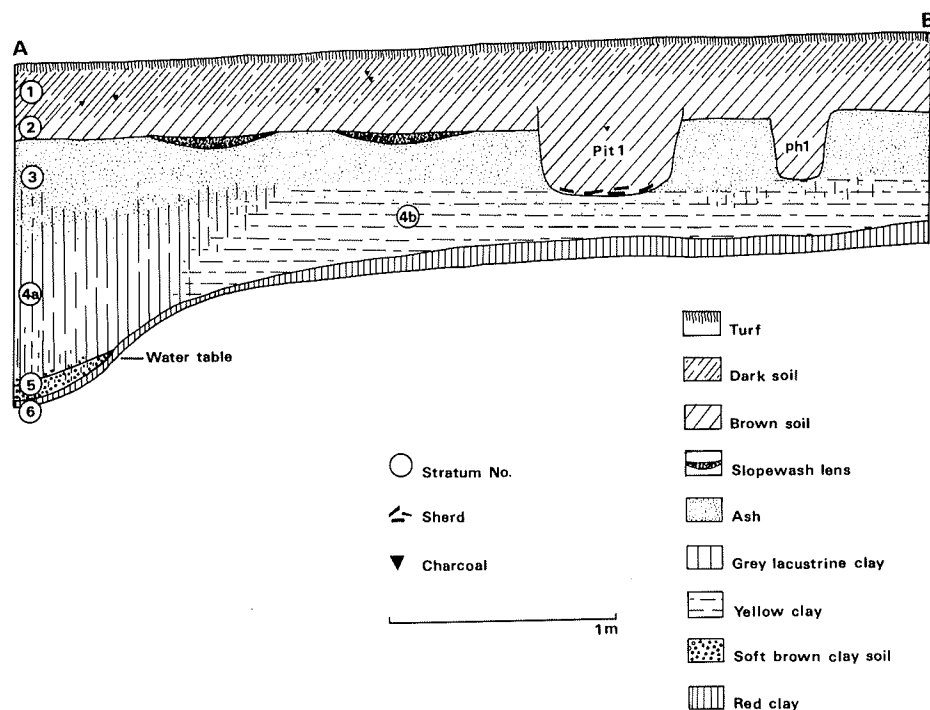


Fig. 32. El Dorado Ditch 1 locality: Section of the north wall of Trench 3 (v. Fig. 33).

gical, sediments at the margin of the bottomland.

Our excavations in 1982 had already provided the basic stratigraphy of the upper layers (*Pro Calima* 4, Fig. 40). At the top were agricultural soils of the Yotoco, Sonso and recent periods. The Yotoco soils had formed on the bed of a dried-out lake, represented in all our valley-bottom excavations by a layer of grey clay (*op. cit.*, Fig. 40, Stratum 4/2). Below this clay was an ‘ashy’ layer (Stratum 5, more correctly ash plus alluvium) formed over a long period, and with radiocarbon dates of $21,800 \pm 280$ b.c. and $23,350 \pm 500$ b.c. Underneath this were a number of dark organic soils and the remains of a buried forest. These organic soils, like the lake clay, were present all over the valley floor.

In 1984 our objectives were two: (1) to define the margin of the former lake, and (2) having done this, to attempt a correlation between the dry land stratigraphy of the valley slopes and the history of sedimentation in the marshy valley bottom. As always in El Dorado, nothing was quite as simple as we expected.

Investigation began with a series of media caña probes, working upslope from the ditches in search of the point where the grey lacustrine clay disappeared. At this locality, cutting across what we hoped was the edge

of the former lake, a trench of 4 m. by 1 m. was laid out (Fig. 31, Trench 3). The stratigraphy in this trench is shown in Fig. 32. At the uphill end (B) the sequence of strata follows the general pattern on the slopes, with soils overlying an ashy stratum, below which are clays, yellowish at first but becoming redder with depth, until the substratum of red alterite is reached. At the lower end of Trench 3 (A) the stratigraphy follows the pattern established in the valley bottom ditches, and the oxidized dry land clay of the slopes (4b) gives way to the typical grey clay (4a) deposited under lacustrine conditions. The transition between 4b and 4a defines the edge of a former lake.

The sequence in Trench 3 can be divided into two units. The uppermost unit (Strata 1 and 2 in Fig. 32) is made up of the dark, anthropic soils that cover the entire area of the lower slopes and ditches, and contain evidence of human occupation. The lower unit (Strata 3–6) contains no artifacts and shows no signs of human intervention. These two units are best considered separately.

1. The strata with human occupation

Stratum 1 is a dark brown, almost black, soil with a concentration of charcoal and Sonso sherds in its lower part. Stratum 2 is a lighter, browner soil, with much biological mixture from above and below. It,

too, contained Sonso sherds, but these were less abundant and some of them may have been carried down from above.

It is usual to find a few sherds in the topsoil throughout El Dorado, but the density in Trench 3 suggested more than a casual scatter. This impression was confirmed during excavation when a dark stain began to appear midway down Stratum 2, and proved to be the fill of a pit (Pit 1) cut into the underlying ash. On the floor of the pit were several sherds from a large cooking pot. Close to the pit was a second feature, perhaps a post hole (ph1), and three other ambiguous holes (not necessarily prehispanic) were recognized at the surface of the ash (Figs. 32, 33).

At this stage of the investigation it became clear that we had discovered the site of a Sonso settlement on the lowest part of the slope, as close as possible to the valley bottom but just above the modern flood level. The people who lived here presumably cultivated the adjacent fields, for Sonso rubbish was found throughout the fill of Ditch 1 (*Pro Calima* 3: 26–30). To check our conclusions, a

EL DORADO D1 1984

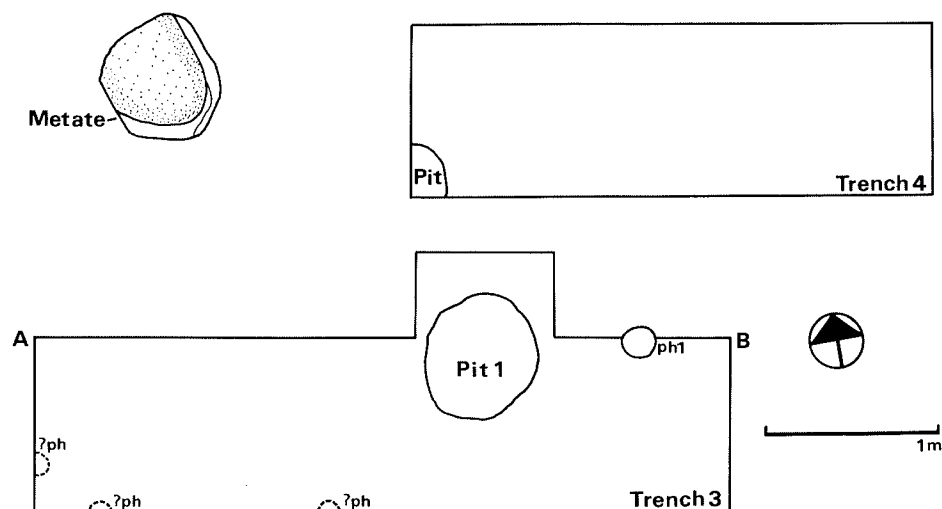


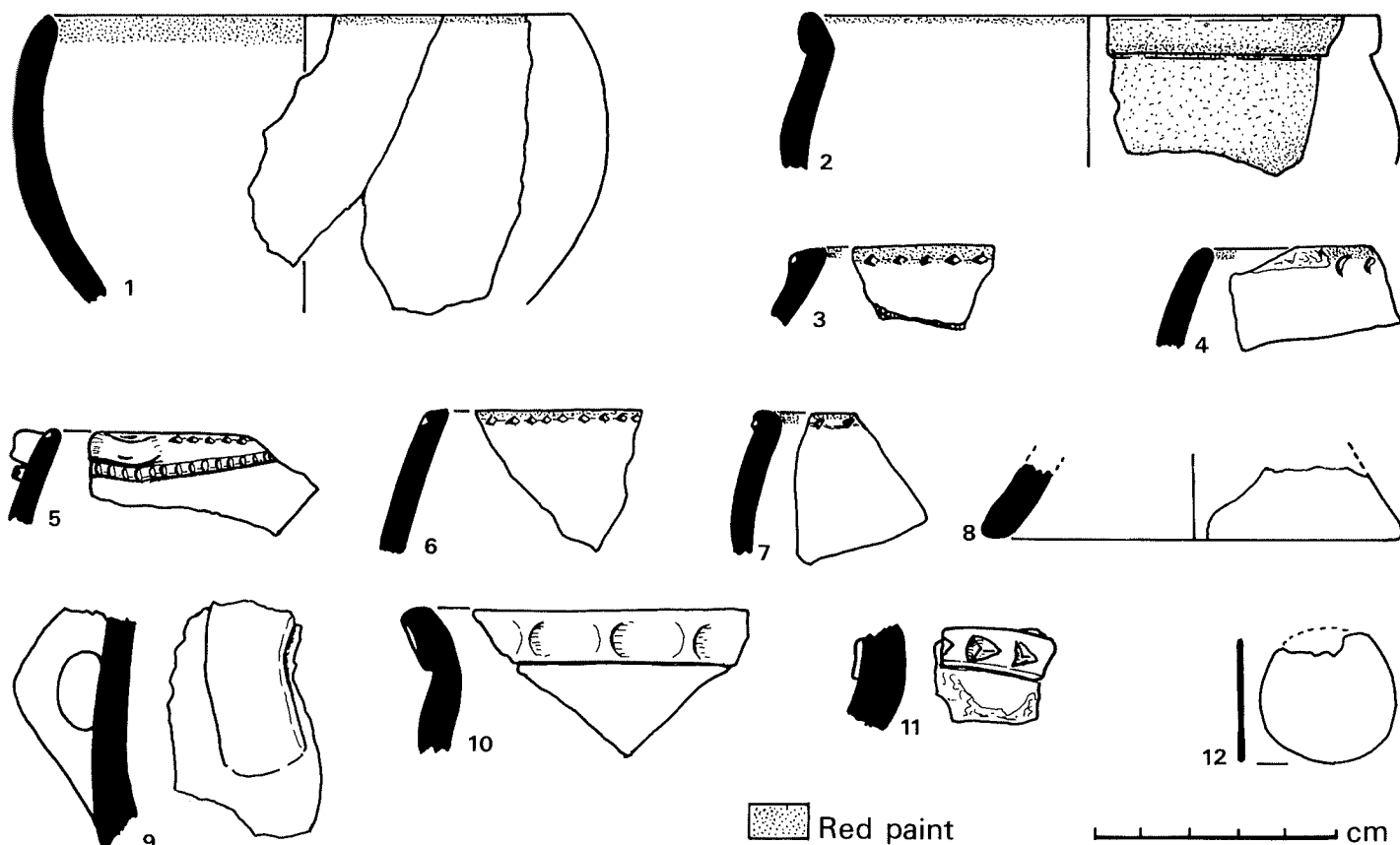
Fig. 33. El Dorado Ditch 1 locality: Trenches 3 and 4, showing features belonging to the Sonso settlement.

second trench (Trench 4, v. Fig. 33) was cleared down to the top of the sterile ash. As expected, it duplicated the results from Trench 3.

Selected finds from the settlement are illustrated in Figs. 34–36. Apart from a single sherd which might be Yotoco coarse ware, all the diagnostic pottery belongs to the Sonso period (Fig. 34), and several sherds

were encrusted with carbon from cooking fires. Part of an undecorated spindle whorl came from the turf layer of Trench 3. The flaked stone consisted only of debitage with no recognizable artifacts, but two fragments were of material imported from the zone of metamorphic rocks to the west of the Calima Fault (Eidt 1983: 31). The only ground stone

Fig. 34. El Dorado Ditch 1 locality: Sonso pottery and a stone item (no. 12) from the settlement adjacent to the ditches (Trenches 3 and 4).



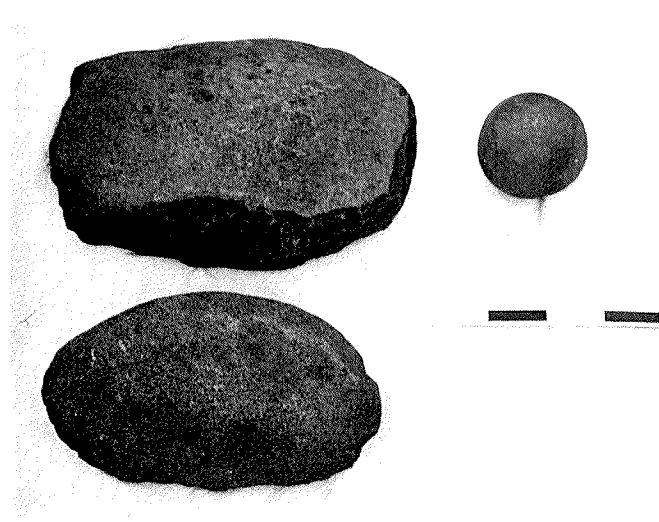


Fig. 35. El Dorado: two manos and a rounded stone from the Sonso settlement beside Ditch 1. The divisions of the scale are 5 cm.

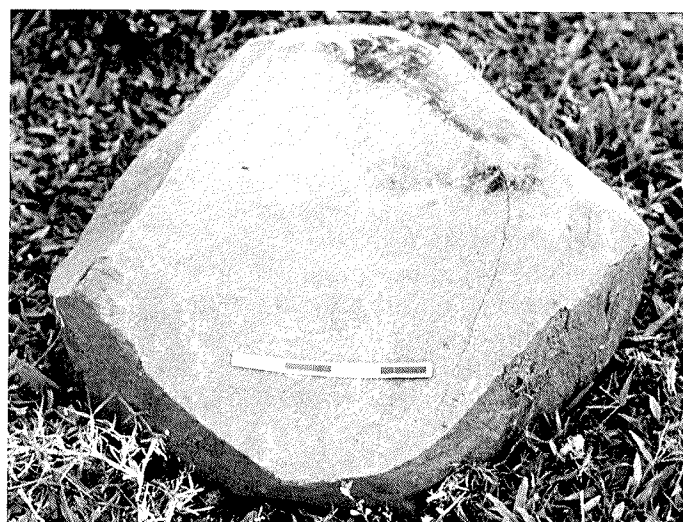


Fig. 36. El Dorado: boulder metate from the Sonso settlement beside Ditch 1. The divisions of the scale are 5 cm.

items were a small disc made out of schist (Fig. 34, 12), a roundish river pebble pecked and roughened around its 'equator' (Fig. 35), and two manos showing signs of heavy use (Fig. 35). On the surface, close to Trench 4, lay a boulder metate (Figs. 33 and 36). All this material is typical household rubbish of the Sonso period.

This locality merits large-scale area excavation. The settlement seems to belong entirely to one period; pits and post holes are easily identifiable in the yellow ash, and the juxtaposition of houses and fields offers the opportunity to study an entire rural community of late prehispanic age. Unfortunately, by the time we had appreciated these possibilities, the field season was almost at an end, and the task must be left for future excavators.

2. The pre-archaeological strata of the Ditch 1 locality.

We must now return to the stratigraphy of Trench 3. Below the dark anthropic soils came a layer of yellow volcanic ash mixed with slopewash (Stratum 3 in Fig. 32). Small lenses of alluvium on its surface suggest a hiatus in deposition, with the formation of puddles on an old land surface. This 'ash' contains some admixture of soil from above and clay from below, the result of worm activity and root penetration. Stratum 3, which is archaeologically sterile, is the last one to cover the whole of the

excavated area, and below this level the two ends of the trench must be described separately.

At the downhill end (A), where the slope of the deposits takes on a more basin-like configuration, the ash directly covers a wedge of grey clay (4a) laid down in open water at the lake margin. Below these lake sediments a layer of softer, browner clay (Stratum 5) consists of the mainly redeposited, remains of the soil which formed on top of the red clay (Stratum 6), which itself derives from the diabase bedrock.

While the lower end of Trench 3 shows the influence of the swamps and lakes of the valley bottom, the upper end (B) relates to the stratigraphy of the slopes. In this part of the trench the deposit corresponding with the lake clay (4a) is a yellow clay (Stratum 4b), paler and more ashy in its upper part and becoming redder below. The horizontal transition from 4a to 4b is gradual rather than abrupt, as might be expected at the edge of a lake with a fluctuating water level. Basically, 4a and 4b constitute a single stratum, of which the grey part was formed under water and the yellowish, oxidized part predominantly on dry land. The same phenomenon was recognized across the valley in Trench 'Geo' (Section 4b, above).

Trench 3 satisfactorily defined the margin of a lake, but introduced a new complication. In this trench the lake clay was *below* a yellow 'ashy' layer, but in the adjacent Trench 2 (our original ditch excavation) this

order was reversed, and the lake clay was directly *above* an 'ashy' stratum (Pro Calima 4, Fig. 40). There were only two possible explanations for the discrepancy; either there was more than one stratum of 'ash', or there had been more than one lake. To resolve this problem it was essential to know what happened to these strata in the intervening area between Trenches 2 and 3.

3. The Sedimentary History of the Valley Edge

The ideal way to examine the deep strata would have been to cut a long trench from one reference point to the other, but the high water table made this impractical. With limited time and resources, we opted instead for a quicker, if less precise, method. Using a screw-type geological auger, cores C1-C9 (Fig. 31) were taken at 4 m intervals along a transect from one trench to the other, under the supervision of Dr. Pedro Botero, who also interpreted the stratigraphy. In sloppy, waterlogged deposits this method sacrifices detail for speed, but the cores have allowed us to reconstruct an outline history of sedimentation in this valley-edge locality. The information from the cores is summarized in Fig. 37.

The sequence can be divided into three major cycles of sedimentation:

Cycle 1 (Strata 1-5 in Fig. 37): At the base of the sequence everywhere in El Dorado is a red clay (Stratum 1) derived from the weathered

El Dorado Ditch 1

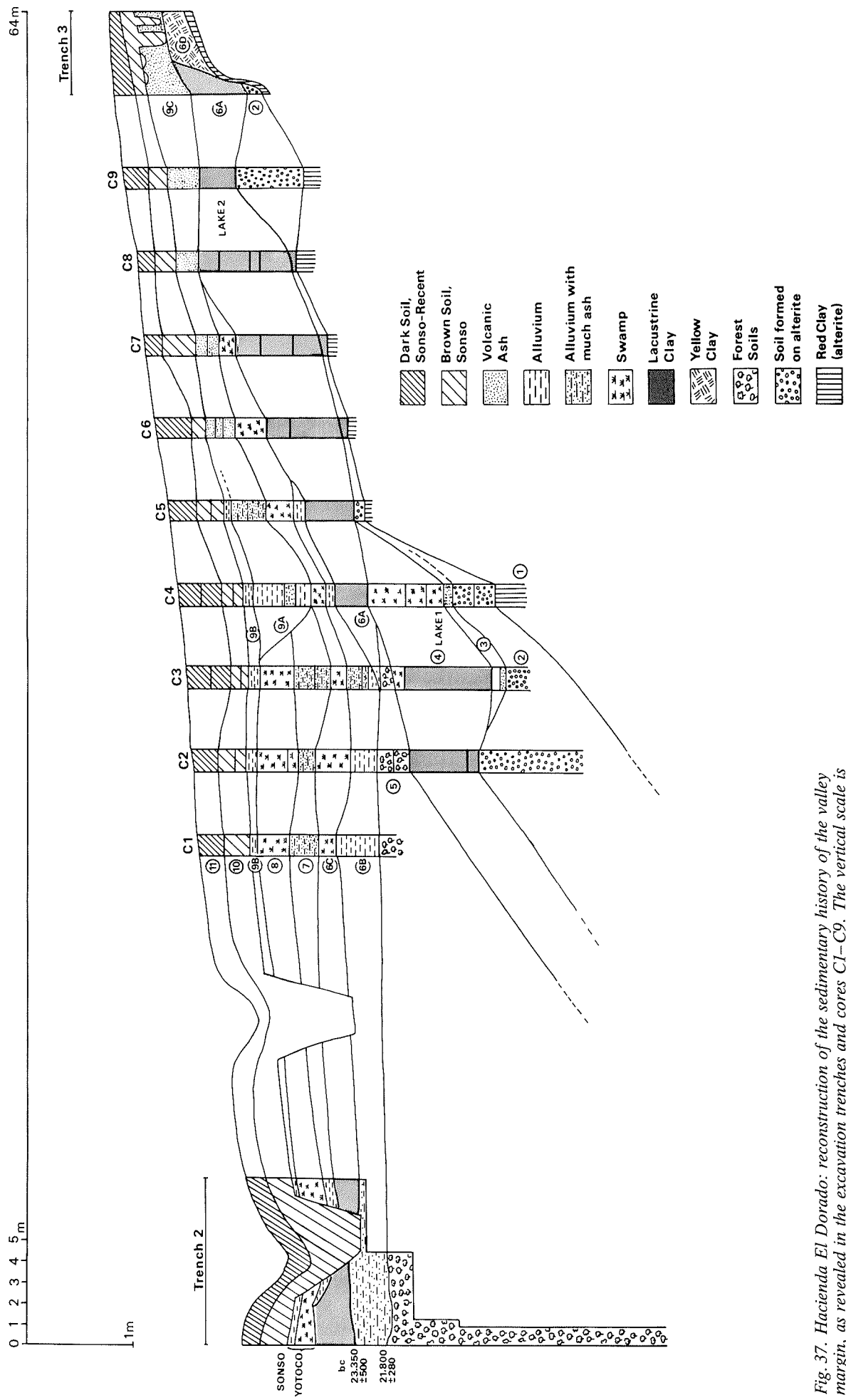


Fig. 37. Hacienda El Dorado: reconstruction of the sedimentary history of the valley margin, as revealed in the excavation trenches and cores C1-C9. The vertical scale is five times the horizontal one.

diabase bedrock. Vestiges of the soils which formed on top of this are represented by Stratum 2. Then followed various episodes of erosion on the slopes and sedimentation in the valley bottom, with some deposition of volcanic ash. Stratum 3 documents a minor ash deposition, with the formation of a soil on top. These 'terrestrial' processes were interrupted when the narrow outlet of the valley became blocked, perhaps by the major ash fall of 30.000 years ago (Fölster and von Christen 1977), and a lake (Lake 1) built up behind this natural dam.

Lake 1 is represented in our cores by Stratum 4, which consists of grey lacustrine clays (formed in open water) and of swamp deposits which formed when the neck of the valley became unblocked and the lake began to dry out. With improved drainage, soils formed on the former swamp and the valley bottom was colonized (or re-colonized) by forest. This episode is represented by Stratum 5 in the cores and by the buried forest recognized in 1982 during our excavations of field sites on the other side of the valley (*Pro Calima* 4: 19–24). The adjacent slopes may also been forested at this time, though erosion has removed the soils corresponding with this period. Stratum 5 has a complex internal history, and the presence of ash and alluvium in these forest soils indicates continuous volcanic activity in the Central Cordillera and some local erosion and redeposition in El Dorado.

Cycle 2 (Strata 6–7 in Fig. 37): The second cycle begins with the formation of a new lake (Lake 2) in the valley bottom. This episode is represented in the cores by Strata 6A, 6B and 6C. At the upslope end of the profile, from C4 to C9, is a thick layer of grey clay (Stratum 6A) deposited in conditions of open water. This clay continues as far as Trench 3, where the margin of Lake 2 shows very clearly in the walls of the excavation.

Downslope, on the floor of the valley from C3 to Trench 2, the lacustrine clay is not present, and the episode of lake formation is represented by Stratum 6B, a mixture of alluvium, ash and other materials washed down from the slopes and

redeposited on the swampy surface of the lake at a time when this was already drying out. The composition of Stratum 6B is very variable. In the cores it appears as a grey-green, sandy alluvium, with some ash; in Trench 2 the ashy component predominates. When Trench 2 was originally excavated (*Pro Calima* 4: 24) it was not clear whether this 'ashy' stratum was in situ or whether it consisted of redeposited material from the slopes. We now consider the second alternative to be the correct one. Redeposition could explain the stratigraphic reversal of the radiocarbon dates for this stratum, and these figures must now be taken as a *terminus post quem* for the formation of Stratum 6B. Nevertheless, assuming fairly rapid erosion on the slopes and sedimentation in the valley bottom, a date of ca. 25.000–20.000 b.c. seems plausible for the formation of Lake 2.

The final drying out of Lake 2 is represented by the development of swamps (Stratum 6C in cores C1–C7). In Trench 2 this same stratum (numbered 4/2 in our original excavation, v. *Pro Calima* 4, Fig. 40) is a sticky clay formed under conditions of poor drainage, and Piperno's phytolith analyses suggest a palm-swamp deposit with no sign of human intervention. Cycle 2 ends with the redeposition of alluvium mixed with ash (Stratum 7) on the now-dry lake bed. Given the presence of Yotoco sherds just above this level in Trench 2, this episode of alluviation may have ended some time around 2000 years ago.

The final phase of sedimentation:

On the valley floor this phase begins with a series of swamp deposits (Stratum 8 in cores C1–C3). Its stratigraphic equivalent in Trench 2 is a Yotoco soil (with maize phytoliths down to 82 cm) consisting of a silty clay loam containing reworked swamp material. From the limited information available, Stratum 8 is difficult to interpret. It may simply be a localized swamp in a depression on the valley floor (perhaps even the final remnant of the swamps associated with the old Lake 2), or, alternatively, it may be the swampy edge of yet another lake (Lake 3) occupying the interior of the valley. The first alternative seems

preferable. Although we have no stratigraphic column from the very centre of the valley, our investigations of prehispanic field systems some distance in from the valley edge suggest that the whole of Stratum 6A–C equates with the grey clay found in all our previous trenches, and that Stratum 8 corresponds with the swamp soils and the first Yotoco cultivation directly above this (i.e. with Strata 2 and 3 in the system of numeration for the other side of the valley, v. *Pro Calima* 4: 20–22). If these correlations are correct, the existence of a major lake in El Dorado at this time is unlikely.

Returning to the Ditch 1 locality and to Fig. 37, the swampy deposits (Stratum 8) are cut by a gully or erosion channel, visible at C4, whose fill constitutes Stratum 9A. A second lens of alluvium (Stratum 9B) covers both the swamp and the channel fill everywhere from Trench 2 to C5. In the excavations at Trench 2, this stratum was a well-defined land surface of Yotoco age. Overlying this are two soil formations (Strata 10 and 11) with Sonso sherds and with evidence of 20th century forest clearance at the base of the turf.

Although they have provided new data on the processes of sedimentation in the valley bottom, the cores have not solved our initial problem, the relationship between the strata on the slopes and those of the flat bottomland. The mantle of 'ash' found everywhere on the slopes represents a complex series of events, and erosion may well have removed critical parts of the sequence. In Trench 3 this 'ash' post-dates Lake 2 and is earlier than the soils of the ceramic period. The same relationship holds good downslope as far as C6. Below that point, towards the interior of the valley, the 'ash' stratum disappears as a unit, though elements of it are present in the alluvium (9A) in core C5. Because of gully-erosion, and the rather large distance between C6 and C5, the exact nature of this transition remains unclear. If we can extrapolate from the main Calima valley sequence to the slopes of El Dorado, the evidence from Sauzalito and El Recreo (v. Section 6, below) suggests that the top of the 'ash' stratum should be dated later than 6000 b.c.



Fig. 38. Vertical ditches, or 'field lines' at the Hacienda Maraveles, one of the sites investigated in 1984.

5. The problem of the field lines

On the hill slopes of Calima there is no tradition of agricultural terracing; instead, the slopes are covered with what we have called 'field lines', straight or slightly sinuous ditches running directly downslope on the sides and ends of ridges (Fig. 38). Some of these had been tested in previous seasons (v. *Pro Calima* 2 and 3; Bray et al. 1987). They are clearly agricultural, in the broadest sense of the word, but there is no consensus about their function; it has been suggested that they were for drainage, that they served to lessen the risk of landslips, or that they mark prehispanic property boundaries. All these theories are based more on speculation than on evidence, and one of our aims in 1984 was to collect further information on the nature and age of the ditches.

Tests were carried out at a number of sites throughout Calima (Fig. 39), following a fairly standardized procedure. At each locality the lines were described and measured, and one ditch was sectioned and drawn. A soil pit was excavated, a column sample removed, and selected pollen samples submitted to Dr. Richard Smith. Finally, the permeability of

the soil was measured over a half hour period, using the method shown in Fig. 40. Sections through some of these field lines are illustrated in Figs. 41 and 45. The excavated examples consist of wide shallow channels, rounded or V-shaped at the base, though these profiles may owe more to the effects of erosion (especially in friable ashy soils) than to the intentions of prehispanic farmers. The original profiles must have been narrower, steeper-sided, and deeper than the present drawings suggest. Measuring from the base of the modern root cap in the flat area between the lines, distances from the prehispanic surface to the ditch bottom in our sample range from 40 cm to over 1 m.

The information derived from the soil pits at these sites is summarized in Fig. 42. In many of the pits there is charcoal at the base of the turf, corresponding with the 20th century forest clearance, and prehispanic sherds occur throughout the soil, down to the top of the ash.

Sampling localities are distributed over the principal soil types identified in Calima (Eidt 1983; Bray et al. 1987). The first five profiles (El Billar-Altamira) are from sites where the soils derive from (and overlie) a thick layer of volcanic ash. These are

regarded as good agricultural soils today, and our observations confirm that they have excellent drainage properties (the figure from El Billar is an anomaly for which we have no explanation; during our excavations in 1981 the rainwater drained away quickly). At the other two localities, Loma Larga and Ceilán, the thick ash layer is absent, there are gleyed soils just below the surface, and permeability is poor. At Loma Larga, excavated in 1980 (*Pro Calima* 2: 11–12) but not remeasured in 1984, rainwater in the trench was very slow to soak away. In summary, there seems to be no obvious connection between the presence of field lines and any particular soil type. Lines are as common on free-draining soils as on those which are seasonally waterlogged today, and they occur on all kinds of slopes, from only a few degrees to over 50°. Drainage alone does not seem an adequate explanation for the construction of these linear ditches.

Smith's pollen data, to be published in full in our next issue, give an idea of the landscape during the Yotoco and Sonso periods. Pollen is scarce and badly preserved in these dry, hill slope soils, making detailed interpretation difficult, but the evidence indicates the nearby presence both of open country

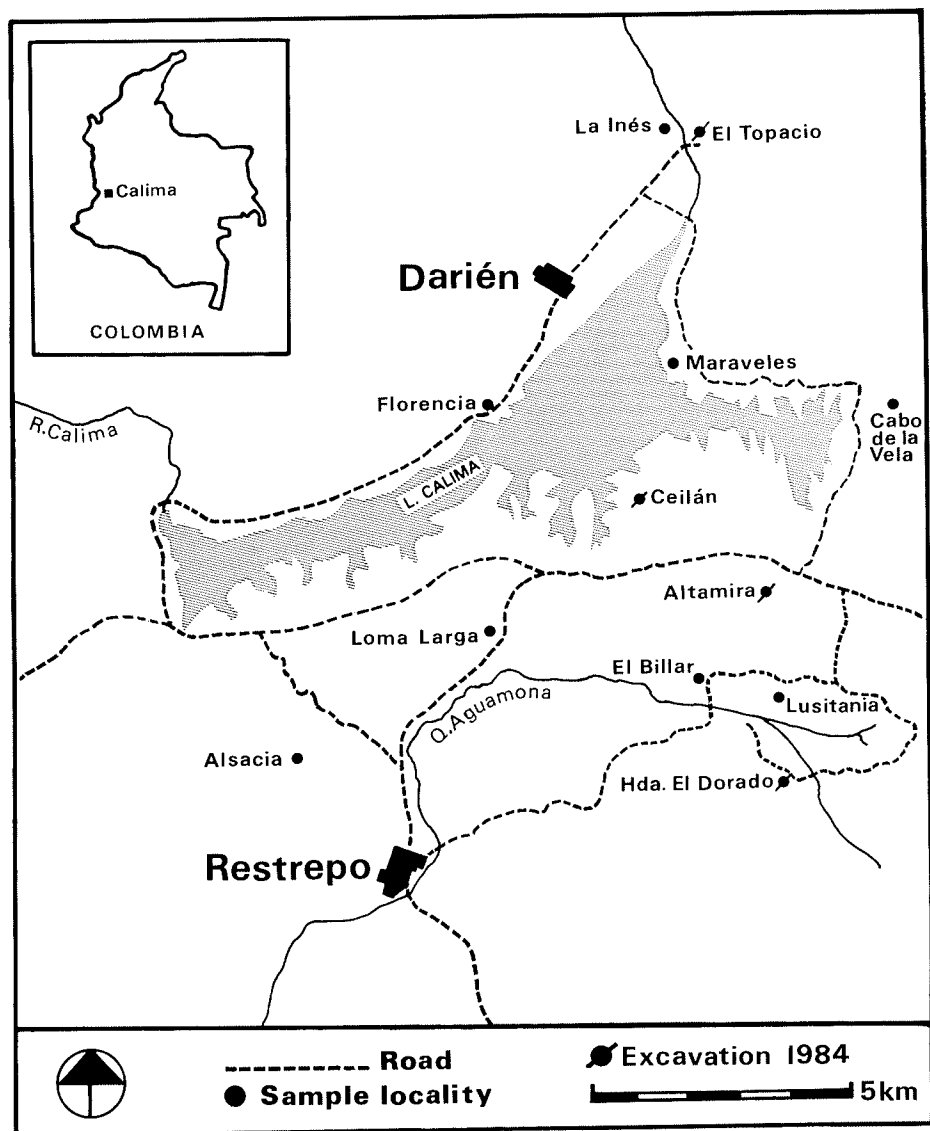


Fig. 39. Sites with field lines sampled between 1980 and 1984. Also shown are the sites of major excavations of the 1984 season.

(herbaceous taxa) and of woodland (arboreal taxa), with maize pollen occurring some distance below the modern surface, and in some cases right down to the ash (Fig. 42). This tends to confirm our view that the field lines belong to the agricultural landscape of Calima and are in some way connected with cultivated fields.

Two field lines had been dated in previous seasons. At La Alsacia one of these ditches cut across an abandoned Yotoco house platform, and the line must therefore belong within the later part of the Yotoco period or to the subsequent Sonso phase (*Pro Calima* 2: 15). At El Billar (Hacienda La Suiza), unweathered Sonso sherds were found in the primary fill of a ditch (Fig. 41, top) associated with a large platform of Sonso age (*Pro Calima* 3: 16). Some of the field lines, therefore, belong

to the Sonso period but, on the basis of only two dates, it remains possible that ditches were also made by the Yotoco people. The excavations at Ceilán and Altamira, described below, were designed to give further information about the age of the field lines.

a. Excavations at the Hacienda Ceilán

The pasture land of the Hacienda Ceilán, on the slopes overlooking the eastern shore of Lake Calima (Fig. 39), is rich in archaeological remains, including tombs, standing stones (*Pro Calima* 3, Fig. 55), and the complex of embankments, field lines and house sites illustrated in Fig. 43. In 1980 a trench was cut across one of these groups of lines, and provided evidence of poor drainage and a high water table which oscillates seasonally (*Pro*

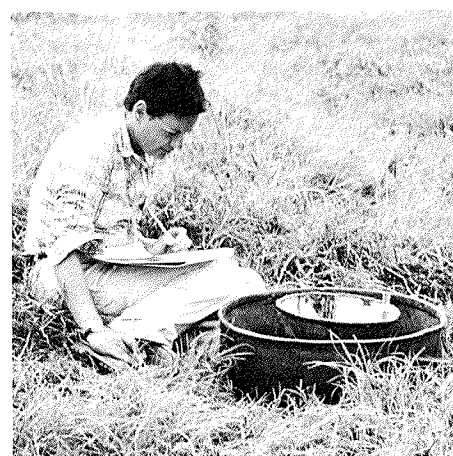


Fig. 40. Measuring soil drainage at a 'field line' site in 1984. After removal of the turf and the top 10 cm of soil, two short cylinders (improvised from oil drums) are hammered into the ground, and water is poured in. As the water in the inner cylinder drains away, the drop in surface level is measured every two minutes for a period of half an hour.

Calima 2: 11–12). Unfortunately, no datable material was found in the 1980 excavation. In 1984, with the generous permission of Dr. Rafael Posada, we returned to the site with the dual aim of obtaining precise soil descriptions and of dating the field lines.

A soil pit was excavated beside the 1980 trench, on the slight rise between two of the shallow ditches. Just below the turf was a considerable quantity of charcoal, corresponding with recent forest clearance, and at 6–10 cm below the surface were three undiagnostic body sherds and a probable Sonso rim. Below the turf, and continuing down to 40 cm, was a stratum of dark, silty clay loam – a typical gleyed soil with a good deal of disturbance from root penetration, insects and worm activity. From 40–53 cm the deposit continued thoroughly mixed, with elements of the basal red alterite and some hardish yellow patches, which are probably the remains of the ash layer that normally occurs between the dark soils and the red clay. Pure red clay was reached at 53 cm. Predictably, drainage was minimal, a fall in water level of only 1 cm in 30 minutes (Fig. 42).

The second operation in 1984 was the cutting of a trench across a small house platform whose eastern edge touched one of the field lines (Figs. 43–45). Our hope was that datable

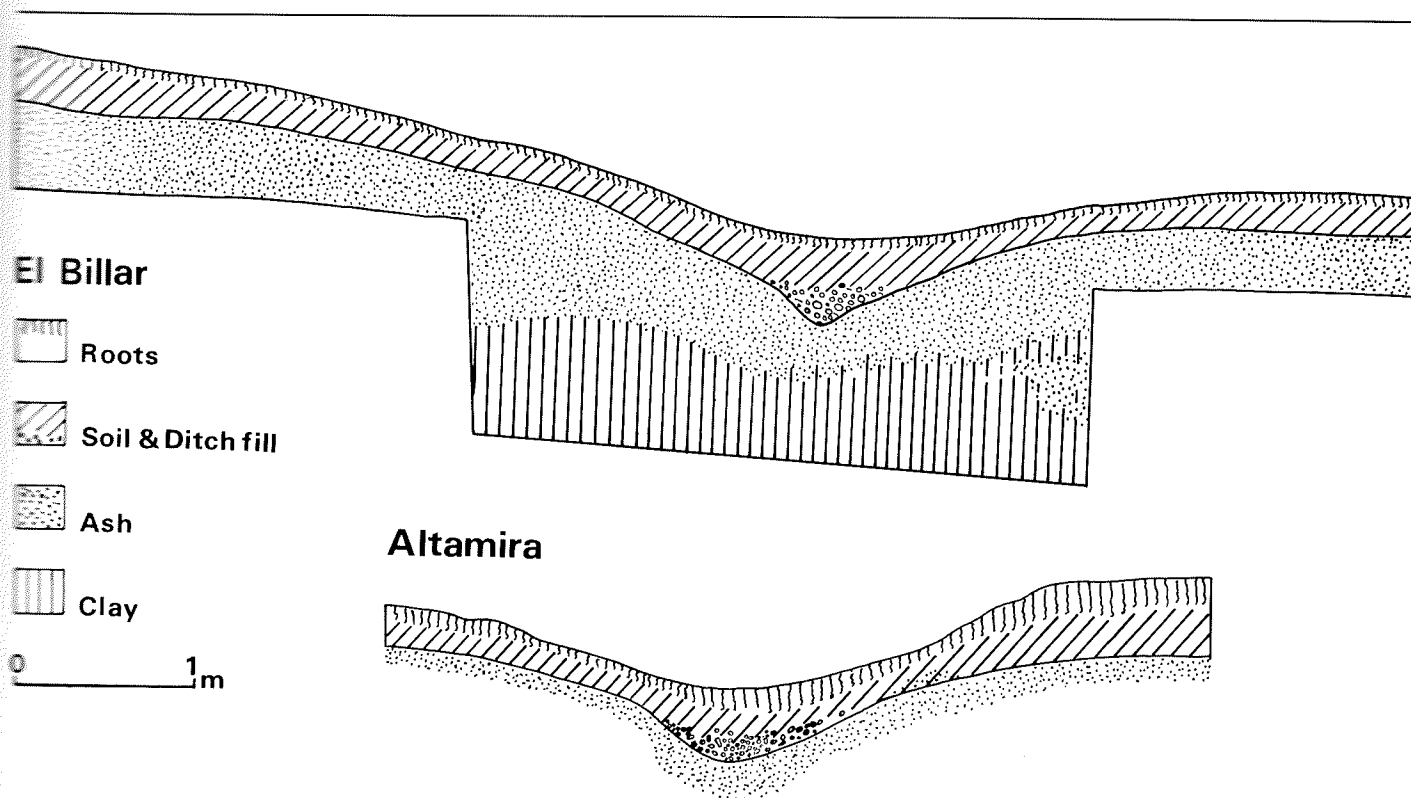


Fig. 41. El Villar (La Suiza) and Altamira: sections through field lines on volcanic ash soils.

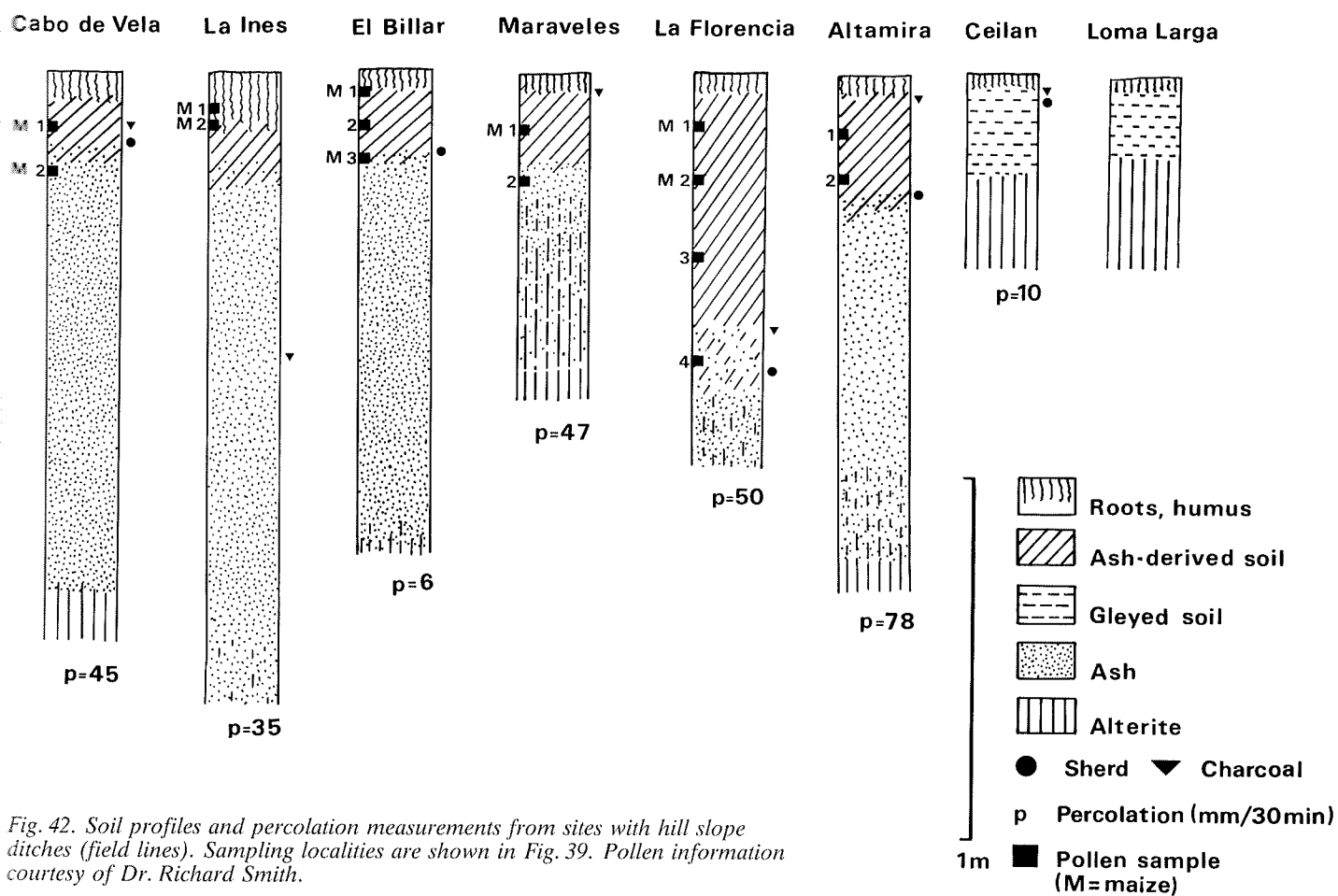


Fig. 42. Soil profiles and percolation measurements from sites with hill slope ditches (field lines). Sampling localities are shown in Fig. 39. Pollen information courtesy of Dr. Richard Smith.

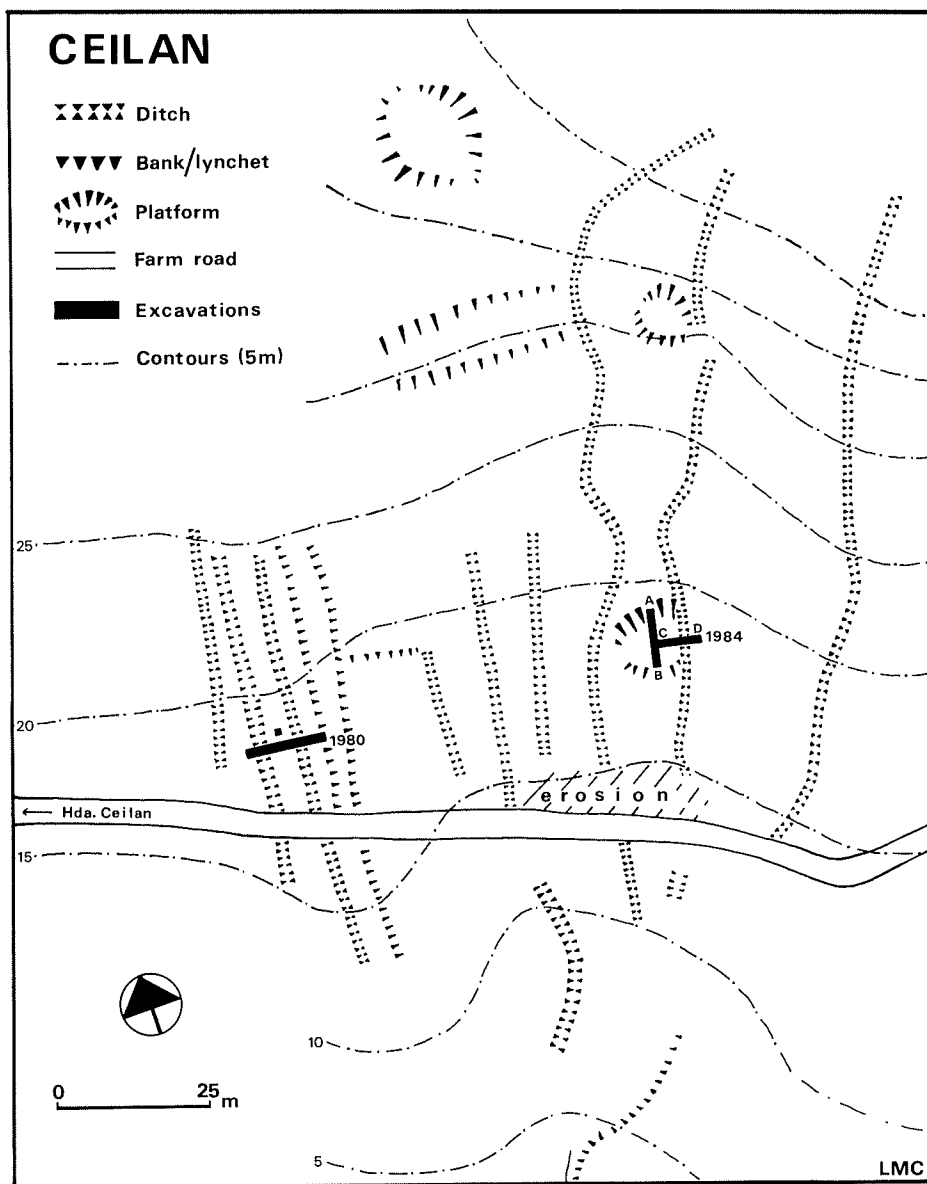


Fig. 43. Hacienda Ceilán: hill slope with field lines and house platforms, showing the position of the 1980 and 1984 excavations.



Fig. 44. Ceilán: excavation of the tambo and the associated field line. The back wall of the platform is visible at A, and the scale between C and D marks the position of the linear ditch.

rubbish from the house would be found in the primary fill of the ditch, and would give a date for the field line.

A north-south trench (A-B) was excavated right across the centre of the tambo in order to examine its construction (Fig. 45). The root layer (Stratum 1) contained the usual clearance charcoal and 11 coarse, undiagnostic sherds. At the base of the turf, oxidized nodules of iron mineral began to appear and were present throughout Stratum 2, which is the equivalent of the clay-loam in the soil pit. At the back of the house platform, i.e. at the northern end of the trench, Stratum 2 incorporated a good deal of material washed down from the slope above. It was a hard, clayey deposit, yellow-grey when dry, containing charcoal and a few sherds, non-diagnostic except for one Sonso rim. The sherds and the charcoal are probably redeposited and do not necessarily give a date for the tambo. In the southern portion of the trench, over the levelled floor of the platform, the effects of slopewash were less marked. Here, Stratum 2 was clayey, dark brown when fresh, but drying out to a grey colour with yellow mottling from mineral nodules. In this form Stratum 2 continued beyond the boundaries of the tambo and out into the field area.

There was no distinct occupation deposit on the tambo floor, and Stratum 2 directly overlay the red clay substratum. Charcoal was minimal and not clearly associated with the occupation; sherds and stone were all but absent.

The best evidence for dating came from the back of the platform at the northern end of the trench (Figs. 45, 46). Cut into the stiff clay at an angle of c. 45°, the sloping back edge of the terrace was still clearly defined (Fig. 46). At the base of this wall was a shallow ditch or gully, to collect and drain away rainwater running down from the slope above. The slight 'outward' inclination of the tambo floor would also have helped to prevent waterlogging of the occupation surface.

At its base, Stratum 2 graded into Stratum 3, the fill of the ditch and the material that accumulated in the angle of the back wall. This consisted of redeposited slopewash, thoroughly

CEILAN

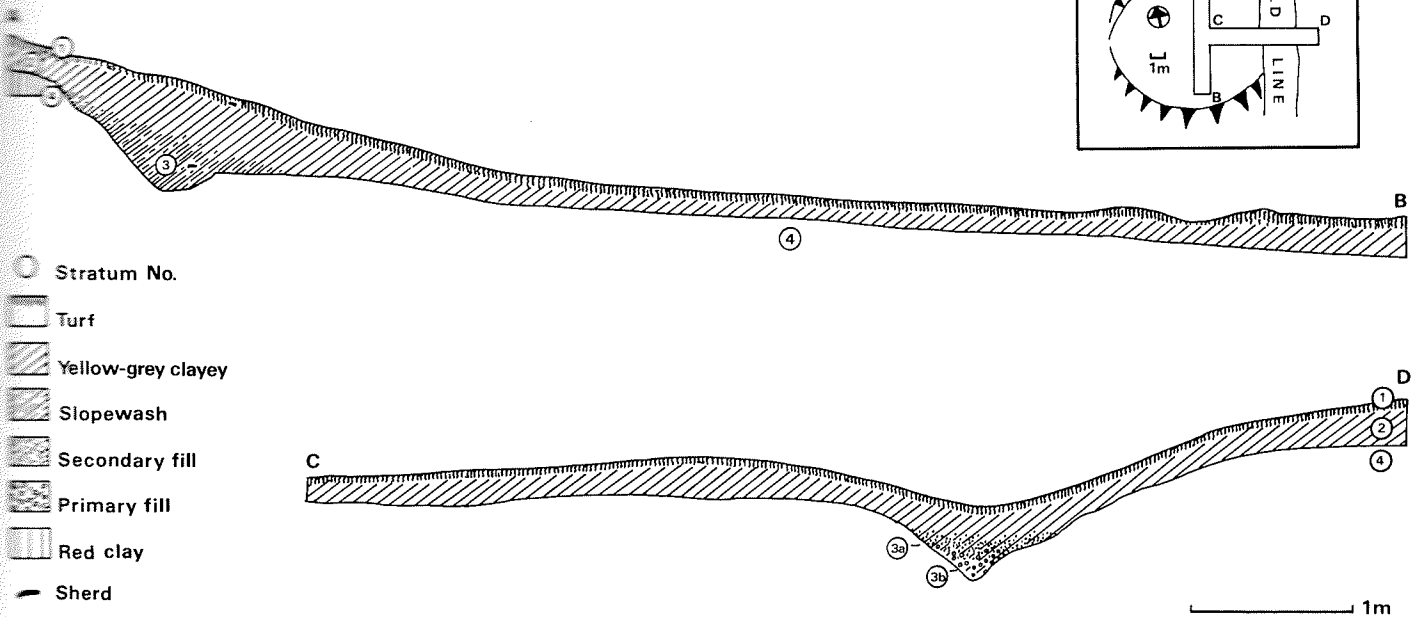


Fig. 45. Hacienda Ceilán: sections through the house site and the adjacent ditch (field line).

mixed, and containing elements derived both from the topsoil and from the basal clay. Sherds were present in small numbers, and charcoal (possibly burned cane or bamboo) was more abundant here than elsewhere. Whether the charcoal in the ditch derives from domestic fires or from cultivation of the slopes above the platform (or a combination of the two) is not clear, but it should give an approximate age for the use of the tambo or for its final abandonment. A sample of the charcoal from the bottom of the ditch gave a radiocarbon date of a.d. 1520 $\pm$ 120 (Beta-11 805).

Having sectioned the occupation floor, the trench was extended eastwards to cut the field line (Trench C-D in Figs. 43-45). Strata 1 and 2, as described above, sealed the fill of the ditch and continued into the pasture beyond it. The primary fill of the ditch, corresponding with the initial, rapid erosion of the side walls, was a fairly compact dark soil with lumps of clay from the ditch sides. At its upper surface this merged into the more recent secondary fill, a softer and more crumbly deposit with a similar kind of mixture.

The primary fill contained no charcoal, but archaeological material found on, or just above, the ditch

floor consisted of 10 miscellaneous pieces of stone, a struck flake, and 8 eroded sherds of generally Sonsoid appearance. The secondary fill contained only 4 plain sherds and a chip of crystalline rock. One of the sherds from the primary fill was sent for thermoluminescence dating and gave an age of A.D. 1440 $\pm$ 70 (Alpha-1520).

This date, from the field ditch, is consistent with the C14 date from the tambo, and the two together suggest that the whole complex of

field lines and house sites may belong to the Sonso period. The one diagnostic sherd from the site, unfortunately from the slopedash of Stratum 2, was of Sonso type, and no recognizable Yotoco pottery was found.

b. Excavations at the Hacienda Altamira

Like the Ceilán excavations, the ones at the Hacienda Altamira were designed to provide information

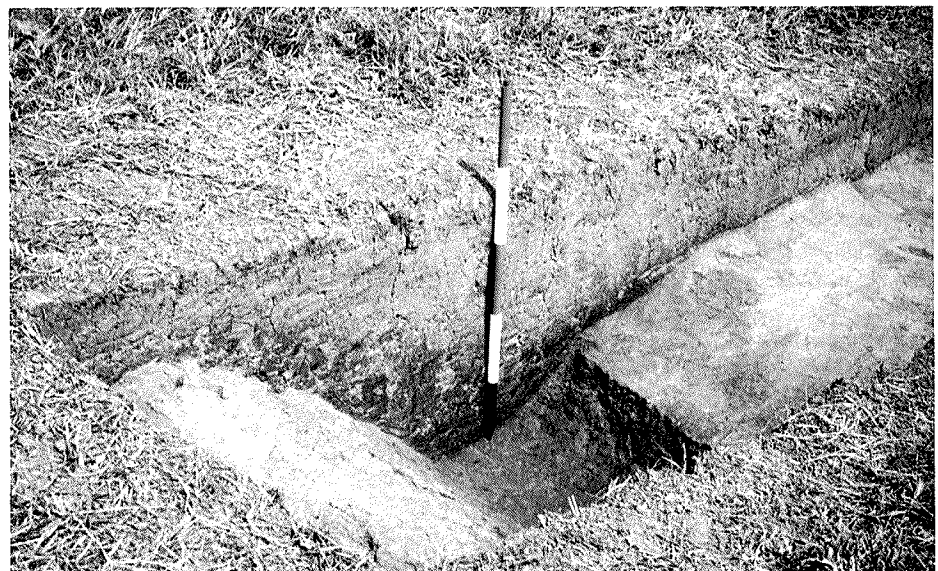


Fig. 46. Hacienda Ceilán, excavation of the house site. At the left hand end of the trench is the sloping back wall of the tambo, with a drainage ditch at its base. The level area at the right hand side is the floor of the tambo.

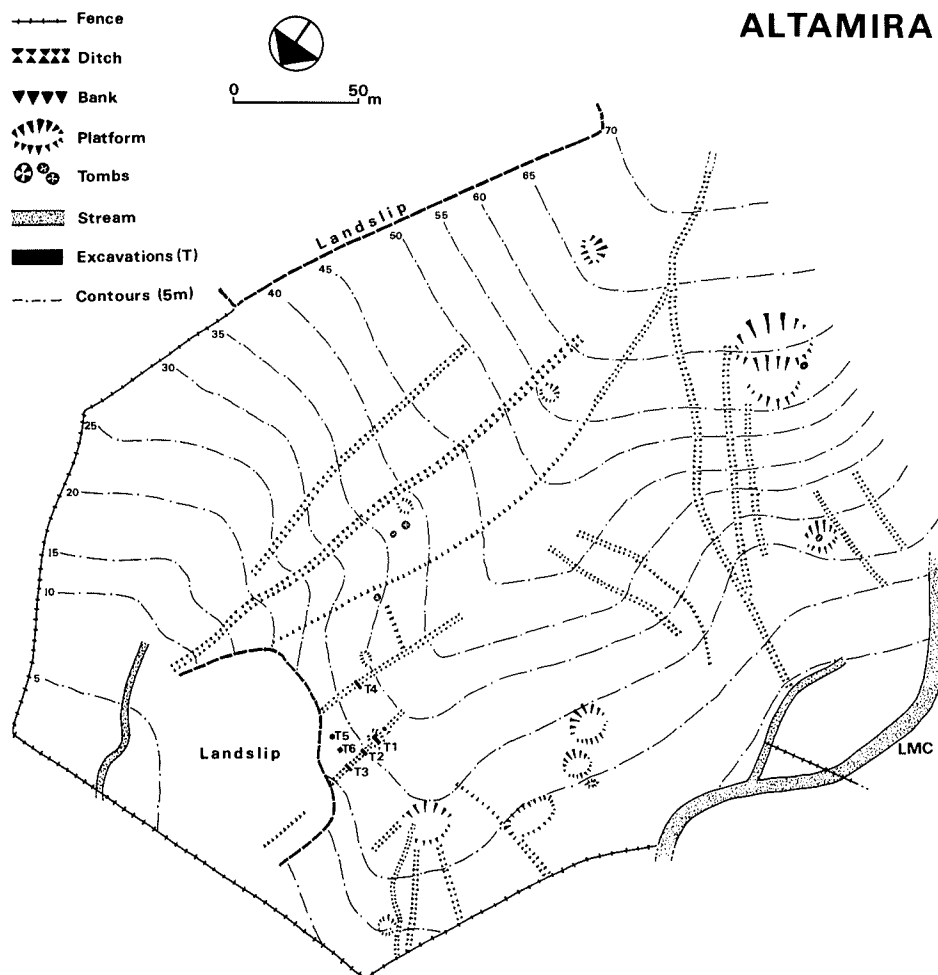


Fig. 47. Altamira: field lines, house platforms, and the locations of the 1984 trenches.

about field lines. The location of the site is shown in Fig. 39. Viewed from the hills to the north, on the other side of the Buga-Buenaventura road, field lines and tambos were clearly visible in the pastures sloping down to the highway at Puente Tierra (Fig. 47). The area has suffered two landslips, one of which has carried away part of the lower slopes some time after the construction of the field lines. From afar, one of these lines appeared to cut (or be cut by) a house platform, offering the possibility of working out the chronological relationship between the two. With the permission of the owner, Sr. Luis Enrique Moreno, excavations were carried out in the hope of dating the field lines.

While the site was being mapped, two petroglyphs were discovered, one of them (Fig. 48) carved on a boulder in the stream bed near the farmhouse, the other (Fig. 49) on a natural boulder on the S. W. slopes of the valley, upstream from the excavated area. Both petroglyphs

were made by pecking, rather than incision.

Following our usual practice, a soil pit was excavated (Fig. 47, T6) and soil drainage was measured (Fig. 47, T5). The information from these activities is summarized in Fig. 42. In addition, one of the better-preserved ditches was tested (T4) and the section through this is illustrated in Fig. 41.

The remaining trenches (T1–T3) were designed to examine the relationship between one of the ditches and the small tambo with which it seemed to intersect. This excavation quickly ran into problems. A 3 m × 1 m trench (T3) across the ditch revealed two strata of dark soils, much disturbed by roots and ants, containing a small quantity of stone and sherds, including some Yotoco fine paste fragments. Because of the disturbance, it proved impossible to distinguish the ditch fill at this level. Below these soils, at the surface of the underlying ash, the only trace of a possible ditch was a



Fig. 48. Altamira; stone with two pecked figures.

slight hollow which might have been natural. Because of the ambiguous stratigraphy in Trench 3, a second attempt was made to define the ditch (Trench 2), but at this locality the stratigraphy was completely destroyed by tree roots and ant nests. The sherds in the disturbed soil were predominantly of Yotoco types, with some possible Sonso admixture.

The line of the ditch disappeared on the floor of the tambo, but seemed to continue on the slope above. This might suggest that the construction of the house platform cut through (and was therefore later than) the disused ditch. Trench 1 was designed to test this proposition, and the plan and section are shown in Fig. 50. The turf layer (Stratum 1) contained both Sonso and Yotoco sherds. Stratum 2 was a dark brown soil with sherds of both periods, and it merged gradually into Stratum 3, a slightly darker soil containing Yotoco fine paste sherds and some possible Sonso fragments among the undiagnostic body sherds. Slopewash has undoubtedly contributed to the formation of Strata 2 and 3, and some of the sherds may well be redeposited.

Stratum 4 corresponds with the original occupation of the tambo. In colour it was indistinguishable from the overlying stratum, but was distinctly harder and more compacted. Below this occupation surface was a mixed, transitional stratum (5) which also corresponds with the period of occupation of the tambo. All the diagnostic material in Strata 4 and 5 was of the Yotoco

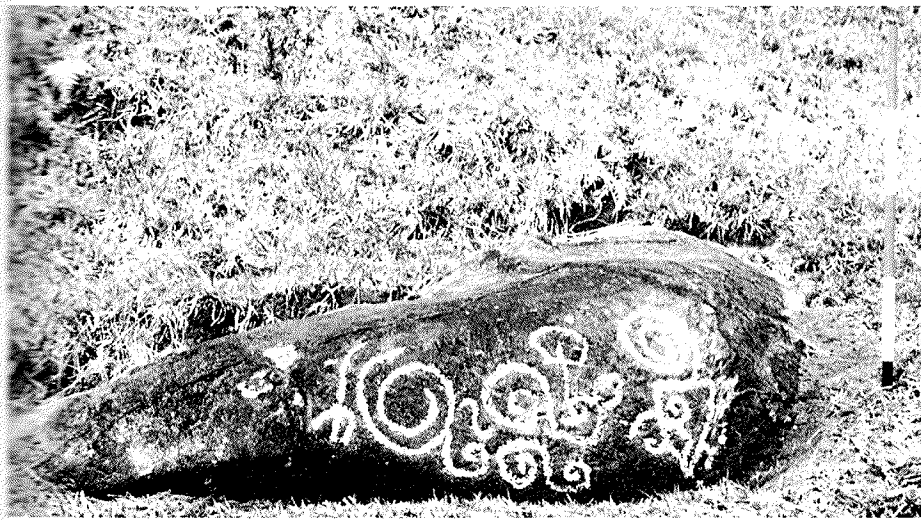
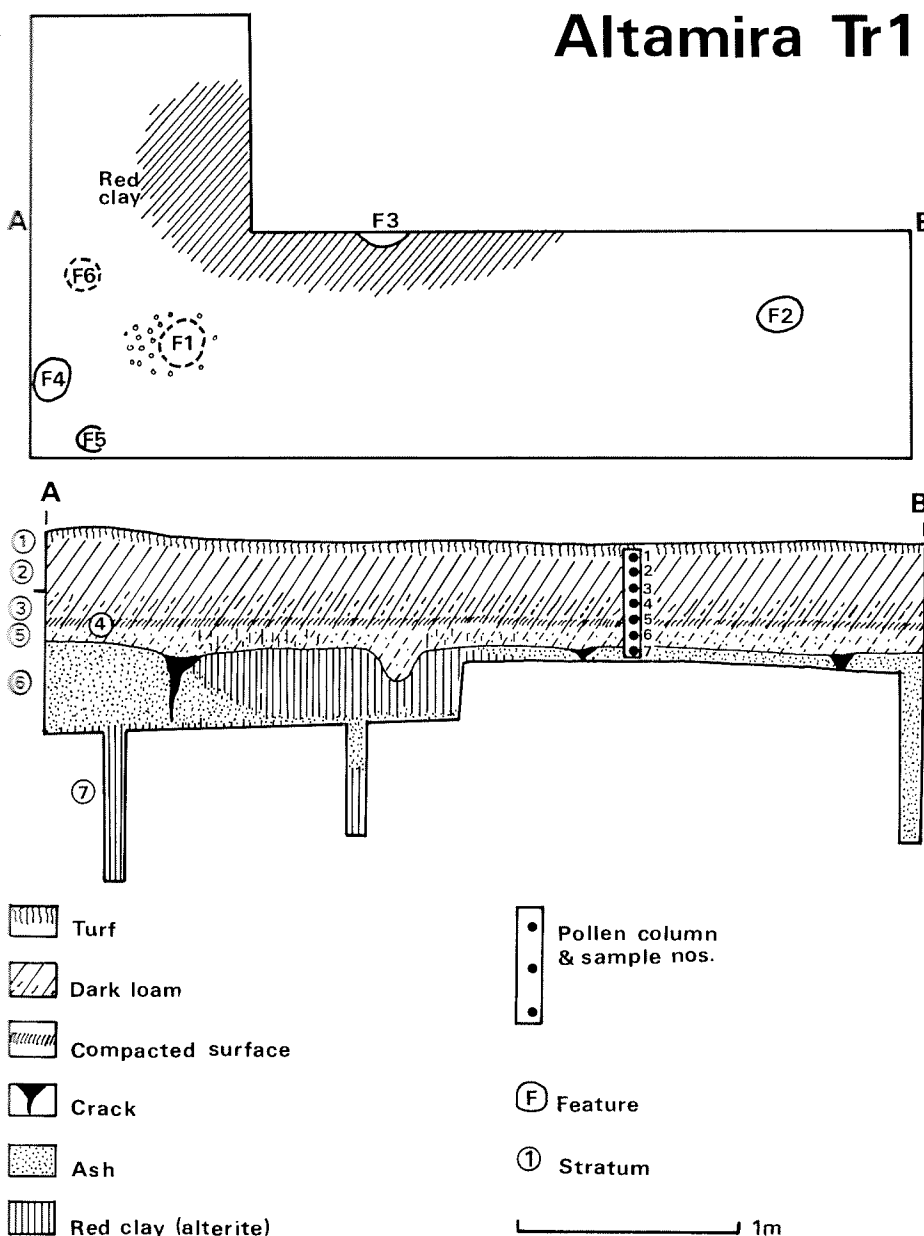


Fig. 49. Altamira; petroglyph.

Fig. 50. Altamira Trench 1; plan and section of the excavation of the small house platform.



period, and included rims of coarse domestic vessels as well as fine paste sherds.

Associated with Strata 4 and 5 were constructional features. The largest of these was a hollow filled with red clay, with a little pit (F3) near its centre. F1 was a rather ill-defined scrape, some 8–9 cm deep, surrounded by an area mottled with yellowish clayey lumps. F2 was a flat-bottomed pit, possibly a post hole, 20 cm deep; it contained 11 sherds, one of which was the rim of a Yotoco domestic jar. F4, F5 and F6 were small pits with dark fills, and may have been post holes.

In summary, the Altamira tambo is a small house site of the Yotoco period. Presumably the house was surrounded by fields, and the presence of maize pollen throughout the deposit indicates one of the main crops. The excavation revealed no sign of a ditch cutting across the tambo floor, which suggests that the field line (if, in fact, it existed at all) was cut away by the construction of the house platform. In that case – though we cannot be definite about it – the Altamira excavation provides evidence for the construction of linear ditches during the Yotoco period.

Some support for this view comes from the Hacienda San Rafael (Madroñal). At this site (v. *Pro Calima* 4: 25) the position of a small Yotoco house platform at the edge of an extensive area of field lines suggests that the two may be associated, but, once again, there is no direct proof.

6. The 1987 Field Season

This was devoted to the excavation of two preceramic open sites, at Sauzalito and El Recreo, in the Municipio of Darien. At both localities the cultural material was in the upper part of the volcanic ash stratum and below the soils which customarily contain Yotoco and Sonso pottery. Sauzalito gave three radiocarbon dates: 7720 b.c. ± 150 (Beta-23476), 7650 b.c. ± 110 (Beta-23475), and 7350 b.c. ± 100 (Beta-18441). Two dates came from El Recreo: 6030 b.c. ± 120 (Beta-26019)

and 5880 b.c. $\pm$ 140 (Beta-26020). The stone items are still in course of analysis, but the presence of notched, hoe-like tools links Sauzalito and El Recreo with the earliest occupation at El Pital, dated 5350 b.c. $\pm$ 140 (Beta-16839) (Salgado 1986). The 1987 excavations will be described in *Pro Calima* 6.

7. Acknowledgements

As always, there are a great many people to whom we owe a debt of gratitude. The research was largely financed by the Vereinigung Pro Calima, and we are grateful to the Committee in Switzerland and to all those sponsors (listed on p. 91) who responded to the appeal for funds. Research on the Ilama period was financed through a contract with the Fundación de Investigaciones Arqueológicas Nacionales (Luis Duque Gómez, Yvonne Hatty and Clemencia Suarez). The project was carried out with the collaboration of the Instituto Colombiano de Antropología, and we acknowledge the generous help of its recent Directors, Roberto Pineda Giraldo and Ana María Groot de Mahecha, and the assistance of Alvaro Ayala, Marlén Gutierrez, Ana Isabel Rivera, Ilduara Berrío and Braida Enciso. In Bogotá we also benefitted from the support of Hernán Rivera Hermida (Centro Interamericano de Fotointerpretación).

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living quarters and laboratory for the duration of the work in El Dorado.

Several landowners allowed us to survey and excavate on their land: Nader Calero (El Dorado), Oscar Cabal (La Ofelia), Otoniel Navarrete (El Topacio), Luis Enrique Moreno (Altamira), Rafael Posada (Ceilán) and Carlos Mejía (Maraveles). In Calima we received valuable archaeological information from Bernardo Rendón, Alberto Montenegro, José Gilmer Gallego, Omar Muñoz, Gustavo Marín, Rodrigo Tobon and Joaquín González. Access to collections was generously allowed by Cardina, Rosa, Lilí and Alvaro González Giraldo, Bayardo Betancourt, Omar Montoya, Eduardo León Rivas, Isabelle de Cuenca, Libia de Chatain and the late Hernán Borrero Urrutia.

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And finally, a special 'thank you' to those who shared in the good days and the bad ones in Calima – the participants in the field work, whose names are listed inside the cover.

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Carbonized Plant Remains from the Calima Region, Valle del Cauca, Colombia

By Lawrence Kaplan and C. Earle Smith, Jr.

Over the last two years, the archaeologists of the Proyecto Calima have encountered small amounts of carbonized plant material. We are summarizing the material which has been studied to date.

All of the plant material submitted for analysis is thoroughly carbonized. Only occasionally are whole units found which can be measured. For the most part, the plant remains are identified with difficulty, and queries (except for the prevalent maize and beans) remain.

Plant material has been recovered from four localities in the Calima area. Our first samples, submitted in 1984, came from the Hacienda San Rafael, Municipio of Darién, Department of Valle del Cauca, and from the Hacienda El Dorado, Municipio of Yotoco, in the same department. We have also seen material from the site of Jiguales and from the excavations at El Topacio. Chronologically, the material from El Topacio is the earliest, representing the Ilama Period (ca. 800–100 BC); the San Rafael site belongs to the Yotoco Period (100 BC–AD 1200); the material from El Dorado is of the Sonso Period (AD 1200–1550), while the Jiguales site represents both the Yotoco Period and the Sonso Period.

The plant material is primarily maize (*Zea mays*) and common bean (*Phaseolus vulgaris*) with wood charcoal and a minimum of other unidentified charcoal. A single spherical seed from San Rafael may be a seed of the edible Andean cultivated lupine (*Lupinus mutabilis*), but this is not a firm identification. A single broken seed from El Topacio, Stratum 4a, square 5Dc, has been tentatively identified as achiote (*Bixa orellana*). Neither of these doubtfully identified seeds is out of place in either geographical location or chronological position.

The maize remains are largely kernel fragments. The maize from El Topacio, which is the earliest chronologically, is too fragmentary to

measure, except for a single kernel with a height of 7.1 mm., a width of 7.0 mm. and a thickness of 6.2 mm. This kernel probably indicated that a Chapalote/Nal Tel/Pollo precursor was being grown. The bulk of the remainder of the kernel fragments from El Topacio are not at variance with this interpretation.

The Yotoco maize also consists of broken kernels which cannot be measured. Among approximately 64 maize kernels from the Hacienda San Rafael are several that are obviously a different shape from the majority. These are rectangular in outline and are notably larger. The majority of the kernels probably represent the Chapalote/Nal Tel/Pollo line of descent, while the few larger kernels may indicate a line of evolution leading toward the modern race of Colombian maize called Cabuya, (Roberts et al. 1957). The slightly later maize kernel fragments (5 in all) from the Hacienda El Dorado seem to be the more nearly isodiametric kernels of the Chapalote/Nal Tel/Pollo complex.

The maize kernels from the Jiguales site, representing the Yotoco and Sonso Periods, were more complete and 9 of the 11 were measured. Table 1 indicates clearly that 2 size classes are present. The index numbers, derived by multi-

plying all of the measurements for a kernel, clearly divide into one group, falling below 312, and another group above 400. The sample is too small for more sophisticated statistics.

The larger group of more nearly isodiametric kernels again represents the Chapalote/Nal Tel/Pollo complex which dominated the earlier plant remains. The 3 kernels which are notably larger may represent a line of selection trending toward the race Cabuya, as we saw in the Hacienda San Rafael sample.

Two samples of carbonized seeds of the common bean, *Phaseolus vulgaris*, from the Yotoco Period (100 BC–AD 1200) were examined. The two samples are morphologically identical and will be treated as two samples of a single land race. The Hacienda San Rafael beans are the first archaeological samples of this species from Colombia to come to our attention. They are more variable in size than is usually the case for single races of domesticated beans, but the variation in dimensions is continuous, and our best judgment suggests that only a single race is present. The range of length and width and the medians of these dimensions are shown in Table 2. Thickness is disregarded because this is often more distorted in carbonization than are length and width.

Table 1. Measurements and index numbers of maize kernels from the excavations at Jiguales (v. reports by Rodríguez & Bashilov and by Salgado, this vol.).

Jiguales A5, A6 11 Maize kernels			
Height	Width	Thickness	HxWxT
7.8	5.2	5.7	231.19
8.6	6.7	4.8	278.5
7.6	7.6	5.2	300.4
7.1	8.0	5.1	289.7
7.6	8.2	5.0	311.6
7.0	6.3	6.0	252.0
9.0	7.9	5.7	405.3*
8.9	8.1	6.5	468.6*
8.0	7.9	7.5	474.0*

* Probably different variety of maize.

Table 2. Seed Dimensions (mm) of Prehistoric Phaseolus vulgaris

	Length	Width	Thickness
Andean Highland ¹			
range of medians	10.0–13.0	6.7– 8.3	4.3–6.9
average of medians	11.00	7.6	5.6
Andean Coast ²			
range of medians	9.3–19.1	8.0–10.0	5.3–8.0
average of medians	15.0	8.4	6.9
Mesoamerica ³			
range of medians	8.0–14.0	6.0– 9.2	5.0–0.4
average of medians	11.5	7.2	5.2
Huacaloma ⁴			
range of medians	5.5–10.7	3.2– 6.9	
average of medians	7.4	4.9	
Hacienda San Rafael ⁴			
range of medians	5.5–10.4	4.0– 6.2	
average of medians	7.5	5.2	

¹ Two sites, seven land races.

² Five sites, ten land races.

³ Three sites, six land races.

⁴ One land race, size slightly reduced by carbonization and loss of seed coat.

It is of particular interest to note the close correlation of the San Rafael beans with those from the Huacaloma site located in the Cajamarca Valley of the northern Peruvian Andes. Both the Huacaloma and the Hacienda San Rafael beans are smaller than is typical of the better known common

beans (porotos) of the central and southern Andes and the coast of Peru. Gepts (n.d.) has carried out electrophoretic studies on the structure of phaseolin, the principal seed protein of contemporary common beans in Mesoamerica, non-Andean South America and Andean South America. He has determined that the

phaseolin types within each of these regions are relatively homogeneous while differing from those of other regions. He interprets the distinctiveness of the regional forms as indicative of independent origins. It is not possible to use such tests on carbonized beans. The similarity that is reported here between the Colombian samples and the Huacaloma beans adds to the interest in the possible existence of a distinct region of common bean domestication.

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Petrological Analysis of Ilama Pottery

By F. E. S. Roe

In order to investigate petrological variability in the Ilama pottery, twenty sherds were thin sectioned and subjected to detailed analysis, together with one sherd taken from a pot made for experimental purposes. Four of the archaeological samples (C1–4) had been examined earlier in a pilot survey of Calima ceramics (Roe 1985). This survey showed that the Ilama pottery is on the whole relatively fine grained, and that it can be clearly differentiated both from Sonso wares and from Yotoco pottery. This earlier analysis also pointed out that all the Ilama sherds appeared to have been tempered with tonalite, but it only distinguished between one coarser and three finer-grained samples. With a larger number of sherds to examine, it is now possible to substantiate this division into two fabrics: the coarser

of the two is characterised by the addition of crushed rock as a tempering material and has been termed the *Tonalite Gritted Group*; the finer ware contains a consistently smaller quantity of more finely crushed rock mixed with additional ferric material. Sherds of this type are described here as belonging to the *Ilama Fine Wares*. Apart from the distinction in grain size between the two fabrics, one essential difference lies in the percentage of ferric material included in the paste. This was found to be below 4% for the Tonalite Gritted Group and over 6% for the Ilama Fine Wares. Both groups are described in more detail below.

As with the previous survey, analysis of the pottery was carried out with the aid of a petrological microscope used in conjunction with

a point counter, which produced percentages of the various ingredients making up the paste. The figures obtained by this method are listed in Tables 1 and 2.

1. Experimental Sherd

Some experimental pottery was made in 1982, using valley bottom clay from the valley of El Dorado. Some of this pottery was made without additives of any kind, with the result that the vessels disintegrated during the firing process (Linda Cheetham, pers. comm.). A thin section was made from a sherd taken from such a pot (C40) for purposes of comparison with the prehistoric pottery. The basic components of this sherd proved to be: clay 75.2%

quartz and feldspar 19.9%, and iron 4.9%. There were very small amounts of other materials such as vein quartz and muscovite. The amount of clay is relatively high (see below), and there were virtually no large grains included in the mixture. Very little feldspar was found, most of the inclusions being small pieces of quartz; at least two kinds of iron

were present, rounded nodules of reddish haematite, such as could be expected to occur in lateritic clay, and small quantities of black opaque material probably derived from igneous rocks. These findings, then, provide an indication of the possible natural content of a clay from the Calima area.

2. Tonalite Gritted Group

Five of the sherds in the present survey (C1, 20, 28, 29 & 30) fall within the above category, which can most conveniently be described under a series of different headings as follows:

Table 1. Analyses of Ilama sherds.

Lab No	Serial No	coarse or fine clay	quartz and feldspar	ferric	hornblende	biotite	epidote	other	isotropic	lakeside and lenses	totals	count	rock fragments	larger ferric	larger quartz and feldspar	larger rock fragments	max grain size in mm	
<u>Tonalite Gritted Group</u>																		
<u>El Recreo El Porvenir</u>																		
C 1	1982/1	C	41.125	42.0	3.125	0.25	0.625	3.25	—	1.75	7.875	100	800	Ton 15.5	0.875	1.0	8.5	1.1
<u>Restrepo area</u>																		
C 20	1983/1	C	57.5	35.5	3.5	0.8	0.1	0.7	—	0.7	1.2	100	1,000	Ton 6.8	1.7	2.2	3.4	1.2
<u>La Iberia</u>																		
C 28	1983/9	F	55.6	38.1	3.0	0.1	—	0.5	altered mineral 0.2 1.0 1.5		100	1,000	Ton 6.1	1.0	—	3.7	1.8	
<u>Agualinda</u>																		
C 29	1983/10	C	50.54	46.32	2.31	tr.	0.14	0.14	—	0.41	0.14	100	734	Ton 20.572	—	3.4	17.847	2.5
<u>Agualinda</u>																		
C 30	1983/11	F	61.99	30.59	3.18	tr.	0.4	tr.	—	1.72	2.12	100	755	Ton 3.97	—	5.30	0.26	2.25
<u>Ilama Fine Wares</u>																		
<u>El Recreo El Porvenir</u>																		
C 2	1982/2	F	62.3	19.8	12.3	1.2	0.5	—	anthophyllite 1.0 0.9 1.8 other 0.2		100	1,000	Ton 3.2	1.4	0.8	1.5	1.4	
<u>La Iberia</u>																		
C 3	1982/3	F	50.05	27.79	8.58	0.87	1.30	—	altered mineral 0.43 1.30 9.66		99.98	921	Ton 5.65	0.54	0.32	2.497	1.5	
<u>La Iberia</u>																		
C 4	1982/4	F	48.81	29.72	6.61	0.18	1.28	—	altered mineral 1.65 0.55 11.19		99.99	545	Ton 5.14	2.02	0.55	—	1.3	
<u>Unlocated</u>																		
C 21	1983/2	F	62.92	20.16	7.75	2.45	0.39	—	—	1.42	4.91	100	774	tr.	—	—	—	0.4
<u>Sabaletas</u>																		
C 22	1983/3	F	64.6	15.7	15.0	1.5	—	tr.	—	1.9	1.3	100	782	Ton tr.	2.5	—	—	0.5
<u>Sabaletas</u>																		
C 24	1983/5	F	60.26	20.22	15.01	2.40	0.20	—	chert 0.20 1.40 0.30		99.99	1,000	Ton 0.20 chert 0.20	5.80	—	—	0.2	
<u>Hacienda San Antonio</u>																		
C 25	1983/6	F	68.6	17.7	7.20	1.40	0.1	0.1	altered pyroxene 0.3 1.0 0.5 chert 3.1		100	1,000	Ton & Diabase 3.4 2.7		—	1.5	0.1	
<u>near Darien</u>																		
C 26	1983/7	F	58.18	16.92	14.72	1.10	—	—	altered mineral 0.14 0.96 7.98		100	727	Ton tr.	1.65	—	—	0.2	
<u>La Iberia</u>																		
C 27	1983/8	F	62.3	25.1	10.0	0.5	—	—	altered mineral 0.7 0.9 0.5		100	1,000	Ton 0.6	1.5	—	0.2	0.3	
<u>near Lake Calima</u>																		
C 31	1983/12	F	56.21	16.19	12.42	3.10	0.11	tr.	—	1.88	10.08	99.99	902	—	4.32	—	—	0.3
<u>El Topacio</u>																		
C 35	1985/4	F	67.6	17.5	10.3	2.7	0.5	0.1	—	1.2	0.1	100	1,000	Ton & Diabase 0.2 4.2		—	—	0.2
<u>El Topacio</u>																		
C 36	1985/6	F	71.0	15.0	8.8	2.6	1.0	0.2	altered mineral 0.3 1.0 0.1		100	1,000	Ton tr.	1.6	—	—	1.1	
<u>El Topacio</u>																		
C 37	1985/8	F	63.4	24.7	8.8	1.0	0.3	0.4	—	1.3	0.1	100	1,000	Ton 3.3 chert 0.7	tr.	0.3	2.3	1.4
<u>El Topacio</u>																		
C 38	1985/9	F	67.8	19.7	8.9	1.8	0.5	0.6	altered mineral 0.2 0.4 0.1		100	1,000	Ton 0.2 chert 0.7	2.8	0.2	—	0.6	
<u>El Topacio</u>																		
C 39	1985/10	F	67.9	18.8	9.9	2.1	0.2	0.2	chert 0.6 0.3 —		100	1,000	Ton 0.1 chert	2.8	—	—	0.3	

Table 2. Averages for two pottery groups and experimental sherd.

		clay	quartz and feldspar	ferric	hornblende	biotite	epidote	other	isotropic	lakeside and lenses	totals	count	rock fragments	larger ferric	larger quartz and feldspar	larger rock fragments	max grain size in mm
n=5	Tonalite Gritted Group	53.35	38.50	3.02	0.23	0.25	0.918	n/a	1.116	1.867	—	—	10.588	0.715	2.38	6.741	1.77
n=15	Ilama Fine Wares	62.13	20.33	10.42	1.66	0.42	0.106	n/a	1.094	2.565	—	—	1.612	2.255	0.14	0.533	0.65
C 40	Experimental Sherd	75.2	19.9	4.9	—	—	—	—	—	—	100	1,000	rare	rare	rare	rare	0.8

(i) *Larger grains.* The percentages of counts for larger grains (which were estimated as being those with a maximum diameter greater than 0.7 mm.) give an indication of the relative coarseness of the fabric. There is little in the way of larger ferric grains in this group of sherds, as may be seen in Table 1, but there are appreciable, though variable, amounts both of larger pieces of quartz and feldspar and of rock fragments. These three items were added together to obtain the figures used for plotting larger grains against quartz plus feldspar and total iron content on the ternary diagram shown in Fig. 51. These three variables provided the best criteria for showing differentiation between the two pottery groups in diagrammatic form.

The total amounts for larger grains can also be used to distinguish generally between coarser and finer wares within the Tonalite Gritted Group. Three sherds, C1, C29 and C30 qualify as coarse by criteria used earlier (Roe 1985: 47), since they were found to contain more than 8% of larger grains. C29, from Agualinda, in fact contains over 17% of larger tonalite rock fragments.

A further indication of coarseness is the maximum diameter of the largest grains seen under the microscope, which in this group of sherds varies from between 1.1 mm. and 2.25 mm., with sherd C29 containing the largest fragments.

(ii) *Clay.* The quantity of clay, which is defined as being material too fine-grained for mineralogical identification, is fairly low, averaging 53.35%.

(iii) *Non-Plastic Inclusions.* The low amount of clay is balanced by the

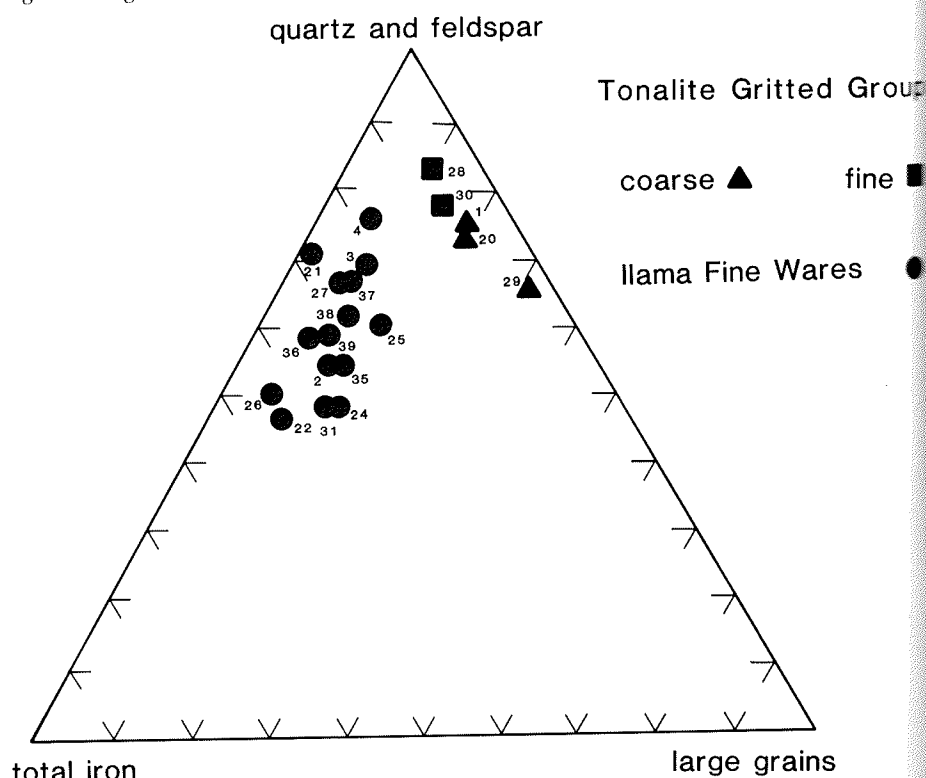
quantities of non-plastic inclusions, exemplified by the high figures for fragments of quartz and feldspar, which rise to 46.32% in the case of sherd C29, while the average amount for such inclusions works out at 38.5%. This is considerably higher than the 19.9% found in the experimental pottery. Other non-plastic inclusions, which occur in much smaller quantities, are hornblende, biotite and epidote, all minerals which are found in the tonalite, and which can sometimes be seen in fragments of this rock.

(iv) *Rock Fragments.* Amounts of identifiable tonalite rock fragments are also appreciable, though again variable, rising to 20.5% in the coarsely tempered C29, but dropping

to 3.97% in C30. It would seem that an estimate of the amounts of quartz and feldspar in a sherd gives a closer idea of the quantity of crushed rock that has been added to the clay. The rock fragments tend to be angular in shape, as seen under the microscope, reinforcing the suggestion that crushed rock has been added to the clay, rather than sand from a stream bed, which might be expected to show up as more rounded grains.

(v) *Iron.* Under the heading of iron may be considered the ferric nodules seen in the pottery thin sections. Under the microscope they have a reddish/brown colour and a rounded outline, and they contain other mineral inclusions. They are considered likely to be nodules of

Fig. 51. Diagram to illustrate variations in the Ilama pottery.



haematite (Fe_2O_3), by analogy with similar nodules found in Sonso and Yotoco sherds and analysed by Scanning Electron Microscope, but a similar analysis of a sample from sherd C1 showed that the mineral in this case contained titanium and should be classified as ilmenite (FeTiO_3). In this group of sherds the amounts of iron are small, averaging 3.02% of the total fabric, and it is thought probable that this represents the natural quantity of iron nodules occurring in the clay. Fragments of genuinely opaque minerals, such as occur in the tonalite, are seen less frequently.

Comment. The sherds in this group are not all identical, and attention has already been drawn to the particularly coarse character of C29. C1 contains additional grains of epidote, which appear to relate to a variety of mildly metamorphosed tonalite. Epidote is also noticeable in C20, while C28 and 30 seem to contain more quartz.

3. Ilama Fine Wares

The other fifteen sherds in this survey can be grouped under this general heading (Nos C2–4, 21–22, 24–27, 31, 35–39).

(i) *Larger Grains.* The fine grained character of this group can be demonstrated firstly by the small numbers of sherds containing either larger rock fragments or larger pieces of quartz and feldspar with maximum diameters more than an estimated 0.7 mm. (see Table 1). These sherds can also be seen to fill a separate area of the ternary diagram in Fig. 51. The totals of larger grains are in all cases smaller than the amounts found in the Tonalite Gritted Group. Despite higher quantities of larger iron nodules in the Ilama Fine Wares, the percentages of larger grains fall consistently below 6% of the total fabric.

The low quantities of larger grains can also be quantified by general estimates of grain size. Again there is a clear contrast with the Tonalite Gritted Group. In sherds where there are no larger grains other than pieces of iron oxide, the maximum

size of the non-plastic inclusions goes up to around 0.5 or 0.6 mm.; a small number of sherds has inclusions that measure more than this, up to about 1.5 mm, but such larger fragments are seen infrequently. In all the sherds belonging to the Ilama Fine Wares the majority of inclusions are around 0.1 mm in diameter.

(ii) *Clay.* The amount of clay in this group is higher than in the previous group, averaging 62.13% of the total fabric, but it is still below that found in the experimental pot (75.2%).

(iii) *Non-Plastic Inclusions.* The quantities of non-plastic inclusions also vary from the amounts found in the Tonalite Gritted Group. There is less crushed rock evident in the Ilama Fine Wares. Percentages for quartz and feldspar drop to an average of 20.33% (see Table 2), while identifiable rock fragments drop to 1.612%. Small amounts of other minerals were also recorded, such as hornblende, biotite and epidote. There is noticeably less epidote than was found in the Tonalite Gritted Group, but a little more hornblende or other amphibole such as anthophyllite. It seems that if crushed rock was added to this pottery it was more finely ground and added in relatively small amounts.

(iv) *Rock Fragments.* In addition to the identifiable fragments of tonalite, which are never very abundant, a few pieces of chert were recorded, notably in the sherd from the Hacienda San Antonio (C25), but also in small amounts in sherds from El Topacio and Sabaletas. C25 and C35 are the only sherds which also contain the occasional small fragment of altered diabase.

(v) *Iron.* The percentage of ferric nodules again differs from that in the Tonalite Gritted Group, rising to 10.42%, compared with 4.9% in the sample of natural clay. Again the iron occurs mainly in the form of probable haematite pellets, reflected in the number of larger pieces of this material (see Table 1), and it seems likely that for this finer ware some iron oxide was intentionally added to the clay as well as a little crushed rock.

Comment. There is some variation amongst the sherds of Ilama Fine Wares. C2 contains an altered amphibole (anthophyllite) associated with the tonalite that was added as temper. Some differences between sites are apparent. For instance, two sherds from Sabaletas (C22, 24) are high in iron content, and seem to match, while three sherds from La Iberia have noticeably less iron. These three sherds also match one another reasonably well, as do the finds from El Topacio, which are almost the only sherds in this group to contain a little epidote, while occasional fragments of chert were also found in them.

Source Areas for Material

The area from which the sampled Ilama sherds were recovered falls within a slightly wider area over which the surface geology consists of Cretaceous volcanic rocks, mainly basalt and diabase, overlain by Quaternary laterite deposits (Aspden 1984; see also 1:100,000 sheets 261, Tuluá and 280, Palmira [Ingeominas]). The El Tambor stock outcrops to the south-east of Restrepo; it is composite in nature, consisting partly of gabbro and partly of tonalite (Aspden 1984: 28). There are two further much smaller outcrops of tonalite to the north of the main intrusion and to the north-east of Restrepo. The gabbro does not seem to feature in the composition of the Ilama wares, and neither does the local basalt, while the diabase is barely seen, but all three occurrences of tonalite need to be taken into consideration when looking for the sources of the temper found in the pottery. In general the characteristics of the fragments seen in the thin sections do correspond to the description of the El Tambor tonalite (Aspden 1984: 29). Another tonalite intrusion which outcrops near El Danubio, and which is described by Nelson (1957: 59), appears to differ in some respects, notably in its higher content of biotite.

canic ash (Serie 10), and a soil derived from igneous rocks (Serie 200), or a mixture of the two (Federación Nacional de Cafeteros de Colombia 1972). It is in the Serie 200 (Parnaso) that small concretions of iron have been noted, so it may be that a source for the pottery clay should be sought in areas where this soil has been recorded, mainly to the west and south of Restrepo. Caution should be exercised however, as iron occurs locally in other deposits. For instance, iron oxide has also been reported in the soils containing volcanic ash, but its mode of occurrence appears to be different, manifested in coloured mottling of the soil rather than in actual nodules (Fölster & von Christen 1977: 260). Pedro Botero has commented (personal communication) that ferric material occurs in quantities of 0.5–1.0% in red clays derived from the diabase. Occasional narrow seams are found in this clay with a content of ferric particles as high as 40%, and it seems likely that such seams provided the tempering material found in the pottery.

Further caution in interpretation is necessary, because the volcanic ash, which occurs in many parts of the area under survey, has been described as dacitic-andesitic in composition (Fölster & von Christen 1977: 247), and this indicates a range of minerals not too different from those found in the tonalite. There is, for example, a fair amount of amphibole and very little pyroxene or biotite (Botero 1985: 29, Table 3). Therefore the possibility must be allowed for that some of the smaller, discrete mineral grains, especially those of quartz, feldspar and amphibole seen in the pottery thin sections, may derive from volcanic ash. When, on the other hand, the same minerals are seen combined in a rock fragment, one is left in little doubt that this originates from tonalite, and not from volcanic ash, and identifiable fragments of this rock were seen in nearly all the sherds. Finally it may be noted that C29, which has been particularly generously tempered with rock fragments, comes from Agualinda, a site which is near to one of the smaller tonalite intrusions.

Materials used for Slip and Incised Decoration

Another aspect of the present study has been to carry out further tests to determine the composition of materials that were used for decorative purposes. The method chosen was chemical analysis by Scanning Electron Microscope, confirmed in one case by X-Ray Diffraction, and carried out on five sherds with decorative features. Three had incised grooves which had been infilled with different coloured materials, while two were covered with a fine slip (Table 3).

The first incised sherd examined (C23) contained a white infill which was found to be kaolinite ($\text{Al}_4[\text{Si}_4\text{O}_{10}](\text{OH})_8$). The analyses for the other four samples were virtually identical, and provided data appropriate for an iron rich clay, suggesting that the same mixture had been used in various ways, resulting in incised grooves with either red or black infill, and in slip applied in the same two colours. It seems that different firing techniques may have been responsible for the differing end products. In all four cases the material has a good iron content, with a little titanium, while substantial amounts of aluminium and silica are also present. This could show that some clay had been mixed with

the iron or, alternatively, it is possible that kaolinite was again utilised, and mixed with some iron, probably haematite.

There is nothing here that suggests a source other than a local one for the materials used. Kaolinite occurs as an alteration product of the diabase (Fölster & von Christen 1977: 239), and an example of this type of deposit is known not far from Darien, on the road from there to Media Canoa. There is also a possibility that it may have formed as a result of weathering of the tonalite (D. Millward, personal communication).

Further considerations

Can these two groups of pottery be distinguished by eye without resorting to microscope techniques? There would seem to be different levels of reliability for using this method. It is least easy to assess the temper using the naked eye on a weathered sherd, as one might do in the field, and this is a method which probably cannot be relied upon. Much of the crushed rock is of a fine consistency which may not show up well even on a freshly broken sherd. A hand lens is of assistance for looking at the edges of newly broken sherds. However, the ideal method would be to use a hand lens to

Table 3. List of sherds with decorative features

C 23 1983/4	<i>Uncertain provenance (Sabaletas?).</i> Sherd with incised decoration containing white infill. A test by X-Ray Diffraction showed that this is kaolinite, with some quartz and a little possible halloysite. Examination by Scanning Electron Microscope confirmed the presence of the kaolinite, and showed additional slight impurities in the form of small amounts of titanium and iron.
C 32 1985/1	<i>El Topacio.</i> Sherd with incised decoration containing red infill. Analysis by Scanning Electron Microscope showed that the infill consists of iron with traces of titanium, potassium and calcium. Larger amounts of aluminium and silica are also present.
C 33 1985/2	<i>El Topacio.</i> Sherd with incised decoration containing black infill. Analysis gave results as for C 32.
C 34 1985/3	<i>El Topacio.</i> Sherd with black slip. Analysis gave results as for C 32.
C 35 1985/4	<i>El Topacio.</i> Sherd with red slip. Analysis gave results as for C 32.

inspect a sawn sherd, since the inclusions tend to show up most clearly on a freshly cut surface. However, with practice useful information can be gained from the examination by hand lens of newly broken sherds.

The one sample of local clay (C40) gave an indication that it might be expected to contain approximately 15 parts clay to 4 parts non-plastic inclusions and one part iron. If pottery in the Tonalite Gritted Group is assumed to have been made from clay with approximately the same components in similar proportions, then it would appear from the figures in Table 2 that additional material has been added to the clay, approximately a further 7 or so parts of crushed rock. In practice the amounts added seem to have been variable, as can be seen from the differing figures in Table 1.

Looking at the Ilama Fine Wares in the same way, it seems possible that about 1 part of finely crushed rock and 1.5 parts of ferric nodules may have been added to the clay. Again, the amounts added may in practice have been more variable. There may however have been basic recipes for preparing the clay for both types of pottery, using judged amounts of additions.

A question that remains for further investigation is that of

whether the two types of pottery described here belong to different chronological phases of the Ilama period. Only two sites, El Recreo and La Iberia have both types of pottery. Does this point to a certain amount of contemporary trade, or are these both sites which have more than one period of occupation? The answer may depend ultimately on further carefully selected samples for radiocarbon dating.

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Archaeological Investigations in the Pavas-La Cumbre Region

by Theres Gähwiler-Walder

1. Introduction

The primary objective of this investigation was to make an inventory of the archaeological features in the Municipio of La Cumbre in order to define its relationship with adjacent areas. The present contribution reports results from field survey and excavations, laboratory analysis and study of private collections. The distinctive feature of the area, the custom of urn burial, is concentrated in an area centred on the La Cumbre-Pavas zone (Fig. 52), but this proved to be only one of the forms for the disposal of the dead, though by far the commonest.

In addition, further C^{14} dates were obtained, and provided a basis for comparison with the dates from neighbouring zones such as the

Cauca Valley or the Calima region. To a large degree our initial assumptions that the dates for Pavas urns fall into the Yotoco period, (even though the bulk of the material shows more affinities in style with Sonso artifacts), were confirmed, and results are discussed in the section dealing with chronological questions.

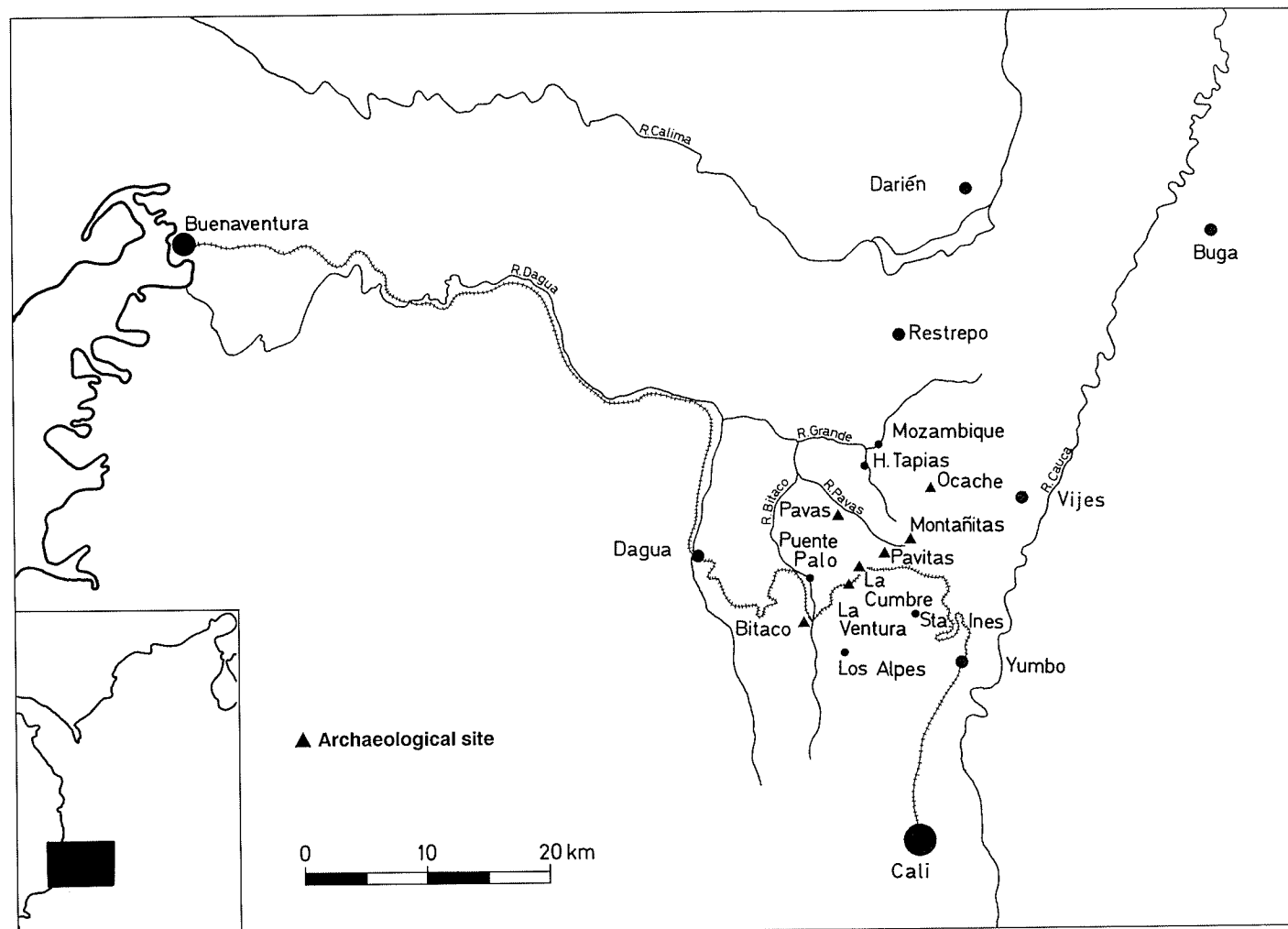
The area designated the Pavas zone is an area adjacent to, but geographically isolated from, the main Calima centres such as Restrepo and Darién. In between Restrepo and La Cumbre, at ca. 1000–1200 m. above sea level, lies Quebrada Seca, an almost unpopulated strip with a very arid climate. This inhospitable strip may have formed a divide between a densely occupied zone to the north and an

equally densely populated Pavas zone to the south. Contact with the neighbours is thus broken up by minor natural barriers, which may have favoured regional variations in development. Contact with the people east and west of the Pavas zone seems much easier, and it is to them that we should look for similarities in style and development.

2. Funerary Rites

It is well known that uniform burial rites are not a general feature and that variation is the rule. Coexistence of primary burial and secondary burial practices in the Pavas zone has been clearly revealed. Due to lack of datable material in most primary burials, their position in the chrono-

Fig. 52. Municipio of La Cumbre with sites investigated in the past years.



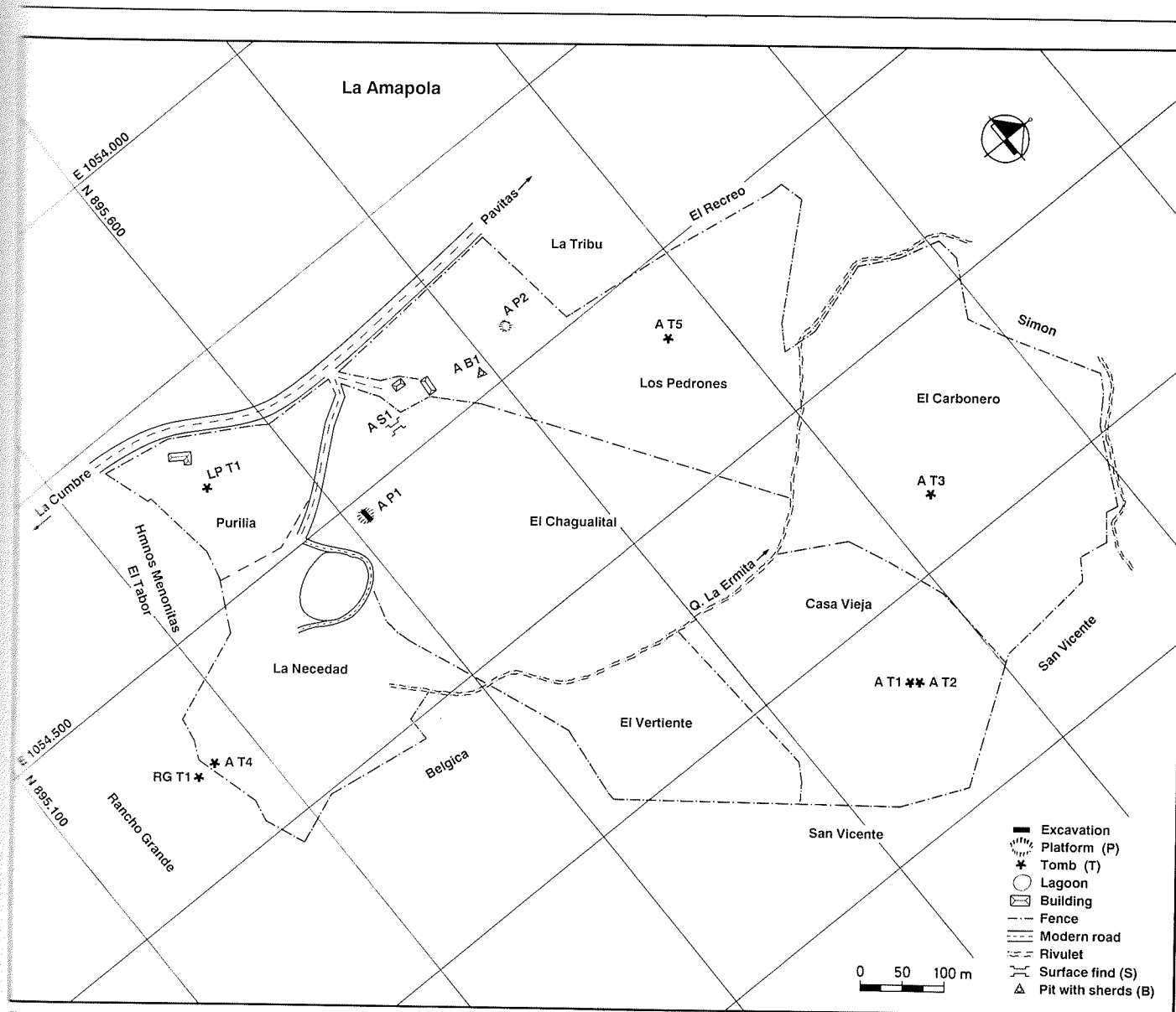


Fig. 53. Hacienda la Amapola, La Cumbre, showing the positions of the excavations.

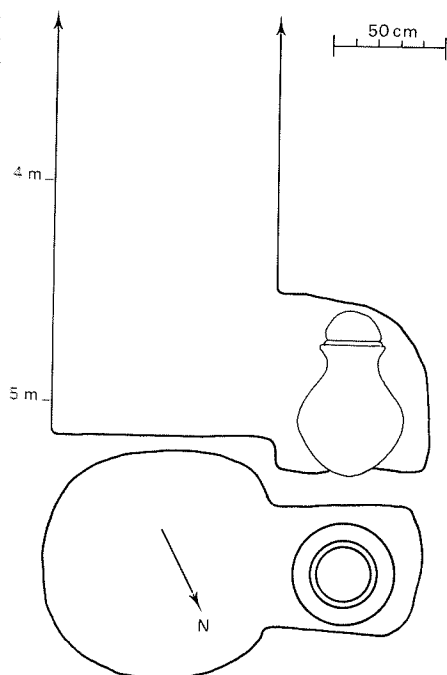


Fig. 54. La Amapola T1, La Cumbre. Section and Plan of tomb T1. T2 is almost identical, but has a rectangular shaft.

logical sequence has not yet been properly established and the questions remains as to whether they belong to different times or to different people.

Urn burials are prevalent in the Pavas zone and they by far outnumber the primary (un-urned) burial sites. Little detail is available of the mortuary procedure that culminated in urn burial. The disarticulated nature of most of the skeletons suggests that the mortuary ritual included a primary repository, although it cannot be determined if this was above or below ground. The presence of calcined, warped bone fragments in many of the urns indicates that mortuary procedure included cremation for at least some individuals. The cultural/biological unit represented by the urn burials also remains unclear. The distribu-

tion of ages within many of the urns suggest that a single family could be represented by each urn burial.

2.1. Urn burial sites

La Amapola T1 and T2, located in a section of the farm called Casa Vieja (Fig. 53), can be treated as an entity. The striking formal similarity both of the urns and the construction of the tombs could suggest contemporaneity of the burials. The two tombs were within a 3 m. distance and almost identical in shape and contents, with only a few negligible differences. Both were shaft and chamber tombs, 5.15 m. and 5.50 m. deep. The shaft of T1 was round (Fig. 54). T2 had a rectangular plan. Both chambers were oriented to the west and each contained a plain Pavas urn. The only kind of decoration was a band of red slip around the rim. The fact

that the lid of T1 was firmly sealed helped the preservation of the bones. The analysis of T1 suggests the skeletal remains belonged to one individual, whereas in T2 the skeletal remains had decomposed to only fragments of bone. None of the bones that could indicate the sex of the dead was found in good shape. In the urn of T1 the bones were carefully arranged, and some of them seemed to be wrapped in fabric before deposition (Fig. 55). A number of bones appear to be imprinted with the woven pattern of a textile. A C^{14} sample obtained from skeletal remains in tomb T1 resulted in a date of a.d. 920 ± 80 (B-4332). No other vessels nor sherds could be detected in the small chamber, just big enough to accommodate the urn.

La Amapola T4 lies on a slope within a dense coffee plantation and is close to the site of Rancho Grande (Fig. 53). There is a marked similarity between Amapola T4 and Rancho Grande in the structure of the tomb. At La Amapola many looted tombs were discovered and, after many attempts, the shaft of T4 was found buried under 80 cm. of fill from an adjacent looted tomb.

The shaft started out exceptionally large in diameter (1.10 m.) and finally took the definite shape of a pentagon with sides of AB 80 cm., BB' 72 cm., B'C 71 cm., CD 65 cm., DA 66 cm. (Fig. 56). At a depth of 1.30 m. a niche began to show. Orientation of this small niche was to the northeast. It contained a small vessel filled with clear water (Fig. 57 and 58,2). No skeletal remains nor other solid content could be detected in the urn from the niche. The fill below the upper chamber, at a depth of 2.04 m., was harder to remove. The shaft continued, yielding occasional sherds and chipped stones. At a depth of 3.80 m. in the wall CD, just opposite the niche, another chamber began to appear. The entrance to this chamber, which was oriented to the west, was 60 cm. wide and 91 cm. high and 68 cm. deep. It contained one characteristic urn with a row of triangular impressions (Fig. 58,1). The urn contained four individuals. Some of the bones display a network of irregular shallow marks 6–10 mm. long. The marks occur on long bone shafts such as tibia (Fig. 59) and femur, and os

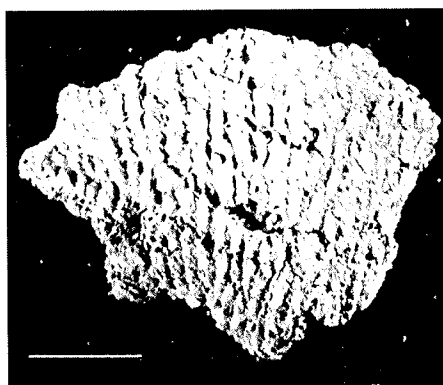


Fig. 55. *La Amapola T1*. Textile fragment found in urn from Tomb 1. Bar, 5 mm.

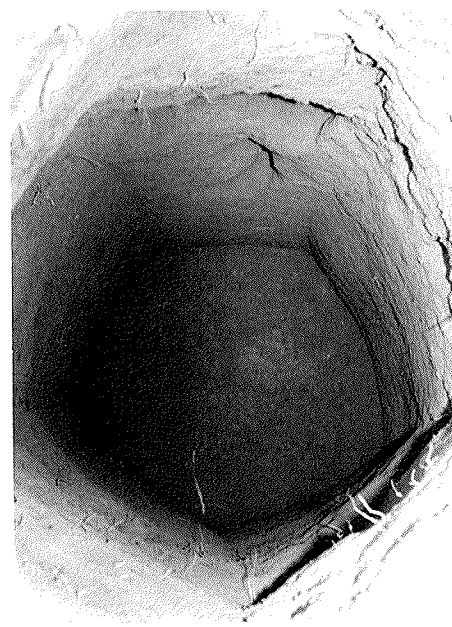
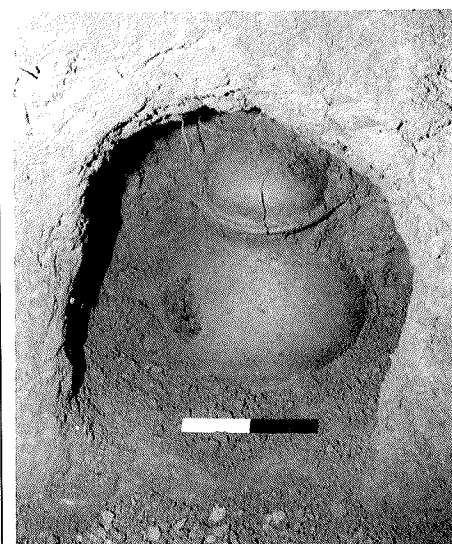


Fig. 56. *La Amapola T4*. Pentagonal shape of shaft. To the right, can be seen the niche at a depth of 1.30 m.

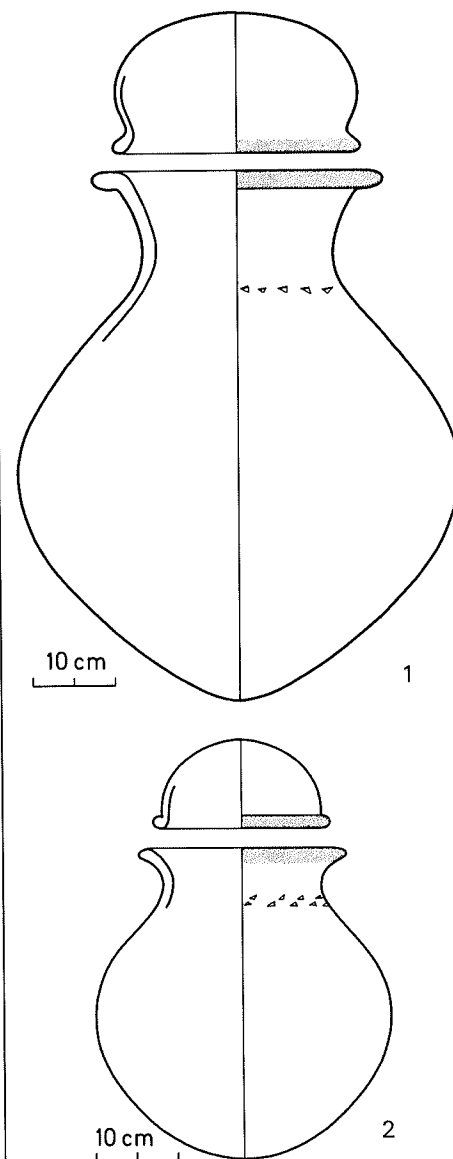
Fig. 57. *La Amapola T4*. Niche in shaft of Tomb 4. The divisions of the scale are 10 cm.



coxae. The origin of those marks remains enigmatic. A C^{14} analysis of the bones resulted in a date of a.d. 710 ± 70 (B-4680).

La Amapola T5 was located in a flat part of the northern slope leading to Pavitas (Fig. 53). This slope also had some habitation platforms, and eroded field lines could be detected. The construction of the tomb was very characteristic, with a rectangular shaft 80 by 80 cm. In the fill of predominantly yellow colour there were stone debris, a fine sherd, and two medium sized stones. At a depth of 5 m. some carbonized seeds turned up, and the entrance to the chamber began to show at 5.50 m. The chamber was neatly sculptured (Fig. 60) into the red weathered diabase and was oriented

Fig. 58. *La Amapola T4*. Urn (h. 64 cm., $\varnothing$ 52 cm.) from chamber and small jar (h. 37 cm., $\varnothing$ 35 cm.) from niche.



to the west. In the fill at the side of the urn there was a fragment of a vessel with charcoal, which gave a C^{14} date of a.d. 890 ± 80 (B-4681). The content of the urn was not preserved well enough to allow identification of the bones, but some bundles of textiles could be detected and were x-rayed with a negative result (v. also Bray et al. 1980:6).

La Bolivia T1 is located in Cordobitas on the northern slope of a tumulus-shaped hill, with an attractive view to La Cumbre and the valley of Pavas. This kind of location is the preferred site for a cemetery. The fill of the rectangular, slightly irregular shaft was of dark reddish colour and widened towards the chamber. The roof of the funerary chamber had partly col-

lapsed, due to the decaying of the stakes with which the entrance to the chamber was originally blocked (Fig. 61). A shallow trench at the threshold of the entrance was still recognizable and a sample of white fibrous material of the decaying stakes was collected. The small semicircular, chamber with an orientation to the west, accommodated an urn whose contents were no longer identifiable. The urn was not carefully manufactured and had an uneven shape. The urn was partly broken, and measurements indicate a height of 68 cm. and a maximum diameter of 56 cm. A footed cup with traces of red slip on the exterior, and with charcoal speckles on the interior, accompanied the urn. It was intact except for parts of the rim,

which was very eroded. Fragments of the urn were sent for thermoluminescence dating, resulting in A.D. 1150 ± 100 (Alpha-3030).

Rancho Grande

The burial site of Rancho Grande has appeared in the headlines of the local press because of its unique feature, a painted anthropomorphic figure and a kidney-shaped vault which are characteristic of Tierra-dentro burials. The tomb was already excavated, and therefore records were made and measurements taken (Fig. 62). The rectangular shaft (110×90 cm.) has a depth of 4.05 m. and leads to a well sculptured door of a lateral kidney-shaped chamber. Through this entrance is a clear view of a pilaster with an anthropomor-



Fig. 59. *La Amapola T4*. Tibia fragment found in big urn from chamber.

Fig. 60. *La Amapola T5*. Interior of the burial chamber of Tomb 5.

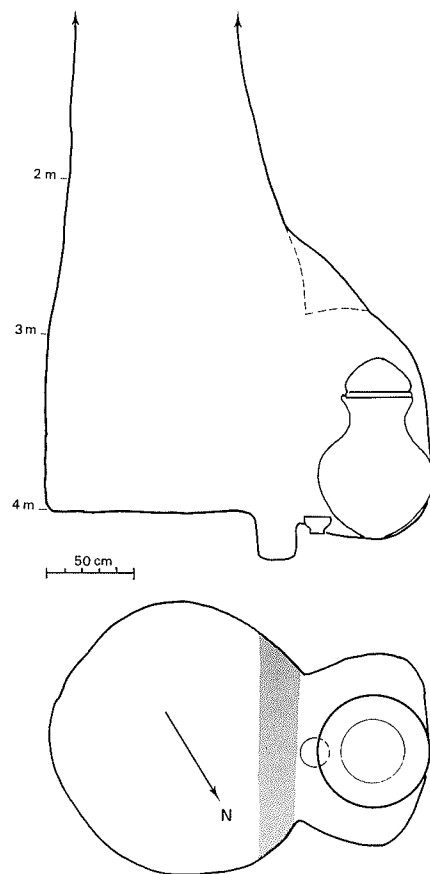


Fig. 61. *La Bolivia, Cordobitas*. Section and plan of the Tomb 1. Entrance to chamber had been blocked with stakes. The stakes had decayed leaving white fibres. A shallow trench was preserved, but the roof of the chamber had partly collapsed.

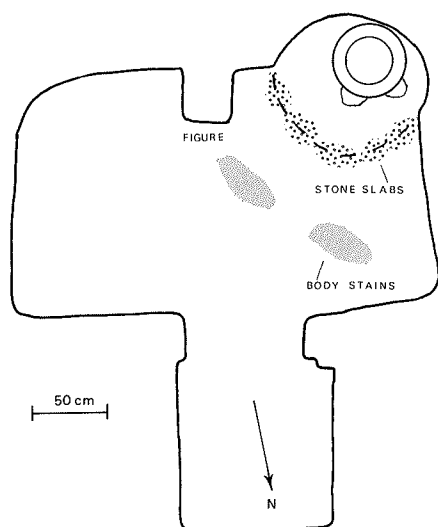


Fig. 62. Rancho Grande, La Cumbre. Reconstructed plan of Tomb. A round and a rectangular shaft lead to the Tierradentro style burial. In the middle of the chamber is the anthropomorphic figure.

phic figure with elaborate, painted geometric designs (Fig. 63). The designs in red, ochre, white and black are reminiscent of Tierradentro hypogea sites (Fig. 64). The part of the chamber to the northeast had no funerary offerings, according to Modesto Montenegro, who excavated the tomb. At the feet of the figure some stains were visible, and the part of the chamber facing northwest had a hole in the wall which was blocked with stone boulders. The hole connected with another circular shaft, 90 cm. in diameter. This shaft had a niche at a depth of 2.50 m., quite similar to the one of La Amapola T4, facing west and containing a small urn. At a depth of 4.50 m. a big and a medium sized urn were leaning against the wall, held in place with a stone. In my opinion we are dealing with two independent burial structures. The first stage consisted only of the Tierradentro style tomb with the rectangular shaft and the oval chamber. Later the round shaft was excavated, and upon starting the construction of the lateral chamber, the chamber belonging to the tomb with the figure was encountered. In order not to disturb the original burial, the hole was barred by stone slabs and the urns were deposited at the bottom of the shaft.

Contents of all urns were in good condition. Bones of foetal or newborn children (Fig. 65) were



Fig. 63. Rancho Grande. View of chamber with figure through the rectangular shaft entrance.

deposited in the medium-sized urn. This medium-sized urn contained also the remains of a female adult and had some fragments of textiles (Fig. 66). Analysis of the bones in the big urn led to the identification of an adult male. A bundle of textiles and a corn cob were among the bones. The unidentifiable and broken bones from the big urn produced a radiocarbon date of a.d. 1060 ± 70 (B-4031). If we are right in thinking that this tomb is the more recent of the two, this would indicate that the tomb with the painted figure was built before a.d. 1060. For the related Tierradentro burials, only two radiocarbon dates are available for comparison. The first one is from a primary burial at Santa Rosa (Chaves and Puerta 1980: 73) with a date of a.d. 630 (Instituto de Asuntos Nucleares, Bogotá, no number given). The second sample is from a painted tomb with urn burial, Tomb A-3 at Loma del Aguacate, and gave a date of a.d. 850 ± 200 (Instituto de Asuntos Nucleares, no number given in Chaves and Puerta 1986: 121). These authors suggest on the basis of the ceramic inventory that the culture of Tierradentro should be placed between the fifth and the ninth century AD. The proposed date for the Rancho Grande burial fits very well within the time range given for Tierradentro burials and may also hint at existing contacts with the Central Cordillera.



Fig. 64. Rancho Grande. Detail of figure, painted in red, black and white. Bar, 10 cm. Total height of figure 90 cm.

2.2. Primary Earth-Burials

Besides the prevalent tombs with urns, there are also records of primary un-urned earth burials, differing considerably in shape and contents from the secondary urn burials. This kind of interment has received little attention because the tombs were considered poor in contents by the local treasure hunters. We can identify two categories of constructions. The first one is a shaft and chamber burial

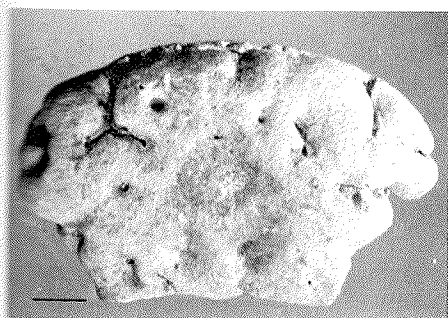


Fig. 65. Rancho Grande. Vertebra of newborn infant, found in medium-sized urn. Bar, 2 mm.

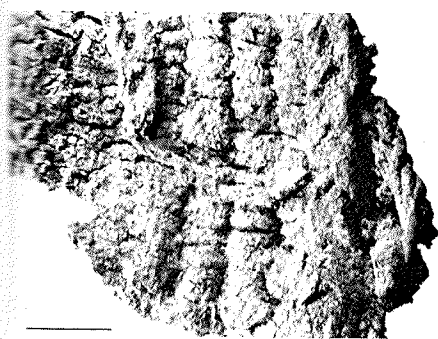


Fig. 66. Rancho Grande. Textile fragment found in medium-sized urn. Bar, 3 mm.

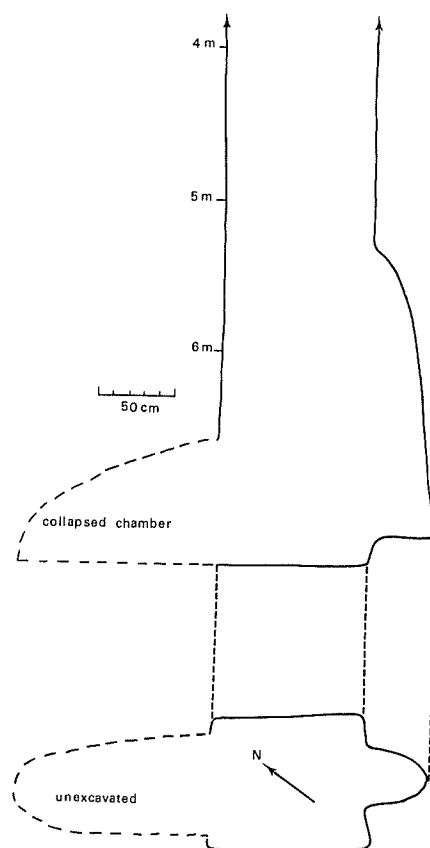


Fig. 67. La Amapola T3, La Cumbre. Section and Plan of tomb. To the right is a niche. The chamber had not been excavated.

patch of sunken earth in one of the chicken houses of Purilia. Following the contours of the ditch, the overlying earth was taken off and the walls of an oval, slightly irregular, but huge shaft began to appear. The shaft widened until reaching a depth of 2 m. where the floor of the pit appeared, but within the floor another trench 60 cm. wide, 2.18 m. long and 60 cm. deep was visible. The body of the deceased had presumably been deposited in this depression cut into the soil. 80 cm. from the eastern wall a sherd and pieces of charcoal were collected, producing a date of a.d. 530 $\pm$ 70 (B-4679).

The second site of some significance is situated in the former farm *La Escocia*, in the portion now owned by Yeiro Muñoz, La Cumbre, and is on the top of a hill overlooking Arboledas and the valley of Pavas. There were indications that numerous other tombs had been looted and destroyed prior to our arrival. This one was left because, judging from the shaft, it appeared to be a primary burial, hence thought to be poor by the local

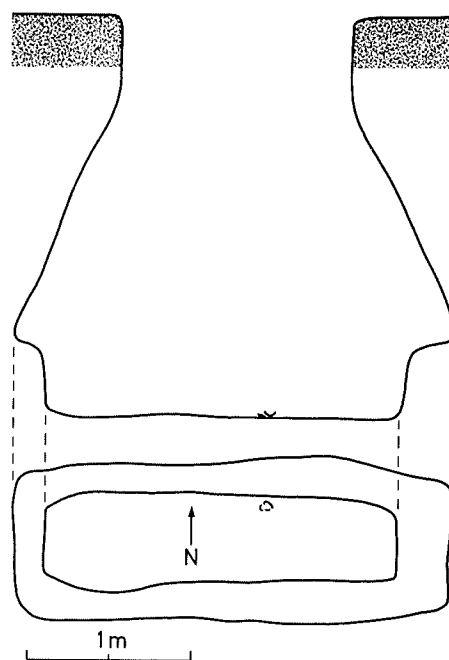


Fig. 68. Purilia, La Cumbre. Plan and section of primary earth burial.

treasure hunters. A big, irregular rectangular shaft deepened to 2.63 m., where the rectangular floor of the tomb appeared (Fig. 69). On the floor of the tomb, close to the wall lip of the depression, 13 sherds were collected. Three of them seemed to belong to the same piece of pottery. One sherd was sent for thermoluminescence analysis, but was rejected by the laboratory as being unprocessable. The date of $\geq 4150 \pm 1000$ BC (Alpha-3032) therefore has to be rejected. As with the tomb of Purilia, a coffin-shaped, hollow depression (210 cm. long and 55–60 cm. wide) was cut into the earth along an east-west axis. The bottom of the trench had two shallow pits and some staining from the decayed body was noticed.

3. Settlement sites

The settlement pattern is much the same as in surrounding regions. Artificially enlarged platforms formed a widespread and common type of settlement in precolumbian time. For the most part, they were small sites, consisting of single houses.

La Amapola. This site, owned by Cristobal Guerrero Quintero, is located in the section El Chagualital of the Hacienda la Amapola, on a

with or without funerary offerings. An example of this kind is the tomb in the *Matadero*, La Cumbre, with a shaft of 4.25 m. depth. The chamber was oriented to the west, but had collapsed due to the fact that the water table was at that depth and very often rose because of extensive use of water at the slaughter house. This led to the abandonment of further excavation of the chamber. This tomb had an interesting feature consisting of a high, but shallow, niche in the wall of the shaft, beginning at a depth of 2 m. and ending at the 4 m. mark. A similar niche, halfway down the shaft (100 by 85 cm.) was observed in the grave structure at *Amapola T3* (Fig. 67), La Cumbre, located on a hill overlooking Pavitas and Pavas (Fig. 53). The niche began to show again in the wall of the shaft opposite the chamber at 5.30 m. and ended at 7.20 m.; the aperture was 85 cm. wide and 43 cm. deep. The total depth of the *Amapola* shaft was 7.40 m. and the chamber oriented to the northwest had also collapsed and was not excavated.

The following two sites belong to the second category and deserve particular note. *Purilia*, La Cumbre, (Fig. 68) was discovered because of a

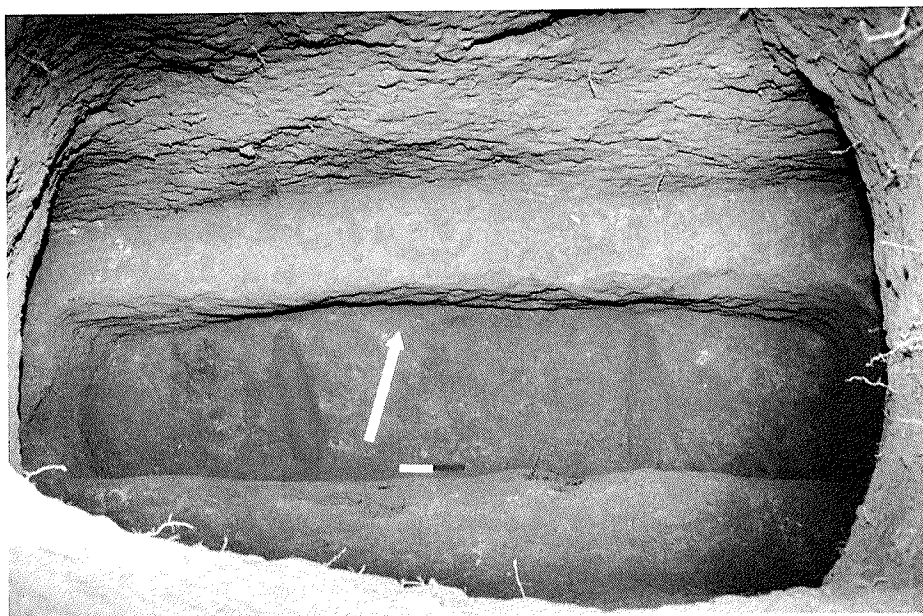


Fig. 69. Finca of Don Yeiro Muñoz, La Cumbre. Earth burial. Two shallow trenches indicate that the body had been deposited on wooden supports. The divisions of the scale are 10 cm.

gentle slope leading to the Quebrada la Ermita (Fig. 70). On the upper part of the slope some field lines can be recognized.

This habitation site was chosen for excavation because it lies close to a cemetery (Fig. 53) that produced typical Pavas urns (La Amapola T4 and Rancho Grande), some of them with radiocarbon dates. In this platform media caña tests were carried out in a line running from north to south across the maximum extension of the platform. A trench of 13.90 m. by 90 cm. was then excavated from the back wall to the lip of the platform in a zone where the probes yielded charcoal during the sampling procedure. In the actual process of excavation, arbitrary levels of 10 cm. were taken off and the finds were mapped.

Level I (0–10 cm.) contained 72 sherds, but only one diagnostic rim.

D

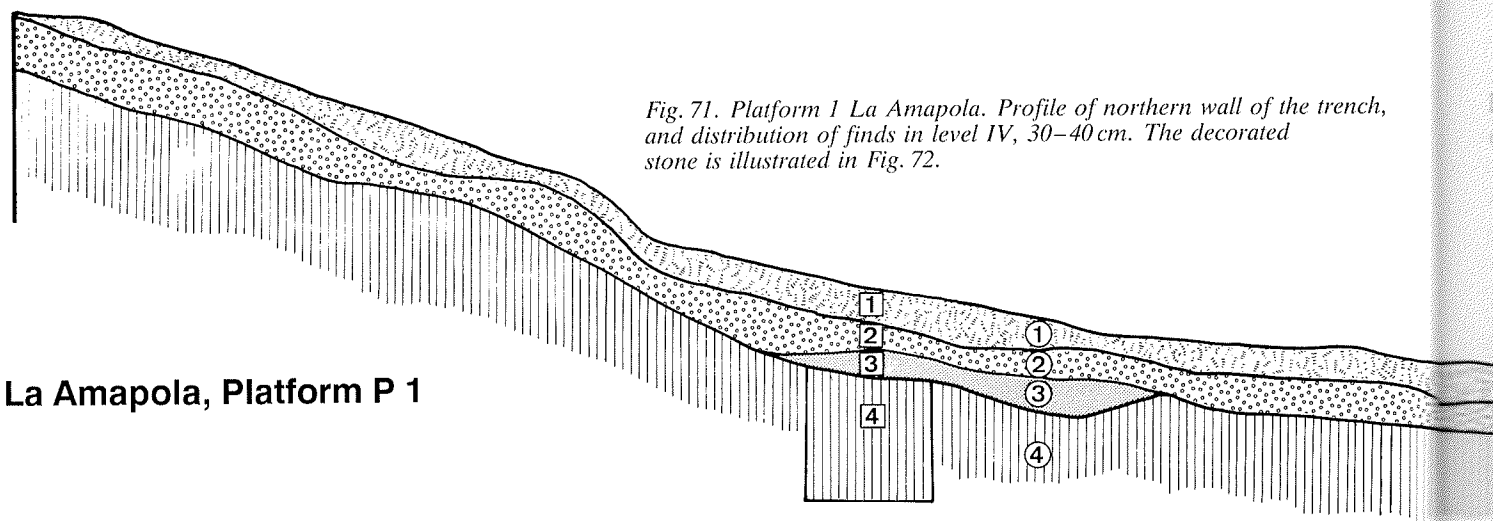
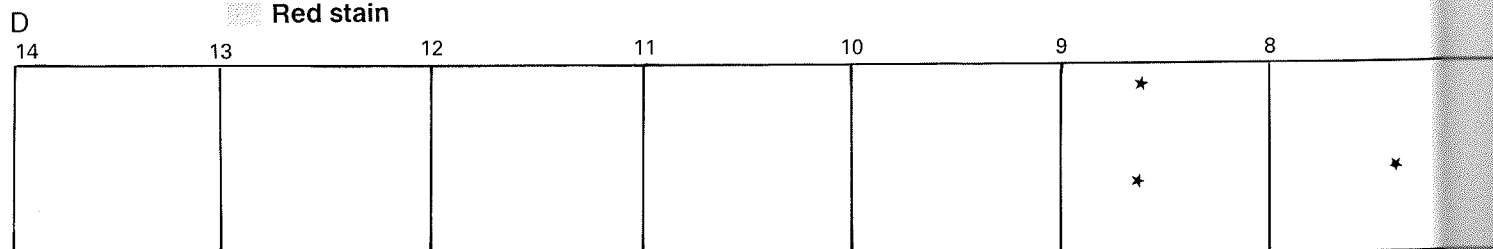


Fig. 71. Platform 1 La Amapola. Profile of northern wall of the trench, and distribution of finds in level IV, 30–40 cm. The decorated stone is illustrated in Fig. 72.

La Amapola, Platform P 1

- ★ Lithics
- Sherds
- ◐ Stones
- ◻ Decorated stone
- ☆ Charcoal
- ▲ Organic material
- ◼ Red stain



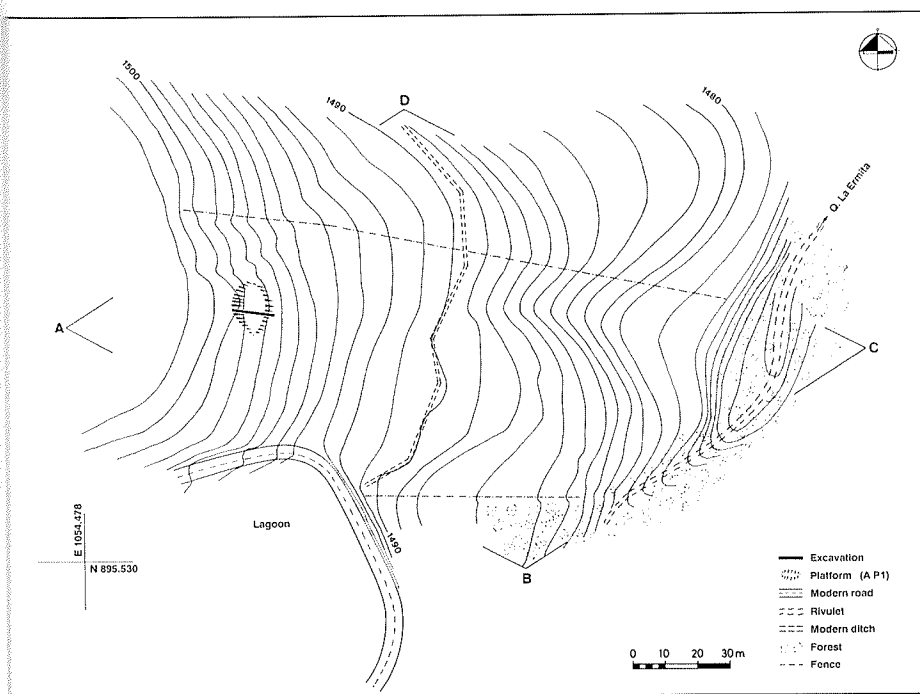


Fig. 70. La Amapola, La Cumbre. Topography of house platform, located in the section El Chagualital.

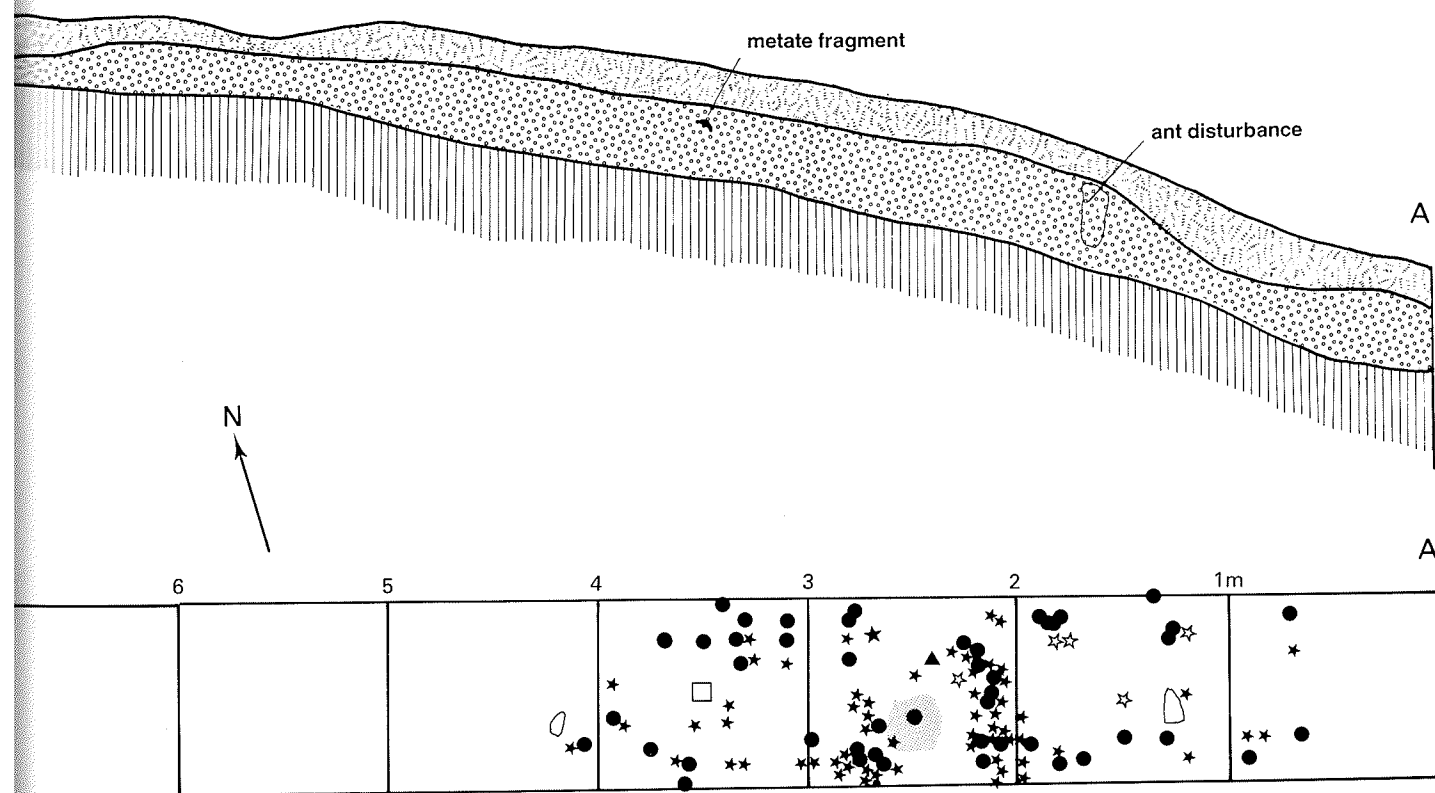
- | | |
|---------------|----------------------------|
| □ Soil sample | 1 Humic layer |
| ○ Stratum | 2 Silty clay |
| | 3 Clay with bauxite lenses |
| | 4 Red clay |

The abundant stonework (146) consisted of 108 small fragments, 6 quartz chips and 32 larger items including chipped artifacts and grinding stones. From the 9.70 m. mark, where the slope of the back wall of the platform began, there were no further artifacts.

Level II (10–20 cm.) contained, besides 63 sherds, 104 fragments of chipped stone, and also organic material such as maize kernels and pieces of wood. At the 7.05 m. and the 13.30 m. mark two stains began to show, which in the subsequent level became rectangular (40 × 40 cm.). Inquiries resulted in the information that this section of the farm had once been converted into a coffee plantation and reconverted back to pasture land.

Level III (20–30 cm.): The section from 1.00 to 3.90 m. yielded charcoal, a wooden post of recent origin, 34 sherds (only 3 of them diagnostic) and 36 stone fragments.

Level IV (30–40 cm.) contained two stone boulders encrusted with soot (Fig. 71). In the section between 1.80 and 4.20 m., a high artifact concentration was observed.



Between 2.40 m. and 2.60 m. the soil was of reddish colour, probably due to exposure to heat of fire. Charcoal collected in this area gave the date for the platform of a.d. 1390 ± 50 (B-4684). Noteworthy were a decorated stone artifact (Fig. 72) and a polisher.

Level V (40–50 cm.) yielded material only in the section between 1.80 m and 3.90 m., including maize kernels, a pottery rim, and a sherd with a raised boss. The remaining sections of this level were almost sterile.

Level VI (50–60 cm.) had some charcoal specks, occasional chips of stone but no other artifacts. There was no evidence for intense occupation at this level.

Stratigraphically the following sequence was revealed (Fig. 71) Stratum I corresponds with the actual grass cover and is a recent soil. The humic layer, with fine subangular blocks, belongs to the A/B horizon. The texture of the soil is silty clay loam; its colour according to the Munsell colour chart 7.5YR 4/4, and the pH reading was 6.5. Stratum 2 corresponded with a B horizon and was a silty clay soil of yellowish brown colour (7YR 5/6) and its pH 5.5. The third soil sample is from Stratum 3, characterized by a silty clay texture. Stratum 3 was mottled with numerous yellow lenses of bauxite. The colour chart indication was 7YR 5/6 and the pH reached 5.5. Stratum 4 consisted of red clay (10R 4.5/8) derived from the diabase and was very acid (4.5 on the pH scale).

The analysis of the pottery did not hint at any differentiation or change within the ceramic inventory, because clearly differentiated stratigraphic layers had not been discernible. Analysis of the ceramic inventory allows it to be classified as Sonsoid style.

We were unable to detect any man-made levelling of the kind that is usual in artificially enlarged platforms. The concentration of archaeological finds in the zone at the lip of the platform is quite logical, for all the waste was likely to be swept from the occupation floor and then trampled into the soil. The platform yielded more lithic material than pottery fragments. The cultural deposit attained a depth of 50 cm.

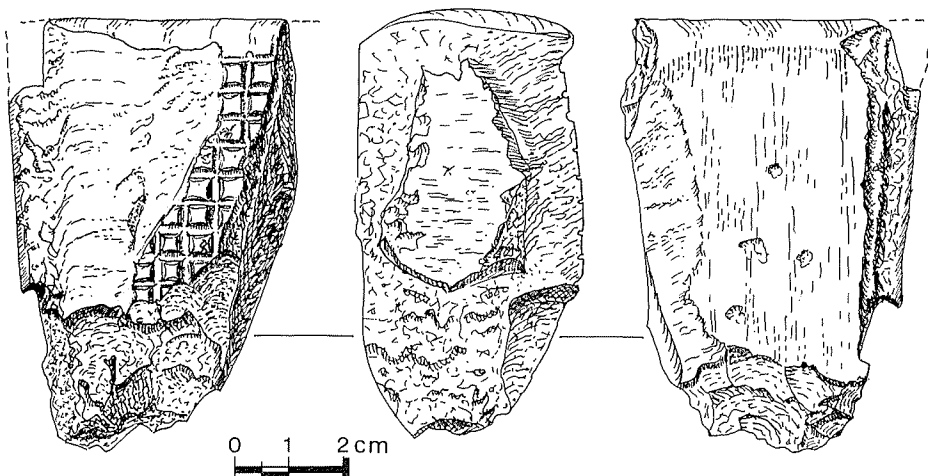


Fig. 72. *La Amapola Platform 1*, lithic artifact with engraved squares from level IV.

before reaching the sterile horizon at the bottom.

4. Pits

Matadero. This feature consists of a large concentration of sherds. The pit, of irregular shape, started out with diameter of 90 cm. The excavation proceeded, utilizing 10 cm. levels in removing soil and cultural materials. At 70–80 cm. the pit opened to form a pocket-like extension (Fig. 73). The fill was a mottled dark brown humus and yellow clay until a depth of 120 cm. A reddish stain appeared in level 30–40 after removing a stone. This fill was very clean and free from organic staining and charcoal.

The lithic inventory consisted of broken grinding stones and manos, but there were no other artifacts in the strict sense. The sherd material gave a wide range of vessels, and many were represented by several pieces coming from different levels of the pit. Fig. 74 shows some reconstructed bowls. Most striking is the rim of bowl No. 2 incorporating three sherds from level III (30–40) and one from XI (110–120 cm.) No. 7 is made up of one sherd from level IV (40–50 cm.) and one from level XI (110–120 cm.) and No. 10 has sherds from the levels IV, V, and VI. This might be an indication that the pit fill had accumulated rapidly or even been dumped in a single operation. The sherd material falls into two categories. The fine wares consisted of simple plain bowls with diameters averaging 15 to 18 cm.

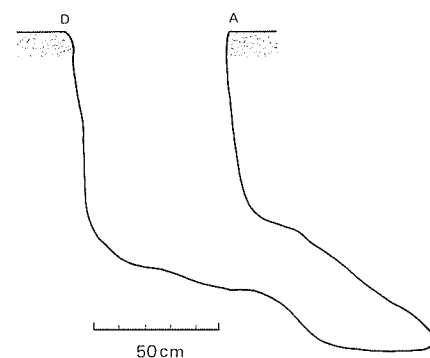


Fig. 73. *Matadero, La Cumbre*. Section of pit.

(Fig. 74). These were almost standardized in size and shape and are reminiscent of the covers of the Pavas urns. The second category consisted of coarser pottery and is similar to the kind of ceramic material out of which Pavas urns are made.

5. Problems of chronology

In addition to dates for urn sites we have now obtained dates for primary burials and settlement sites (Fig. 75). Although the emergence and development of Pavas urn burials is not a well understood process, it is interesting to note that the custom of urn burial appears to have persisted for a rather long time span. The radiocarbon dates for urn burials range from 305 ± 110 b.c. to a.d. 1530 ± 70 , but the earliest date (from Montañitas) and the latest one (Pavitas 1) should be considered

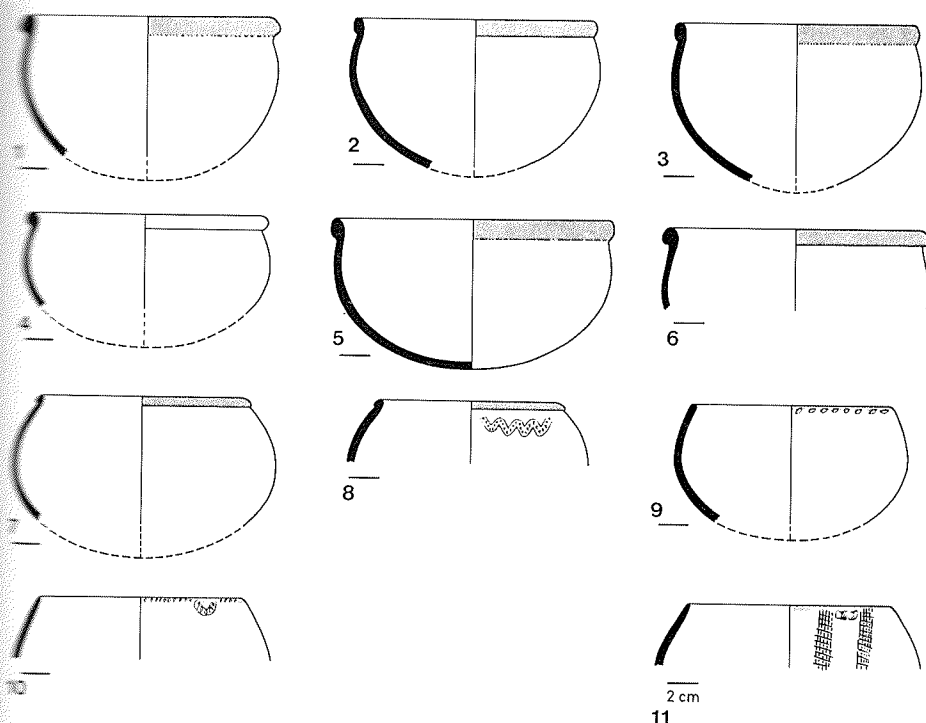


Fig. 74. Matadero Pit. Pottery from the pit. Rims of bowls found in different levels of the pit in the Matadero, La Cumbre.

dubious. It is unlikely that identical urns were manufactured over a period of almost two millennia, and these two C^{14} dates do not conform with the general pattern of radiocarbon determinations for Pavas urns. If the figures from Montañitas and Pavitas are ignored, the rest of

the dates for urn burials fall within the Yotoco period (as defined for the neighbouring Calima zone by Bray and Moseley 1976) and tend to cluster at the end of this. Although stylistic affinities of the Pavas urns are closer to material of the Sonso or Sonsoid tradition than to the Yotoco

DATES FOR SECONDARY URN-BURIALS

Montañitas	305	± 110	b. c.	(Beta-1500)	C14
La Virginia	610	± 75	a. d.	(Beta-1501)	C14
Arboledas★	680	± 80	a. d.	(B-4221)	C14
La Amapola T 4★	710	± 70	a. d.	(B-4680)	C14
Tres Esquinas	765	± 75	a. d.	(Beta-1835)	C14
La Amapola T 5★	890	± 80	a. d.	(B-4681)	C14
La Amapola T 1★	920	± 80	a. d.	(B-4332)	C14
La Sofia Bitaco	1050	± 90	a. d.	(B-4030)	C14
Rancho Grande T1★	1060	± 70	a. d.	(B-4682)	C14
La Bolivia T1★	1150	± 100	A. D.	(Alpha-3030)	TL
Pavitas 1★	1530	± 70	a. d.	(B-4716)	C14

DATES FOR PRIMARY EARTH-BURIAL SITES

Purilia★	530	± 70	a. d.	(B-4679)	C14
Ocache	1140	± 50	a. d.	(B-4031)	C14
La Escocia T1★	4150	± 1000	B. C.	(Alpha-3032)	TL

DATES FOR SETTLEMENT AND OTHER SITES

Montecito	1130	± 150	A. D.	(OxA-107)	TL
Montecito	1170	± 150	A. D.	(OxA-106)	TL
La Amapola P 1★	1390	± 50	a. d.	(B-4684)	C14

Fig. 75. Uncalibrated dates for the Pavas zone. New ones appear with asterisk. Dates for Montañitas, La Virginia and Tres Esquinas are discussed in Bray et al. 1981:4, Montecito in Bray et al. 1981:18-20 and dates for Ocache and La Sofia Bitaco in Gähwiler 1983:43.

style, the chronological placement of the urns within the Yotoco period seems secure. Yotoco and Pavas appear to be independent regional styles of roughly the same age. The distribution of these two styles is mutually exclusive. Pavas urns are virtually absent from Calima and there is no indication of Yotoco pottery in surface collections or from settlement sites in Pavas-La Cumbre. The nearest sites with Yotoco graves are at Bitaco on the margin of distribution of the Pavas urns.

There are other differences, too, between the Pavas and Yotoco assemblages. In Calima the Yotoco period is associated with well developed goldworking. In contrast, the absence of gold in funerary contexts is quite consistent for the Pavas zone, and is another indication that we are not dealing with a Yotoco-associated culture. Even the Gold Museum, well known for its representative collection, has only few gold items from the area. The only gold object found in recent years was again obtained in Bitaco. It is a tumbaga disc 8 cm. in diameter, found in a 10 m. deep shaft and chamber tomb with no associated artifacts which would allow attribution to a style or to a period. Bitaco is also the only area with some hints of Ilama presence in surface collections. In collections we know of two Ilama ceramic vessels from the municipio, with proveniences given as Jiguales, Morales (Cardale 1985), but neither in grave assemblages nor in surface collections are there indications of an Ilama presence in the Pavas zone. Bitaco seems to lie in a border area where affinities both to the Calima zone and to the Pavas zone can be observed. In respect of funerary ritual and material culture, the western periphery of the municipio of La Cumbre remains closely tied to developments in the Calima area.

Distinctive parallels with decorative techniques of the complexes in the Cauca Valley are identifiable. In certain tombs, the Pavas urns are accompanied by smaller and more elaborate cups and bowls. Overall, the Pavas pottery shows the same decorative elements such as triangular impressions, black negative painting, incised lines, and appliqué cordons with nicks that characterise

the Sonso or Sonsoid tradition throughout a large area of southwestern Colombia. The Sonso period is set between the 12th and 16th centuries in the Calima region (Bray et al. 1981: Fig. 2; Herrera et al. 1982-83: 388), but there are other complexes in the northwestern part of the Cauca Valley with Sonsoid characteristics and very similar decorative elements dated earlier, within the eighth and tenth centuries (Salgado 1986:114). Pottery from the Valley bottom in Guabas (Rodríguez 1984:106) also shares some decorative traits and is dated a.d. 1120 $\pm$ 110 (Beta-5925).

It is not yet possible to make out a formal typology for the burial urns. Considering the range of variation in the shapes of these urns there is an infinity of transitional shapes from a subglobular vessel to a pear-shaped urn and to a cylindrical vessel. Attempts at detecting a pattern in time, space or in social grouping have not yet been realized. A certain amount of local independence and regional variation is perhaps indicated by the predominance of certain shapes or decorative elements in particular localities.

It is interesting to note that the date of the primary burial for Purilia is rather early. Unfortunately it is the only date available for this kind of funerary complex. This date is associated with a type of tomb structure that does not fit with the rites practised in the Calima area and there are no sites yet available for comparison. For the second category of primary burial (shaft grave with a side chamber) the only comparative find is the tomb of Oache with strong affinities to the Sonsoid tradition. This find was discussed in *Pro Calima* 3:46.

The settlement sites of the Pavas-La Cumbre zone are represented by two dates, which fit into the Sonsoid tradition of the larger area.

We can recognize a marked concentration of black negative painting as a decorative technique in some localities (Montañitas and Oache), but we are not sure whether we are dealing with a different complex, or whether to consider this element as a local variant. Although vessels bearing this kind of decoration are present in

yet been found in reliable archaeological context.

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Excavations in Prehispanic Settlement Sites at Jiguales, Calima (First Season)

By Carlos A. Rodríguez and Vladimir A. Bashilov

The aim of this article is to present a summary of the first stage of the archaeological investigation carried out at the site of Cabo de la Vela in 1983. These excavations were organized jointly by the Instituto Vallecaucano de Investigaciones Científicas (Héctor Salgado López and Carlos A. Rodríguez) and the Institute of Archaeology of the Academy of Sciences of the U.S.S.R. (Vladimir A. Bashilov). The hill of Cabo de la Vela is situated on the Finca La Camelia, in the vereda of Jiguales, 8 km south-east of the town of Calima-Darién in the department of Valle del Cauca (Fig. 39). The hill is a natural elevation made up of volcanic ash, and is between 1400 and 1500 m. above sea level. On the upper part is a level area more than 1500 m² in extent. On the slopes all around the hill are 24 house terraces (*tambos*), at different altitudes but mainly concentrated on the lower parts of the N.W. and S.E. sectors, usually in

groups of 2 to 5 (Fig. 76). On the lowest part of the hill, near the farm house, was found a cemetery, almost totally looted, where we were able to study three tombs. On the slopes there are deep depressions, running vertically, which correspond with the drainage channels of prehispanic cultivation fields, or *eras* (Fig. 77).

Thus, the archaeological site of Cabo de la Vela represents a prehispanic settlement, relatively compact and with its centre perfectly delimited. It is possible that, because of its excellent geographical position, the site served as central place for the population of the surrounding zone (Salgado et al. 1984).

During the first field season (October–November 1983) it was possible to excavate two complete platforms, one of which (No. 4a) belonged to the Yotoco period, while the other (No. 4), situated just above the previous one, was of Sonso age, according to the periodization established by Bray et al. (1981). The

three excavated tombs also belonged to the Sonso culture.

Tambo No. 4a (Figs. 78 and 79) consisted of a cut, or terrace, made in the hill slope. Its open side faced eastwards, and the surface of the occupation area measured 5.30 m. in width by about 3 m. length. The back wall was almost vertical, 25 cm. high, and curved slightly at the S.W. and N.W. ends, where it was 50 cm. and 75 cm. long respectively. The platform was slightly inclined, and dropped some 30 cm. towards the east. This inclination was more marked at the front of the slope. Parallel to the tambo wall, cut into the sterile layer, were two ditches (possibly part of the same channel), which had a width of between 15 and 30 cm. and a depth of 4 to 5 cm.

Holes or pits were found both on the slope and on the inhabited parts of the platform. The function of these holes was not clear, so that it was impossible to reconstruct the form of the dwelling. It is assumed

Fig. 76. Panoramic view of the hill of Cabo de la Vela, showing the platforms on the north-west slope and the zone excavated during the 1983 campaign.



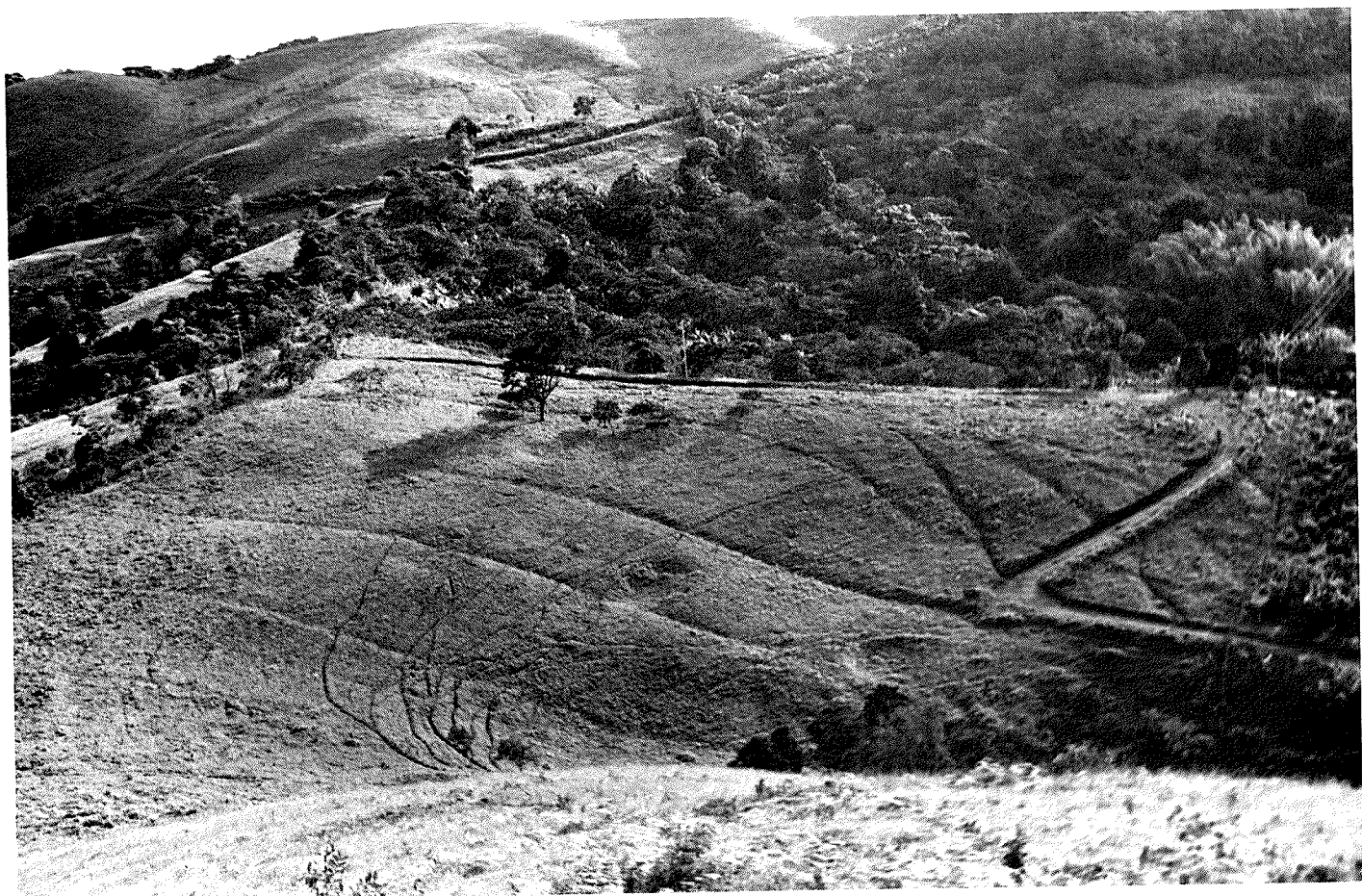
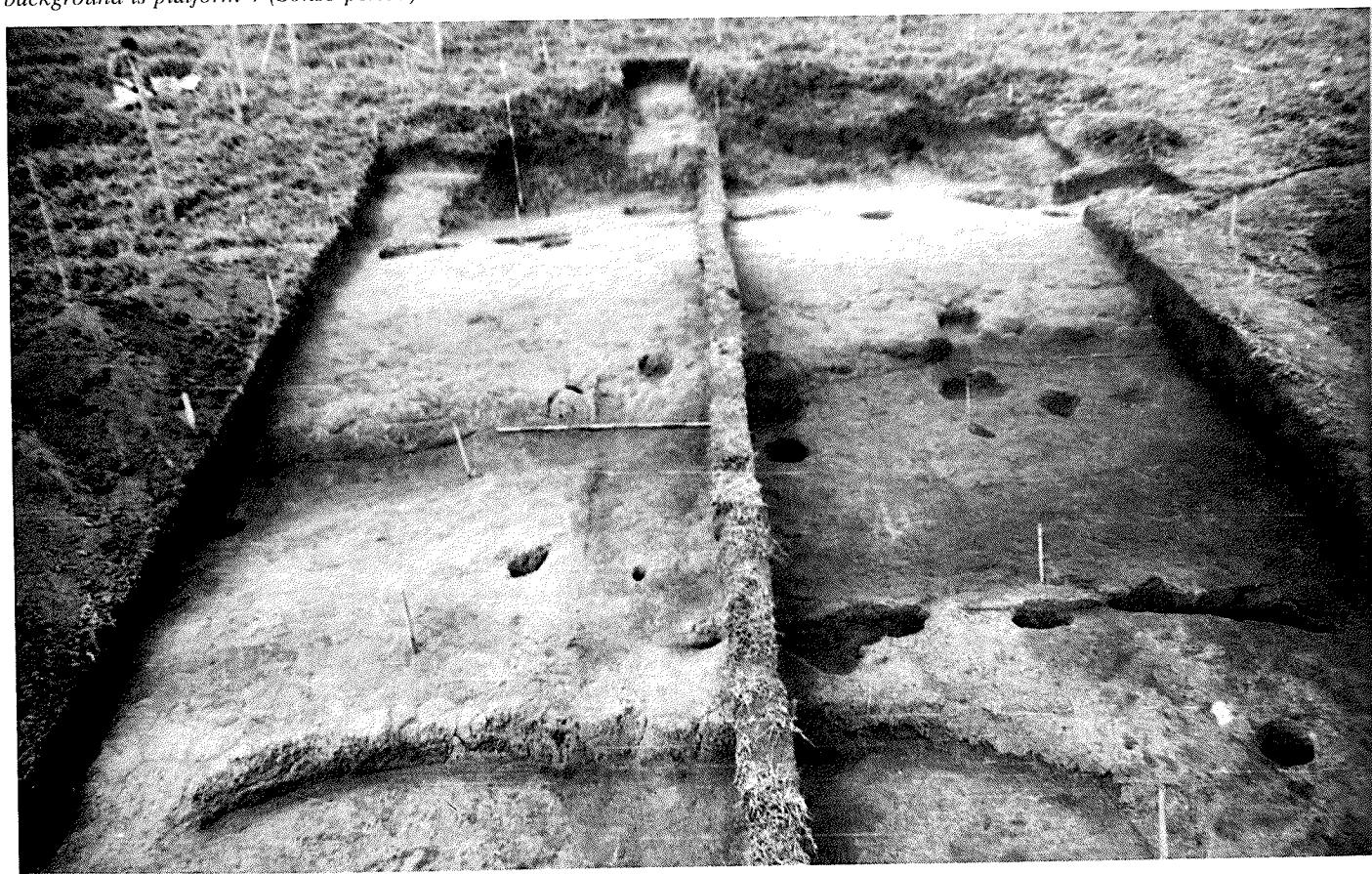


Fig. 77. Cabo de la Vela: prehispanic habitation platforms and field systems with drainage ditches on the north-east slope of the hill.

Fig. 78. Cabo de la Vela: panoramic view of the 1983 excavation. In the foreground is platform 4a (Yotoco period) and in the background is platform 4 (Sonso period).



that some of these features may have been post holes. Opposite the southern end of the platform (Square G2) was pit No. 19, measuring 50 cm. in diameter and 185 cm. in depth. Its function remains unknown, but we imagine that it may have held a large post. However, nothing analogous to Pit 19 was found on tambo 4a. Several more pits were found in the squares between Lines F and G, and were either circular or roughly oval in plan, with diameters of 20–25 cm. and depths ranging from 15 to 40 cm. (pits 18, 22–28 in Fig. 79). In No. 22 were remains of decomposed wood. Within Squares G2 and G3 was an irregular double pit (Nos. 20 and 21), each part of which was 40 cm. in diameter, shallow, and with a more or less flat base. It is possible that these two pits became united by chance, and are of different periods, having served some domestic function.

The upper strata of platform 4a were covered by rubbish deriving from platform 4, containing a large amount of Sonso pottery. This leads us to believe that when tambo 4 was constructed and used, tambo 4a had already been abandoned for many years and had become covered by slopewash material.

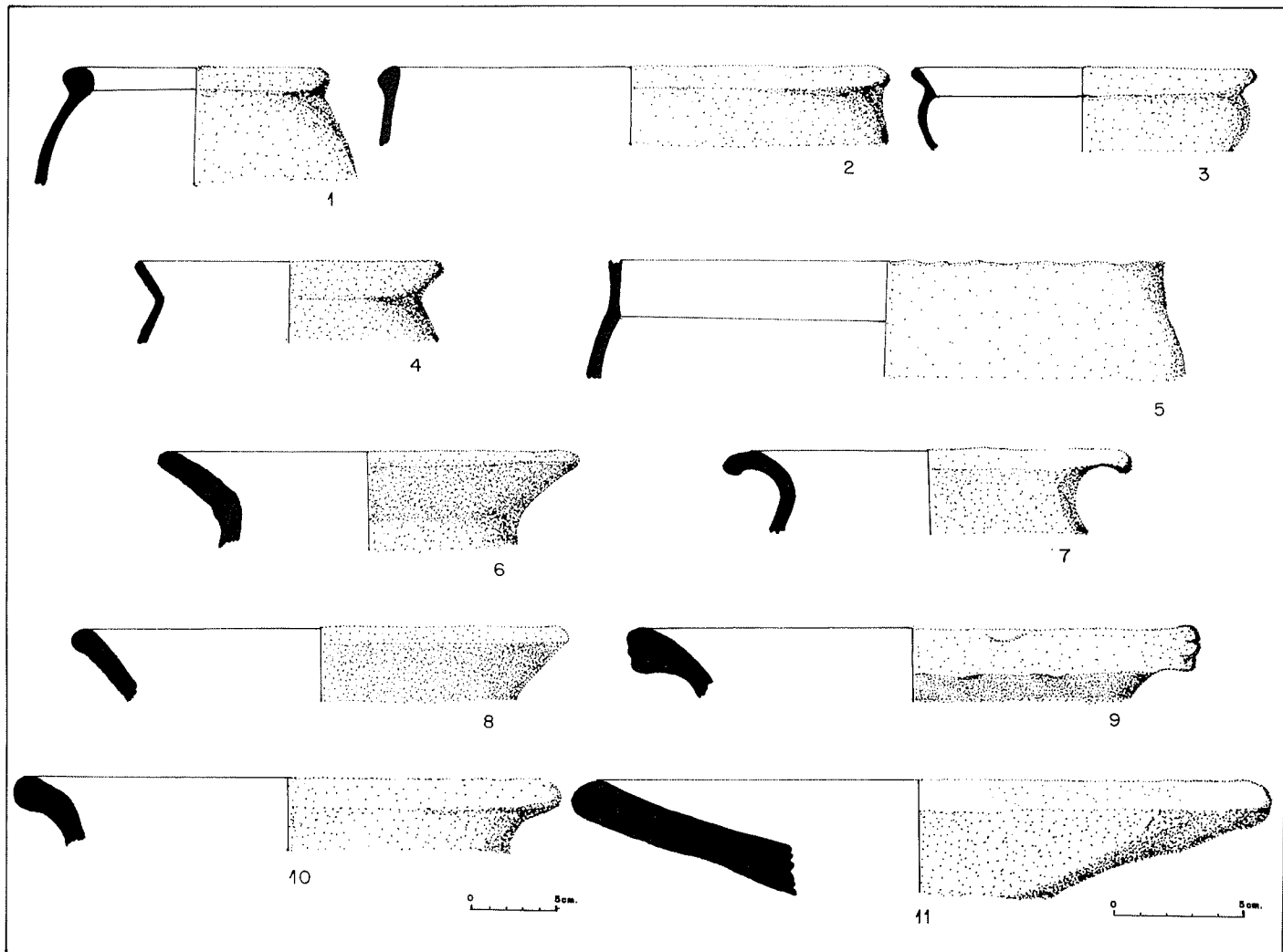
There was little pottery from tambo 4, although some diagnostic rims allowed the reconstruction of typical Yotoco forms. These included, firstly, externally thickened rims belonging to deep, closed vessels, with spherical bodies and no necks (Fig. 80,1). Similar forms have already been reported by other investigators (Bray and Moseley 1976; Bray et al. 1981, 1983; Salgado 1986). A second ceramic form also has an externally reinforced rim, but has a wider mouth and almost vertical sides (Fig. 80,2). Fragments with everted rims and slightly rounded lips were also found, and on

these sherds there is a sharp angle at the junction of neck and body (Fig. 80,3–4). Similar pottery has been found in the upper and middle reaches of the Calima valley (Bray et al. 1981; Salgado 1986). On platform 4a were many fragments with internal carinations, belonging to the central portions of vessels with composite body-profiles (Fig. 80,5).

A minimal quantity of lithic material was encountered in the strata with Yotoco pottery. In Square G4 there was a concentration of artifacts and stones, amongst which was found a fragment of a basalt grinding stone (*mano*), flat-based and polished on both sides, producing an oval form. Another *mano* had an elongated shape with polished, convex sides. Basalt chips and broken cores were also collected.

The occupation floor of tambo 4a, and the cultural materials found in its deepest strata, belong to the final

Fig. 80. Pottery from Cabo de la Vela: nos. 1–5 Yotoco Style from platform 4a; nos. 6–11 Sonso style from platform 4.



stage of the Yotoco culture, as indicated by an 11th century radiocarbon date (a.d. 1020 ± 70 ; Beta-10334) obtained from wood charcoal associated with the pottery.

Tambo 4 consisted of a step-like cut made in the slope of the hill, and had an east-facing open side (Figs. 78 and 79). Length from north to south was 7.5 m. and the total width of the horizontal area was 3.5 to 4.0 m. The central part of the back wall was vertical and up to 50 cm. high, but this height diminished towards the N.E. and S.E., where it formed an obtuse angle. Parallel to the back wall, at the level of the sterile clay, was a ditch, marked by dark, elongated stains in the southern section and by a long, dark band in the northern part. In its fill were a few stones and sherds. The width of the ditch varied between 30 cm. and 50 cm., and the depth from 4 cm. to 5 cm. In the central part of the platform (Squares C3 and C4) were found pits No. 4 and No. 5, 3.5 m. apart. Each pit was 40 cm. in diameter, and they were cut down from the surface of the sterile level. No. 4 was 70 cm. deep and No. 5 had a depth of 90 cm. In No. 5, at 30–40 cm., was found a concentration of stones mixed with pottery. These pits were almost certainly constructed to hold posts which may have supported the central part of the house roof. One of the posts had been wedged with stones. From the position of the holes on the platform we can be fairly sure that they were all part of the same structure.

The northern part of the ditch is cut by a large pit, 130 cm. by 60 cm., and 70 cm. deep, with almost vertical sides (No. 3). This pit was filled with mixed earth containing sherds and wood charcoal. Its purpose is unclear, but it may have served for storage or for rubbish. In the southern section the possible line of the ditch is cut by a pit of lenticular plan (No. 7) with a flat floor and sloping walls. A pit of the same form (No. 6) appeared near the end of the south-east wall of the tambo in Square B2. A third lenticular pit (No. 1) was found in the centre of the platform. This was the largest of all the pits, being 150 cm. by 40 cm. at its mouth, and 30 cm. deep. These three pits were positioned on the same alignment at the centre of the

platform, and were typologically similar; they must surely belong to the same structure. The fact that one of them cuts through the ditch (as in the case of No. 3) suggests that the line of posts belongs to a second stage of construction on the tambo.

On the platform was a series of small holes (in Squares A3, A4, B4, B5, C5) which could not be associated with any particular stage of construction. On the lower part of the platform, in the squares between Lines D and E, was another concentration of pits, 20–50 cm. in diameter and 5–20 cm. deep. Nos. 12, 13, 14 and 15 are possibly related to the structure that existed on the platform, for they make a line roughly parallel to the central axis of the tambo. Perhaps these pits served as post holes. Feature No. 11 (Square D4) was perhaps the result of disturbance by animals. Pits 16–17 (Square D5) were circular in plan. In summary, tambo 4 was modified by people of the Sonso culture for use as a habitation site.

Study of the pottery from platform 4 allows us to reconstruct vessel forms typical of the Sonso period. Most common are globular jars for domestic use, with everted rims and rounded lips (Fig. 80, 9–10). Also frequent are *cántaros* with rounded bodies and long, narrow necks (Fig. 80, 6–7). Some of these have a vertical or horizontal handle on the lower part of the body and two more handles on the opposite side, higher up and near the centre of the body. These traits are often seen on entire, 3-handled vessels from Sonso tombs and habitation sites (Caldas et al. 1972; Wassén 1976; Bray et al. 1981, 1983). Another form corresponds with rather rough, open vessels with rim diameters around 30 cm.; walls are ca. 1.7 cm. thick and inclined outwards at an angle of around 20 degrees (Fig. 80, 11). These fragments may be from plates or from vessels of large capacity. The characteristic decoration consists of horizontal, undulating or semi-undulating appliqué cordons, above which are nicks or angular impressions, alone or combined with protuberances.

Among the pottery was found a special fragment in the form of a 'diadem', belonging to a category of anthropomorphic vessel known from

Sonso contexts (Bray et al. 1985, Fig. 51). The crescentic diadem is located on top of the head. The fragment from Cabo de la Vela has traces of red paint and 9 transverse holes, 4 of which are incomplete.

In the cultural stratum with Sonso pottery were found percussion-flaked artifacts of fine-grained basalt, and also polished instruments of coarse basalt. The most common tools were milling stones (*manos*), cores, hammers or pounding stones, and prismatic knives. In addition, the fill of Pit 6 yielded a flat anthropomorphic pendant, 26 mm. high and made of polished stone. The figure has a rectangular, stylized body, with a waist represented by two hollows at the sides. Below the waist are two short legs, one of which is missing. The head is triangular, with small incisions to represent the eyes and mouth. In the central part of the body are two suspension holes and two incised lines, which may indicate stylized arms. In pottery, several figures of this kind are known from the Restrepo region. Of these, two figurines are particularly close to the example from tambo 4; one was found on the surface at the Hacienda La Suiza (Bray et al. 1983, Fig. 37) and the other came from excavations on Platform 4 in the Valley of El Dorado (Bray et al. 1985, Fig. 26).

It is clear that all the materials from tambo 4 at Cabo de la Vela belong to the Sonso culture. A carbon sample taken from the original occupation floor gave a date in the 16th century (a.d. 1550 ± 70 ; Beta-10323), which shows that this construction belongs to a late stage of the Sonso development.

Three tombs were also excavated, making it possible to study aspects of the funerary tradition. All three tombs consisted of shafts with lateral chambers, similar to those already known from the Calima area (Wassén 1976; Caldas et al. 1972; Bray et al. 1983). The rectangular shafts were oriented north-south, and were approximately 150 cm. by 50 cm. at their mouths, and were 4 m. deep. At the entrance to the chamber each tomb had 7 or 8 post sockets, 10 cm. in diameter and 5 cm. deep. The funerary chambers were rectangular or oval in plan, and on average were 1 m. $\times$ 1 m. by 1 m. high. In all of them were primary

burials of adolescents, with the bodies placed in an extended position, sometimes on a fibre mat (tomb 3). There were two stones at the head and two at the feet. The burial offerings included one or two domestic vessels (jars, cups and three-handled pots). A charcoal sample from tomb 3 gave a radiocarbon date of a.d. 1330 ± 40 (Beta-2456), which confirms that Sonso people used the flat area on the S.E. slope of Cabo de la Vela as a burial place.

The vessels found in the tombs are similar to those from tambo 4 at the site, and together indicate an occupation in the later part of the Sonso period. The prehispanic settlement on the hill of Cabo de la Vela corresponds fairly well with the accounts written by Spanish chroniclers about the Indian populations of S.W. Colombia. Tentatively, we can suggest an ethnic identity for the inhabitants of the Jiguales region. There are two possibilities. The area may have been occupied by Yaco Indians, located by Romoli (1976) on the upper reaches of the Rio Calima. Alternatively, the region may have formed part of Chanco territory, which stretched from the upper course of the Rio Garrapatas to the watershed between the Calima and Dagua drainages (Romoli 1976). Nor can we rule out the possibility that the natives of the Jiguales region may have been in close contact with the Gorriones who, according to Friede (1978), occupied the eastern slope of the Cordillera Occidental.

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Excavations in Prehispanic Settlement Sites at Jiguales, Calima (Second Season)

Héctor Salgado López

In continuation of the original plan to investigate pre-Columbian habitation sites, a second season of excavation was carried out at Jiguales between October 1984 and January 1985. The area investigated was on the highest part of the hill, which consists of a level area more than 1500 m² in extent (v. Fig. 76 in the article by Rodríguez and Bashilov, this vol.). In total 227 m² were excavated, consisting of 54 squares of 2×2 m., a trench of 8×1 m., and another of 1×1 m. (Salgado, in preparation).

The site was too large for complete excavation. Nevertheless, the trenches allowed us to determine that the crest of the 'Cabo de la Vela' hill had been modified by means of cutting and levelling in order to convert it into a habitation site. On this man-made surface were

constructed houses and tombs of different archaeological periods.

Also it was possible to prove stratigraphically that the central area of the site was modified by means of a cut, evidence for which remained at the back wall (Figs. 81 and 83). From this point, the humus layer and the volcanic ash were removed in antiquity, leaving an occupation floor of impermeable red clay derived from weathered diabases. However, the cutting may also have been carried out to alter the original slope or to increase the horizontal area, though no artificial fill was found at the edge of the site.

In addition, there was evidence that in some sectors the volcanic ash formed the habitation floor, and that above the red clay and the yellow ash there is a thin layer of soil (from 1 cm. to 4 cm. thick) containing signs

of human activity (pottery, stone artifacts and charcoal). This stratum corresponds with the first cultural level, or initial period of occupation, and its base represents the original living-floor.

When the excavation was finished a zone of occupation could be recognized, in which there were 115 post holes, allowing the reconstruction of four house plans of the Sonso culture and one of the Yotoco period (Figs. 81–83). Two of the Sonso structures have an irregular, circular ground plan and are small in size: 2.60–3.0 m. in diameter for house V-4, and 3.9–4.2 m. for house V-1 (Fig. 83). No. V-2 is a rectangular Sonso house, of which only a part (4.7 by 3.0 m.) was excavated (Figs. 82 and 83). Charcoal from one of the post holes of V-2 gave a date of a.d. 650 ± 80 (Beta-

Fig. 81. Cabo de la Vela: general panorama of the excavation on the upper part of the hill (1984/85). In the foreground is a Yotoco tomb, probable storage pits, and the post holes of irregular roundish structures.





Fig. 82. Cabo de la Vela: Final stage of the 1984/85 excavation, viewed from east to west. The photo shows the back wall and the post holes of an oval structure, and also a straight line of post holes from the rectangular building (V-2). Both structures belong to the Sonso period.

16945) for the construction of this house.

The largest structure, also belonging to the Sonso period, is a large, oval house (V-3), which may have been up to 12 m. long and 8 m. wide (Figs. 82 and 83). Charcoal taken from the occupation layer (strata II and III) on the slope of the back wall of this house, in Squares B 4, B 5 and B 6, gave a date of a. d. 860 ± 60 (Beta-16946) for the initial construction of hut V-3.

The Yotoco building (V-5) is a small dwelling with an irregular, circular plan, the diameter of which varied between 3.2 m. and 3.8 m. (Figs. 81 and 83). At its edge was found a shaft tomb 1.32 m. deep and with a small lateral chamber (Fig. 85, 4). Unfortunately, it had already been ransacked by treasure hunters.

The irregular round-oval arrangements of post holes probably correspond with huts whose walls were made of wattle and daub, bamboo, reeds or wood, and whose conical roofs were thatched with grass or palm leaves. The rectangular house presumably had a pitched roof. Inside and around the dwellings were the holes of posts which helped

to support the roofs, formed part of the furniture, divided up the interior space, or were used to suspend artifacts. On the floors inside and outside the houses were round or irregular patches of burned earth, with charcoal, seeds, and fragments of pottery mixed with stone tools. These indicate the presence of hearths for cooking and warmth, and of work areas around them (Fig. 83).

On the old occupation floor were found three large, irregular, oval-shaped stains (Fig. 84). On excavation these proved to be deep pits or holes dug down from the surface of the sterile volcanic ash or from the red lateritic clay (Figs. 81–85).

Pit 1 was situated inside the Yotoco house (Squares A 5, A 6, B 5) and measured 1.56 m. $\times$ 1.30 m. by 1.68 m. depth (Fig. 85, 1). It was filled with very black earth containing pieces of charcoal, carbonized maize kernels, bits of burned earth, lithic artifacts, small stones, and sherds (including rims) of bowls and jars in Yotoco style (Fig. 86, 2). A charcoal sample from Pit 1, from a depth of 40–60 cm., gave a date of a. d. 370 ± 60 (Beta-16947). This date indicates that Pit 1 and, possibly, House V-5 were constructed around

the 4th century A. D., i. e. at an early stage within the development of the Yotoco culture.

Pit 2 was inside the smallest dwelling (V-4), between Squares A 3 and A 4, and was 124 cm. long, 84 cm. wide and 120 cm. deep. Towards the base the walls sloped inwards to form a rounded floor with a little niche, 62 cm. deep, at one side (Figs. 84 and 85, 2). The fill consisted of black earth, charcoal, seeds, burned earth, large calcined stones, little pebbles, and typical sherds from Sonso vessels (Fig. 86, 6).

Pit 3 was situated in the open space between the rectangular house (V-2) and the large one (V-3). It was 126 cm. deep, and 134 cm. by 96 cm. at its mouth. The bottom of the shaft was inclined to one side, forming a little cavity 30 cm. deep. As in the case of Pits 1 and 2, this one was filled with black earth with traces of charcoal and burning, and also stones and fragments of Sonso pottery (Figs. 82 and 85, 3).

The function of these pits is not clear. One might suggest that they were 'silos' in which grains and supplies were stored, though the intense black colour of the earth

indicates admixture with organic matter. However, the stains and little lumps of burned earth, with the charcoal and carbonized seeds, might also suggest that the pits served as hearths or places where pottery was fired. Irregular pits of this kind have been found in excavations elsewhere in the Calima region on sites of the

Yotoco and Sonso periods, though the fills are never as black as those at Jigüales (Bray et al. 1983; Salgado 1985).

Study of all the cultural elements demonstrates that the structures were used for domestic purposes, although they did not necessarily all serve the same function. The Yotoco hut and

the little Sonso structure may have been built to cover the possible food-storage pits; the other structures may have been for sleeping and for food-preparation, as attested by the hearths with charcoal, the carbonized seeds and burned earth, the sherds, chipping waste and, finally, by the dimensions of the floors.

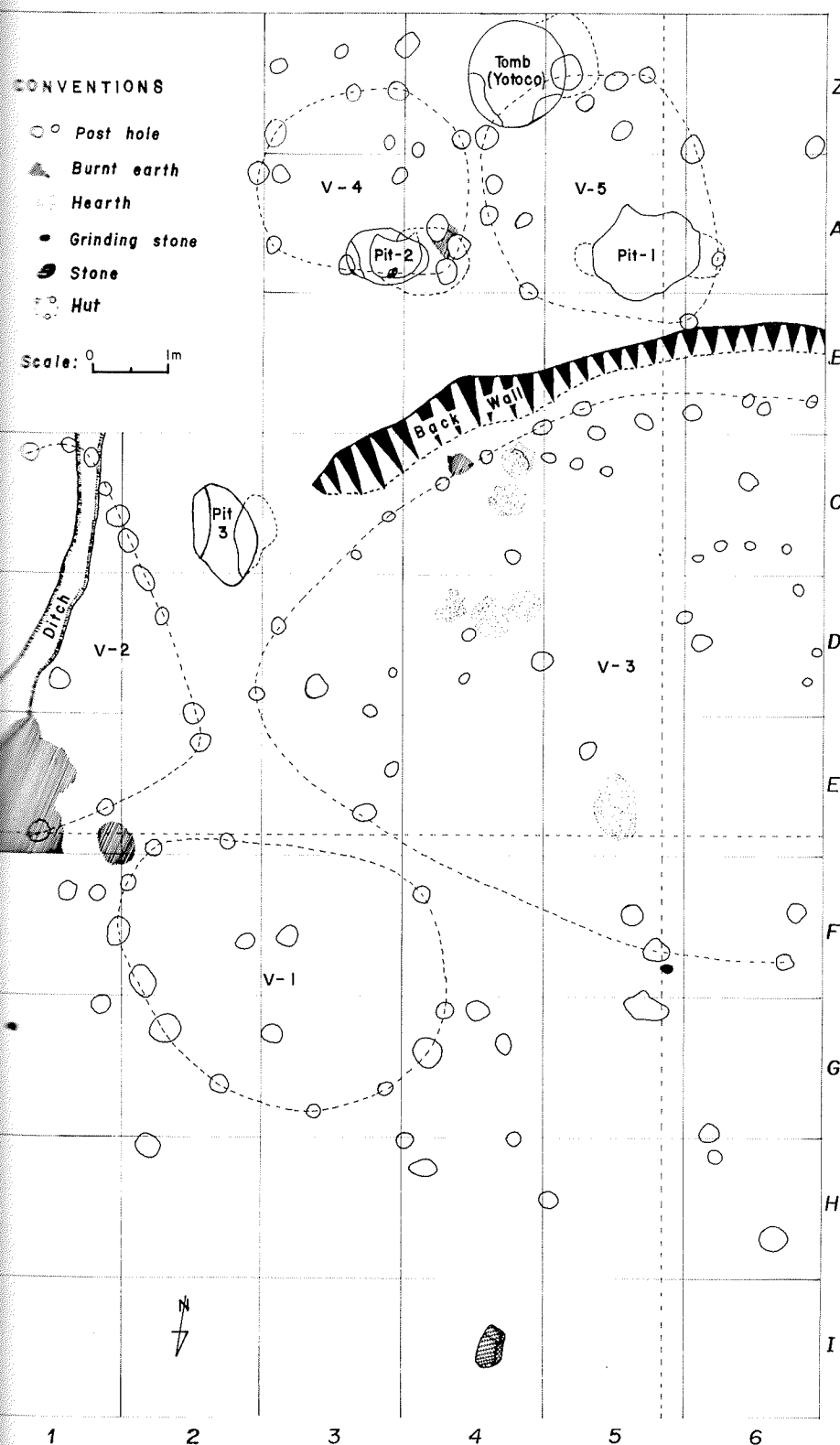
The pottery from inside the huts, and from the post holes and pits, gives the cultural affiliation for each structure. In form and decoration most of the sherds are diagnostic of the Sonso culture (Fig. 86, 4-8). However, around the perimeter of V-8 and from Pit 1 the predominant sherds were from domestic vessels and fine wares (with red or cream slips, and negative painting) characteristic of the Yotoco period (Fig. 86, 1-3).

In addition, the presence of a few fragments of Ilama pottery in some of the squares at the front (lines H and I) suggests that, at some time in the past, there was a settlement on the upper part of the hill belonging to the oldest ceramic period so far known in Calima.

In general terms, the archaeological results obtained from the two campaigns of excavation (v. also Rodríguez and Bashilov, this vol.) show that the hill of Cabo de la Vela was occupied during the Yotoco and Sonso periods. The radiocarbon dates indicate successive occupations by Yotoco and Sonso groups during more than a thousand years, from the 4th century A.D. to the beginning of the Colonial period in the Valle del Cauca (16th century). The excavations also demonstrate a similar settlement pattern for the two periods, with a dispersed population living in isolated houses or in small, semi-nucleated communities. Dwellings were located on artificial terraces or on flattened areas like the summit of the hill at Cabo de la Vela, situated close to agricultural fields with ridges and drainage ditches (v. Rodríguez and Bashilov, Figs. 76 and 77, this vol.).

The settlement pattern and the type of building studied at Jigüales (Calima) are similar to those investigated in other archaeological regions of south-west Colombia (e.g. San Agustín, Tierradentro and Nariño), which are of approximately the same age as the Yotoco and

Fig. 83. Cabo de la Vela: plan of the 1984-5 excavations, showing the five structures (V-1-5).



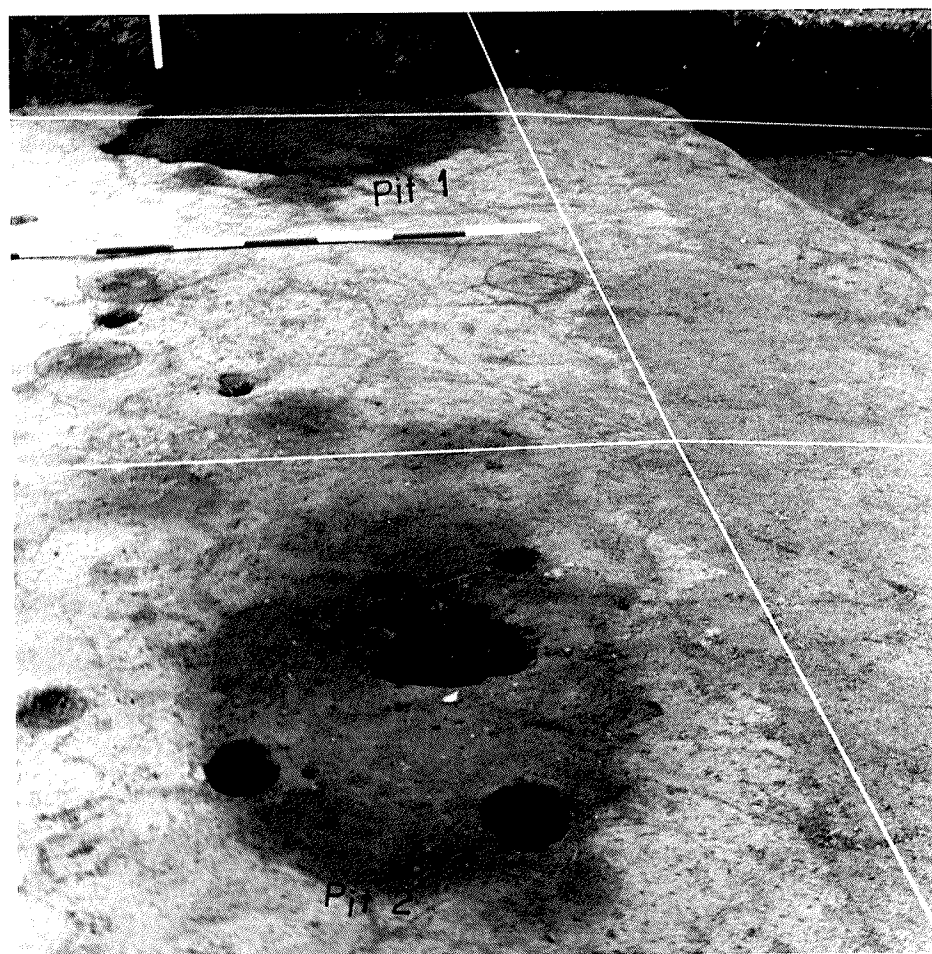
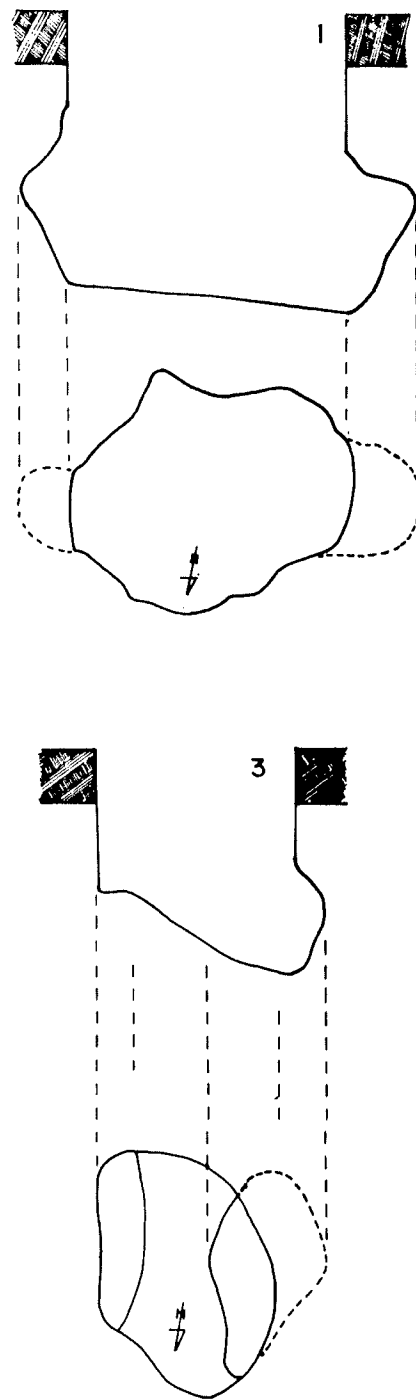
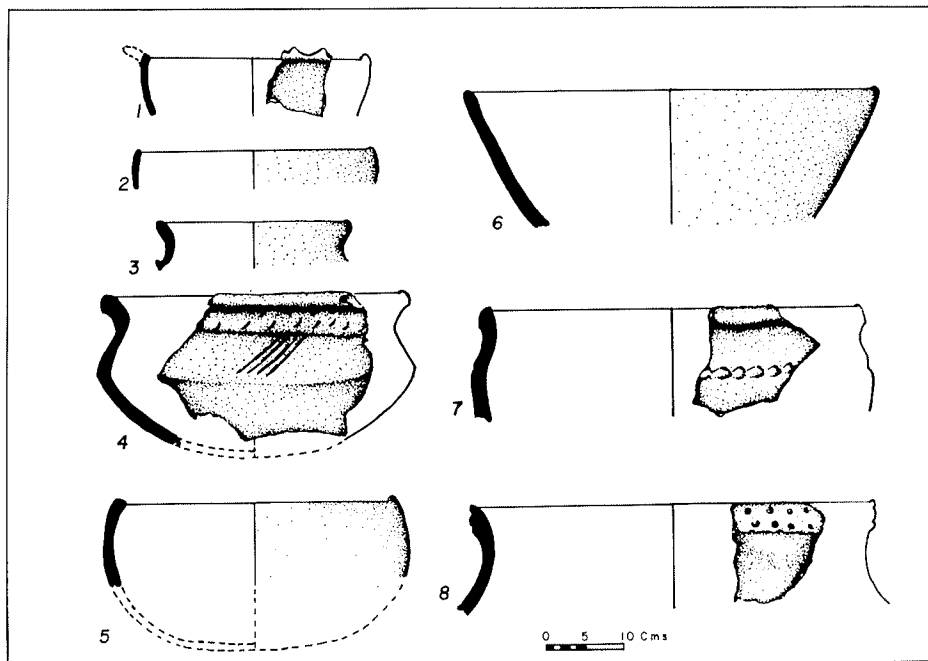


Fig. 84. Cabo de la Vela: excavated squares along line A, showing the dark fills of two probable storage pits.

Fig. 85. Cabo de la Vela, 1984-5: Nos. 1-3 are sections through probable storage pits, and No. 4, is a tomb of the Yotoco period.

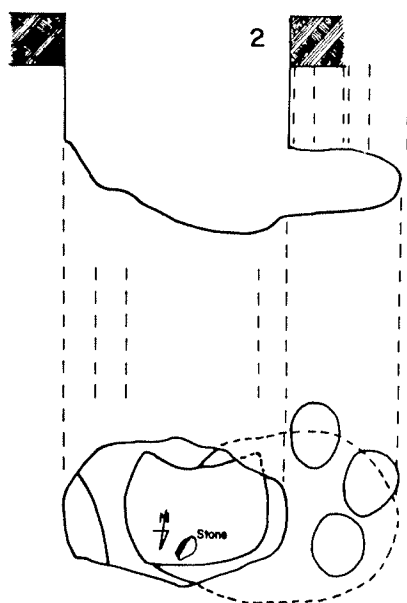
Fig. 86. Pottery from Cabo de la Vela: 1-3 Yotoco style; 4-8 are Sonso.



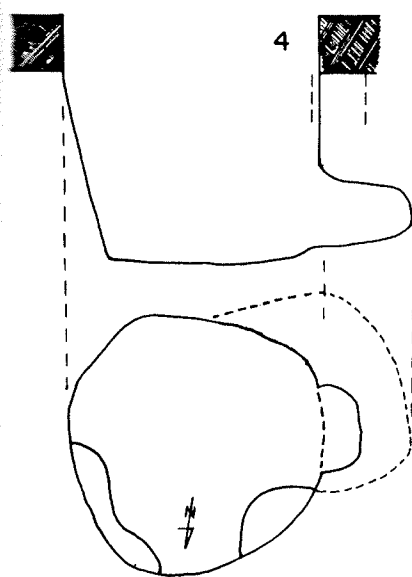
Sonso materials (Duque & Cubillos 1981; Llanos & Durán 1983; Chaves & Puerta 1979; Uribe 1979; Salgado 1986).

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Scale: 0 40cm



Humus
Post hole

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Zusammenfassung

Bericht über die Grabungskampagne 1984

Von Warwick Bray, Leonor Herrera und Marianne Cardale Schrimpf

1. Einleitung

Die Grabungskampagne von 1984 umfasste eine kurze Prospektion im Frühling und eine eigentliche Grabungskampagne im Juli–September. Drei Ziele standen im Vordergrund: 1) Die Ausgrabung der kurz zuvor entdeckten Siedlung El Topacio, 2) die Beendigung der Arbeiten an der grossen Plattform im El Dorado-Tal und 3) ein weiterer Versuch, das Problem der Feldlinien zu klären, sowie die Geschichte der Sedimentation im El Dorado-Tal zu studieren.

Jedes Jahr wurde auch eine Anzahl von Objekten dokumentiert und fotografiert, die nicht aus unseren Grabungen stammen (siehe Titelbild).

2. Der Siedlungsplatz El Topacio (Abb. 2–16)

Die in *Pro Calima* 3 erwähnten Forschungen konnten dank der Finanzierung der Fundación de Investigaciones Arqueológicas Nacionales del Banco de la República intensiviert werden. Die Ausgrabungen von 1984 konzentrierten sich auf die Fundstelle El Topacio, einer Ilama-Siedlung in der Nähe von Darién (Abb. 2). Die Fundstelle liegt auf einem Absatz, mit Ausblick auf den Calima-Fluss, wo dieser in ein breites Tal einmündet. Der grösste Teil dieses Tales ist jetzt vom kürzlich angelegten Stausee überflutet. Während der Ilama-Periode lag El Topacio wahrscheinlich am Rande eines grossen Sumpfes.

Vor kurzem sind im *Boletín de Arqueología* (Fundación de Investigaciones Arqueológicas Nacionales del Banco de la República, año 1, no. 3, 1986) die vorläufigen Ergebnisse publiziert worden. Die C¹⁴-Daten vom untersten und obersten Ilama-Horizont weisen darauf hin, dass die Besiedlung von El Topacio ungefähr vom neunten bis zum

zweiten oder ersten Jahrhundert vor Christus gedauert hat (Abb. 5).

Die ersten Ilama-Bewohner machten den Siedlungsplatz grösser und eben, indem sie im hinteren Teil des Geländes zwei treppenartige Absätze anlegten. Man fand drei Feuerstellen, und obwohl keine Spuren von Pfosten ersichtlich waren, konnte man doch eine dunkel gefärbte Stelle mit reichlich Kohle und anderem Material erkennen, die von einer Zone mit lehmiger, und sehr eingetretener Beschaffenheit umgeben war. Man könnte diese Stelle dahingehend interpretieren, dass es sich dabei um eine Zone handelt, die durch ein Dach geschützt war, umgeben von einer weiteren Zone, die zum Werken diente. Die Steinwerkzeuge sind ziemlich grob, mit Ausnahme der kleinen, sorgfältig gearbeiteten Feuersteinartefakte, die wahrscheinlich Bohrwerkzeuge waren. Im keramischen Inventar waren Töpfe am meisten vertreten, daneben auch Bruchstücke von Gefässen mit Doppelaussuss, Schalen, sowie ein Teller. Zum grössten Teil handelte es sich um Scherben ohne Dekoration, ganz wenige besaßen Farbspuren oder Ritzmuster. Scherben mit Ritzmustern waren am häufigsten im obersten Horizont anzutreffen. Ausserdem enthielten die verschiedenen Schichten eine grosse Anzahl Samenkörner, die fast alle als Vorläufer der Maisart Nal/Tel/Chapalote identifiziert wurden. Pollen waren nicht vorhanden, aber die Analyse der Phytolithen erlaubte die Identifikation von Kürbis und Pfeilwurz (*Maranta arundinacea*), sowie von mehreren Palmenarten, darunter befanden sich auch einige mit essbaren Früchten.

Ein Teil des Areals wurde als Gräberfeld genutzt. Auf diesem Gelände waren vor unseren Grabungen sechs Gräber aus der Ilama-Zeit und einige aus späteren Zeitabschnitten entdeckt und ausgehoben worden.

Während der nächstfolgenden Yotoco-Periode wuchsen Bäume auf dem Gelände, der Abfall häufte sich unter den Bäumen. Wenig später wurde auf dem Gelände sogar angepflanzt. Der letzte Horizont wies Sonso-Scherben auf, wovon die Mehrzahl durch Pflügen an die Oberfläche gekommen war.

3. Ausgrabung der grossen Plattform 1 (Abb. 17–25)

Die 1982 durchgeführten Ausgrabungen in der Plattform 1, der grössten des ganzen Komplexes im El Dorado-Tal ergaben, dass diese nach 1160 ± 50 n. Chr. (Beta-6819) errichtet worden war. Dieses Datum, das aus dem letzten Horizont vor der Aufschüttung des Geländes stammt, ermöglicht die Zuordnung zur Sonso-Periode (vgl. *Pro Calima* 4: 20, Abb. 14).

Während der gleichen Grabungsetappe wurde auch der Schnitt 7 am äusseren Rand der Plattform, wo einige grosse Steine aus der angehäuften Erdschicht ragten, angelegt (Abb. 18). Der Standort dieser Steine war nicht naturbedingt, sondern sie waren absichtlich dort aufgestellt worden. Zudem wiesen sie einige eigenartige – wenngleich natürliche Formen auf, die durch einzelne Retouchen noch betont worden waren. Sie waren bis zur Hälfte eingegraben und bildeten einen Halbkreis. In unmittelbarer Umgebung der Steine war eine Konzentration von Tonscherben und groben Steinen unterschiedlicher Grösse sowie von einigen bearbeiteten Steinen zu beobachten.

Im Jahre 1984 wurde die ursprüngliche Grabungsfläche erweitert in Richtung eines Absatzes, der sich am Rande der Plattform und in der Nähe der Steine befand. Die Arbeit begann damit, das durchmischte Material der Grabungskampagne von 1982 (Abb. 19) wieder auszugraben, und dabei stiess man auch auf Füllmaterial von der Tätigkeit der *Guaqueros*.

Beim Versuch, das Ausmass und die Tiefe der Störung herauszufinden, stiess man auf die Felsbrocken im Quadrat 4CD und 3CD (Abb. 20). Wahrscheinlich waren diese zur Festigung der Aufschüttung verwendet worden, und obwohl man einen Eingriff der *Guaqueros* feststellen konnte, so waren doch nicht alle Steine von ihrem ursprünglichen Standort entfernt worden (Abb. 23 und 24).

Die Quadrate im südlichen Teil der Störung waren unberührt, und an dieser Stelle war die ursprüngliche Schichtabfolge, die den verschiedenen Begehungshorizonten der Plattform entsprach, noch erkennbar (Abb. 21). Zur Interpretation war

Pedro Botero zugezogen worden. Schicht 6 war roter verwitterter Ton, aus dem auch das Aufschüttmaterial der Plattform bestand. In dieser Schicht waren die ersten Spuren der Nutzung ersichtlich. Es gab mehrere Stellen mit gebranntem Ton, was auf Feuerstellen hinzuweisen scheint (Quadrate 7E, 7B und 21B). In deren Nähe hatte es kleine unregelmässige Löcher, die mit dunkler Erde (Abb. 22 und 23) und in einigen Fällen mit Kohle gefüllt waren. In Quadrat 7E waren eindeutige Spuren von Pfosten mit einer beträchtlichen Menge an Holzkohle vorhanden. Später erfolgte eine Änderung in der Nutzung, denn die Füllung in Schicht 5 bildete den Übergang zu Schicht 4, einer dunkelbraunen, lockeren Erde. Diese bestand aus organischem Material und war möglicherweise durch Gramineen wie Mais gebildet worden. Darauf folgte eine dünne Schicht mit Aufschüttmaterial (Schicht 3), welches wahrscheinlich zur Konservierung dieses Bodens beigetragen hatte. Diese Aufschüttung hatte vielleicht dazu gedient, den Boden für die Errichtung einer zweiten Konstruktion zu verfestigen, denn im Quadrat 7E der folgenden Schicht 2 gab es eine Stelle mit kompaktem und gebranntem Ton, was wiederum auf eine Feuerstelle hinweist. Schicht 2 entsprach dem neuzeitlichen Humus. In den Quadraten ausserhalb der Aufschüttung (Schicht 3) war der Humus lockerer und dunkler und somit vergleichbar mit dem der Schicht 4 im Bereich der Aufschüttung. Die Schicht 1g zeugte von einer Störung durch die *Guaqueros*, und die Schicht 1a bestand aus dem Material, das von der Ausgrabung des Schnittes 4 im Jahre 1982 zurückgeblieben war.

Es ist schwierig, die Steininformation mit den Quadraten B1 und B4 zum Zeitpunkt der Benutzung der Plattform in einen Zusammenhang zu stellen. Einige der Steine waren von dunkelbrauner Erde umgeben. Dies könnte man dahin interpretieren, dass die Steine in einer späteren Phase der Nutzung der Siedlungsterrasse aufgestellt worden waren, als dieses Material bereits gebildet war. Wenn man dieses dunkle Material als allmähliche Ablagerung in die Lücken neben den Steinen interpretiert, würde dies

bedeuten, dass das Aufstellen der Steine in einer früheren Phase vorgenommen worden war.

Die Funktion dieser Steingruppe und die hohe Konzentration von Tonscherben und Steinartefakten, die diese umgeben, sind nicht leicht zu verstehen. Ohne die Möglichkeit ganz auszuschliessen, dass es sich um eine Abfallablagerung gehandelt hat, muss man wohl eher annehmen, dass es sich um einen Ort für rituelle Handlungen gehandelt hat, bei denen die Tongefässe eine besondere Rolle gespielt haben und vielleicht sogar absichtlich zerschlagen worden sind.

4. Bodenuntersuchungen im El Dorado-Tal

An den Hängen des Calima-Gebietes ist die Stratigraphie komprimiert, die Erosion hat Teile der Sequenz abgetragen, und die Böden sind ferner durch den Anbau verändert worden. In der Hoffnung, auf mächtigere Lagerstätten und auf eine längere Abfolge zu stossen, wurde ein Graben in einem trockenen Tal, *vaga* genannt, an einem Abhang des El Dorado-Tals freigelegt.

a) *Der vaga-Schnitt (Fig. 26, V).* Die Ausgrabung ergab die für das Gebiet übliche Abfolge, zuunterst eine Tonschicht mit darüberliegender Aschenschicht und den dunklen Böden oben (Fig. 27). Ein detailliertes Bodenprofil ist in Abb. 28 ersichtlich. Die Ton- und die Aschenschicht enthielten kein archäologisches Material. Über der Aschenschicht bildete sich ein Waldboden (Stratum 6) mit den ersten Anzeichen menschlicher Aktivität in Form von Yotoco-Scherben, Kohle und Maispollen. Danach gab es eine Periode der Erosion, gefolgt von einer weiteren Sedimentbildung, die aus Gehängelehm und Vulkanasche bestand (Strata 1–4). Das Ausmass der Vermischung, bedingt durch die Abspülung des Gehängelehms und die Wiederablagerung, war durch die überlappende vertikale Verteilung von Yotoco- und Sonso-Scherben in den oberen Schichten angezeigt.

b) *Der Schnitt geo*

Dieser Schnitt wurde am Rande eines Sees, der ehemals das Tal füllte, angelegt und war durch die graue Tonschicht, die in den Ausgrabungen von 1982 im Talboden

zum Vorschein kam, belegt. Das Profil des Grabens *geo* sowie ein Teil des Fundmaterials sind in Abb. 29 gezeigt. Stratum 1 enthielt vor allem Sonso-Tonwaren, Stratum 2 im oberen Teil Sonso-Material und im unteren Teil Yotoco-Scherben. Eine Ilama-Scherbe (Abb. 30, 21) kam ebenfalls in dieser Schicht zum Vorschein. Stratum 3 war eine Übergangsschicht zwischen braunem Boden und Seeton. Sie enthielt Yotoco-Feintonwaren und Gebrauchstonwaren. Stratum 4 bestand aus Seeton. An der Böschung wurde der Graben fleckig und gelb (d. h. er oxydierte unter Trockenbedingungen in der Nähe des Seeufers. Die fünf Bohrkernproben C1–C5, die aus tieferen Schichten des Grabens stammten, zeigten auf einen Erdrutsch unterhalb der grauen Tonschicht hin. Unter dem Erdrutsch befanden sich Böden aus rotem Ton, der sich aus dem Diabas-Felsuntergrund gebildet hatte.

c) *Ausgrabungen von Graben 1* Den Feldlinien (Fig. 21) waren in früheren Jahren (*Pro Calima* 3 und 4) Proben entnommen worden. Die Ausgrabungen von 1984 wurden so geplant, dass das Ufer des ehemaligen Sees und der Ablauf der Sedimentation im Talboden und an den Hängen zu erkennen wäre. Das aufschlussreichste Profil stammte vom Schnitt 3 (Fig. 32). Die oberen Lagen enthielten Sonso-Material (Abb. 33–36), und das Vorhandensein von Gruben und einem eventuellen Pfostenloch erlaubten den Schluss, dass das Gebiet besiedelt war. Unter dem Sonso-Horizont folgte eine Aschenschicht (Nr. 3), und unter dieser war die Seerandzone gut definiert zu erkennen durch die beiden horizontalen Übergangsschichten von 4a (einem Seeton) und 4b (gelber, oxydierter Ton, der vorwiegend in trockenen Zonen entstand).

Um die Stratigraphie von Schnitt 3 mit den Schnitten 1 und 2 der Feldlinien zu korrelieren, wurden Bohrkernproben C1–C9 in Abständen von 4 m in der Verbindungslinie zwischen den beiden Ausgrabungen (Abb. 31) entnommen. Die Befunde sind in Abb. 37 zusammengefasst und bilden die Basis für die Sedimentationsabfolge im Talboden.

Zyklus 1 begann mit der Bildung

von Böden (Stratum 2) über dem Alterit (Stratum 1), der aus dem Felsuntergrund entstand. Dann folgten wechselweise Sedimentation und Erosion. Diese Prozesse wurden durch die Blockierung des Talausgangs unterbrochen. In der Folge bildete sich ein See (See 1) im Talboden (Stratum 4). Später wurde der Taleingang blockiert, was die Austrocknung des Sees bewirkte. Es bildeten sich Sümpfe und Böden, auf denen sich Waldbäume ansiedelten (Stratum 5).

Zyklus 2 (Abb. 37, Strata 6–7). Der 2. Zyklus begann mit der Bildung eines neuen Sees (See 2) in der Talsohle (Strata 6A–6C in den Bohrkernproben). Der Ton dieses 2. Sees, der im Schnitt 3 zum Vorschein kommt, ist an vielen Orten des Tales unter den vorspanischen Feldlinien anzutreffen. Der zweite See bildete sich wahrscheinlich zwischen 25 000–20 000 Jahren vor Christus und trocknete dann ebenfalls aus. Was vorher Wasserfläche war, wurde Sumpf (Stratum 6C), und der zweite Zyklus endet mit der Ablagerung von Schwemmland, vermischt mit Asche (Stratum 7), auf dem ausgetrockneten Seebett.

Die Endphase der Sedimentation. Diese Phase war in den archäologischen Böden der meisten Schnitte, die in Talsohlen angelegt worden waren, vertreten. Zuunterst befanden sich Sumpfablagerungen (Stratum 8 in C1–C3), gefolgt von Feldbauböden aus der Yotoco-Zeit, Böden aus der Sonso- und nachspanischen Zeit (Stratum 10 und 11).

5. Das Problem der Feldlinien

An mehreren Stellen mit Feldmarkierungen (Abb. 39) wurden Probe-schnitte angelegt (Fig. 41, 45) und Boden- und Pollenproben entnommen sowie die Durchlässigkeit des Bodens gemessen (Abb. 42). Maispollen konnten in allen archäologischen Böden nachgewiesen werden.

Feldlinien waren sowohl an steilen wie sanften Abhängen vorhanden. Ebenso waren die Feldlinien auf gut und schlecht drainierten Tonböden anzutreffen wie z. B. in Loma Larga und Ceilán. Die Drainage des Bodens ist deshalb keine ausreichende Erklärung für die Errichtung dieser Kanäle. In Ceilán und Altamira wurde der Versuch unter-

nommen, diese Feldlinien zu datieren.

a. Hacienda Ceilán Fig. 43–46

Ein Graben wurde durch eine kleine Hausplattform aus der Sonso-Zeit gelegt. Holzkohle aus dem primären Aufschüttmaterial des Entwässerungskanals nahe der rückseitigen Böschung der Terrasse lieferte ein Datum von 1520 ± 120 n. Chr. (Beta-11805). Der Graben wurde dann so erweitert, dass er eine Feldlinie in der Nähe der Plattform schnitt. Eine Scherbe aus dem Aufschüttmaterial dieses Kanals gab ein Thermolumineszenzdatum von 1440 ± 70 n. Chr. Hausplattform und Kanal sind also aus der Sonso-Zeit.

b. Hacienda Altamira (Abb. 47–50)

Bei der Rekognoszierung dieser Örtlichkeiten stiess man auf zwei Petroglyphen und eine Gruppe von Feldlinien, wobei es schien, dass einer der Kanäle eine Siedlungsterrasse schnitt oder von ihr geschnitten wurde. Wegen der Störungen konnte der Kanal unterhalb der Siedlungsterrasse nicht genau definiert werden, aber der Siedlungsplatz produzierte einige typische Yotoco-Scherben. Maispollen waren ebenfalls vorhanden. Die Ausgrabung selbst ergab keine Hinweise, dass der Kanal die Bodenoberfläche der Terrasse schnitt, was den Schluss zulässt, dass der Kanal (falls er an dieser Stelle vorhanden war) beim Bau der Plattform zerstört worden war. In diesem Fall wäre der Kanal mit Vorbehalten ebenfalls der Yotoco-Zeit zuzuschreiben.

6. Die Grabungskampagne von 1987

Diese war der Ausgrabung von zwei Freilandplätzen in Sauzalito und El Recreo im Municipio Darién gewidmet. Bei beiden Fundplätzen lag die Kulturschicht im oberen Teil der Vulkanaschenschicht und unter den Böden, die Yotoco- und Sonso-Tonwaren bargen. Für Sauzalito erhielten wir drei C^{14} -Daten: 7720 ± 150 v. Chr. (Beta 23476), 7650 ± 110 v. Chr. (Beta 23475) und 7350 ± 100 v. Chr. (Beta 18441) und für El Recreo die folgenden zwei: 6030 ± 120 v. Chr. (Beta-26019) und 5880 ± 140 v. Chr. (Beta-26020). Der Fund von Werkzeugen, einer Art Hacke, stellt den Bezug zum ältesten Horizont in El Pital her, der von Hector Salgado 1986 ausgegraben worden war und mit 5350 ± 140 v. Chr. datiert wurde.

Karbonisierte pflanzliche Überreste aus der Calima-Region im Cauca-Tal, Kolumbien

Von Lawrence Kaplan und C. Earle Smith Jr.

Verkohlte pflanzliche Überreste wurden in Ausgrabungen von El Topacio (Ilama-Zeit), von der Hacienda San Rafael (eine Hausplattform aus der Yotoco-Zeit), in der Plattform 1 von El Dorado (aus der Sonso-Zeit), von Cabo de la Vela in Jiguales (Yotoco- und Sonso-Zeit) geborgen. Meist handelte es sich bei den Funden um Maiskörner und die gemeine Bohne (*Phaseolus vulgaris*).

Der Mais von El Topacio ist wahrscheinlich ein Vorläufer des Chapalote/Nal Tel/Pollo Komplexes. In San Rafael sind die Mehrheit der Körner der Abstammungslinie von Chapalote/Tel Nal/Pollo zuzuweisen, obwohl einige grössere Körner darauf hinweisen, dass die Entwicklung in Richtung der modernen Varietät geht, die in Kolumbien *cabuya* genannt wird. Der Mais von Jiguales lässt sich in zwei Gruppen einteilen, wobei der Chapalote/Nal Tel/Pollo Komplex mit der Mehrheit der Maiskörner vertreten ist und nur drei grössere Körner in Richtung der Varietät *cabuya* weisen.

Die Bohnen aus der Yotoco-Zeit, die von der Hda. San Rafael stammen, sind die ersten archäologischen Exemplare in Kolumbien, die analysiert wurden. Trotz der Variabilität der Grösse scheint nur eine einzige Varietät vorhanden zu sein. Die besten Vergleichsmöglichkeiten für die Bohnen kommen vom Fundort Huacaloma in Cajamarca, in den nördlichen Anden von Peru. Sowohl die Exemplare von Huacaloma wie die Bohnen von San Rafael sind kleiner als die *porotos* aus den zentralen und südlichen Anden, was die Frage aufwirft, ob die *Phaseolus vulgaris* eine unabhängige Züchtung der nördlichen Anden ist. Nicht ganz gesichert ist die Identifizierung eines Samenkorns der angebauten essbaren Lupine (*Lupinus mutabilis*) von San Rafael und eines

zerbrochenen Achiote-Samenkorns (*Bixa orellana*) von El Topacio.

Mineralbestands-Analyse von Ilama Tonwaren

Von F.E.S. Roe

Dünnschliffe von zwanzig Ilama-Tonscherben wurden unter einem Mikroskop untersucht und konnten so in zwei Gruppen unterschieden werden. Die *feinkörnige Tonalit*-Gruppe enthielt Gesteinspulver, während die *Ilama-Feinkeramik* wenig feinkörniges Gestein und zudem noch eisenhaltiges Material aufwies.

Die Analyse einer neuen, ohne Magerung hergestellten Scherbe aus Ton, der aus dem El Dorado-Tal stammte, ergab einen Anteil von 75.2% Ton, 19.9% Quarz und Feldspat und 4.9% Eisen.

Die fünf Scherben, die zur Tonalit-Gruppe gehören, enthielten im Durchschnitt 53.35% Ton, 38.5% Quarz und Feldspat und 3.02% Eisen. Das Gefüge war ziemlich grob und wies unterschiedliche Anteile Tonalit auf. Vergleiche mit der selbstgemachten Scherbe lassen den Schluss zu, dass dem Ton Gesteinspulver als Magerung beigemischt worden war.

Die fünfzehn Scherben, die zur Gruppe der *Ilama-Feinkeramik* gehören, enthielten im Mittel 62.13% Ton, 20.33% Quarz und Feldspat und 10.42% Eisen. Deren Gefüge war feiner als die der *feinkörnigen Tonalit*-Gruppe und enthielt wenig grössere Körner, während Gesteinsfragmente nur 1.612% des Ganzen ausmachten. Als Magerung wurde diesen Scherben wenig Eisenoxyd beigemischt.

Herkunftsorte für beide Gruppen sind die Tonalit-Vorkommen in der Gegend von Restrepo. Das Lager El Tambor, südöstlich von Restrepo, ist die Hauptquelle. Bodenarten können ebenfalls eine Rolle spielen. Die Parnaso-Serie (Serie 200), die vulkanischen Ursprungs ist, enthält bekanntlich kleine Eisenpartikel. Einige der in den Tonwaren vorhandenen Mineralien können auch von der Vulkanasche stammen,

die in vielen Teilen des Untersuchungsgebiets vorkommt.

Es ist nicht immer leicht, die beiden Gruppen mit blossen Auge oder einer Lupe auseinanderzuhalten, doch in geschliffenen Scherben sind die Einschlüsse gut erkennbar. Es scheint, dass sowohl gemahlener Tonalit und Eisenpartikel dem Ton beigemischt worden sind, aber zwischen den beiden Kategorien von Strukturen konnte kein chronologischer Unterschied festgestellt werden.

Archäologische Untersuchungen im Pavas-La Cumbre-Gebiet

Von Theres Gähwiler-Walder

1. Einleitung

Das Pavas-La Cumbre-Gebiet hebt sich von den benachbarten Gebieten durch das Vorkommen der Urnenbestattung ab. In Weiterführung der 1981 begonnenen Arbeiten ging es nun darum, diesen Ritus geographisch genauer zu definieren und in einen Zusammenhang zu den Nachbargebieten, vor allem dem Calima-Gebiet, zu stellen. Es zeigte sich, dass die Verbreitung der sekundären Bestattung hauptsächlich auf das Municipio La Cumbre beschränkt ist und keine Überlappung mit dem Calima-Gebiet besteht (Abb. 52). Es handelt sich um zwei voneinander unabhängige Zonen mit verschiedener kultureller Entwicklung. Ob das unwirtliche Gebiet zwischen Pavas und Restrepo, Quebrada Seca genannt, mit einem sehr trockenen Klima als geographische Schranke gewirkt hat und die Kontakte zwischen den beiden Gebieten erschwert hat, bleibt Hypothese. Engere Beziehungen scheinen zum Cauca-Tal bestanden zu haben.

2. Bestattungssitten

Wie sich herausstellte, ist die sekundäre Bestattung in Urnen zwar dominant, daneben existieren aber auch verschiedene Arten von Primärbestattungen, deren Einordnung wegen mangelnder Datierungsmöglichkeit noch nicht klar erfolgt ist.

2.1 Urnenbestattungen (Abb. 54–66)

La Amapola T1, T2, T5 in La Cumbre und La Bolivia T1 in Cordobitas sind für das Pavas-Gebiet typische Grabanlagen (Abb. 54, 60 und 61). Der runde oder viereckige Schacht ging in eine Tiefe von 4 bis 5 m. Meist gegen Westen hin öffnete sich eine Grabkammer, die eine Urne und in einigen Fällen noch ein kleineres Gefäss als Beigabe enthielt (Abb. 61). Bei La Bolivia T1 war der Eingang zur Seitenkammer mit Pfosten verriegelt. Fasern der vermordneten Holzpfosten konnten nachgewiesen werden. Je nach Erhaltungszustand des Urneninhalts waren anthropologische Untersuchungen möglich. In T1 und T5 fanden sich Bündel von Textilfragmenten (Abb. 55), in denen Knochen eingewickelt waren.

La Amapola T4, La Cumbre, war insofern bemerkenswert, als der Schacht einen pentagonalen Grundriss aufwies (Abb. 56). Auch waren gewisse Parallelen mit dem benachbarten Rancho Grande-Grab, wie z. B. die in halber Tiefe angelegte, nach Osten ausgerichtete Nische, nicht zu übersehen. Die Nische enthielt in beiden Fällen ein Gefäss mit Deckel (Abb. 57). In 3.80 m Tiefe öffnete sich eine Seitenkammer, die gegen Westen ausgerichtet war und eine Urne enthielt. Einige darin enthaltene Knochen wiesen eigenartige Kratzspuren auf (Abb. 59).

Besondere Erwähnung verdient der Rancho Grande Grabkomplex, der durch eine Raubgrabung entdeckt worden war. Zwei Schächte führten zu einer Kammer, die eine anthropomorphe Figur im Tierradentro Stil (Abb. 63 und 64) aufwies. Ursprünglich handelte es sich wohl um zwei unabhängige Grabanlagen. Der zweite runde Schacht war nachträglich ausgehoben worden und wie bei La Amapola T4 mit einer Nische in 2.50 m Tiefe ausgestattet, die ein kleines urnenförmiges Gefäss enthielt. In der Tiefe von 3.95 m traf man bei der Errichtung der Kammer auf die schon existierende Grabanlage mit der Figur. Um dieses Grab nicht zu stören, wurde das Loch mit Steinen und Erdblocken wieder vermacht und die Urne im Schacht deponiert (Abb. 62). Eine C^{14} -Bestimmung aus Knochenmaterial der grossen Urne ergab eine

Datierung um 1060 ± 70 n. Chr. (B-4031). Nach unserer Interpretation würde dies bedeuten, dass das Grab mit der Figur zu einem früheren Zeitpunkt errichtet worden war. Für die Tierradentro Region existieren nur zwei Daten, die zum Vergleich herangezogen werden können. Das erste stammt von einer primären Bestattung Santa Rosa mit einem Datum von 630 n. Chr. (Chaves und Puerta 1980:73). Das zweite Datum vom Grab A-3, Loma del Aguacate ist von 850 ± 200 n. Chr. (Chaves und Puerta 1986:121). Die Rancho Grande-Grabanlage fügt sich sehr gut in diesen Zeitraum ein.

2.2 Erdbestattungen (Abb. 67–69)

Neben den sekundären Urnenbestattungen sind wir auch auf Skelettbestattungen vom Typus Schachtgräber mit Seitenkammern gestossen. Die Seitenkammern sowohl von Matadero T1 und Amapola T3 in La Cumbre waren eingestürzt (Abb. 67) und enthielten keine Beigaben. Beide Gräber wiesen auf halber Tiefe des Schachtes längliche, nicht sehr tiefe Nischen auf.

Im Laufe der Ausgrabungen kam ein weiterer Typus von Erdbestattung vor: La Purilia und La Escocia in La Cumbre. Es handelte sich um ca. 2.50 m tiefe Gräber mit unregelmässigem, ovalem Schachtgrundriss. In 2.00 m Tiefe machte sich ein Absatz im Boden bemerkbar, der eine längliche rechteckige, sargartige Form annahm (Abb. 68 und 69). Beide Gräber waren beigabenlos, abgesehen von einigen Scherben und ein paar Kohleresten, die für das Grab Purilia T1 ein Datum von 530 ± 70 n. Chr. (B-4679) lieferten.

3. Siedlungsplätze (Abb. 70–72)

Die Gegend von La Cumbre ist reich an vorkolumbischen Siedlungstrassen, die im heutigen Landschaftsbild gut erkennbar sind. Ausgrabungen wurden auf einer Plattform in der Hacienda La Amapola (Abb. 53 und 70) ausgeführt, die nahe bei einem Gräberfeld lag, das typische Pavasurnen enthielt. Ein Graben von 13.90 m Länge und 90 cm Breite in Richtung Ost-West wurde freigelegt und in 10 cm Niveaus ausgegraben und die Funde kartiert (Abb. 71). Die Kulturschicht

Konzentration von Artefakten war am vorderen östlichen Rand zu bemerken, dort, wo die Plattform abfiel. Im Fundmaterial war der Anteil der Steinartefakte grösser als der der Keramik. Die Keramikscherben enthielten wenig typisches Material. Das ganze Material kann dem späten Zeithorizont zugeordnet werden. Ein C^{14} -Datum aus 40 cm Tiefe ergab ein Datum von 1390 ± 50 n. Chr. (B-4684). Das Profil der Wände liess keinen Eingriff in das Gelände zwecks Einebnung und Vergrösserung der Bodenoberfläche erkennen (Abb. 71).

4. Gruben (Abb. 73–74)

Die Grube im Matadero, La Cumbre, hatte einen unregelmässigen Grundriss (Abb. 73). In 70–80 cm Tiefe zeichnete sich eine taschenförmige Erweiterung nach Westen ab. Die Kulturschicht erreichte eine Gesamttiefe von 120 cm. Die typischen Scherben liessen sich vor allem in zwei Kategorien einteilen: eine dickwandige Art, wie sie in Pavasurnen verwendet wird und eine dünnwandige, feine Keramik, wie sie bei den Deckeln und Beigabengefässen in den Gräbern anzutreffen ist. Zum Teil waren die Scherben mit Verzierungen versehen (Abb. 74), die stilistisch dem Sonso-Material verwandt sind. Keine Kohlereste waren zu finden.

5. Zur Chronologie

Die C^{14} -Listen zeigen, dass die Urnenbestattungen über einen grossen Zeitraum gewährt haben (Abb. 75). Das erste und das letzte Datum sind allerdings mit Vorsicht aufzunehmen. Das Knochenmaterial, anhand dessen die C^{14} -Bestimmungen vorgenommen wurden, stammt nicht aus eigenen Ausgrabungen. Zudem ist es unwahrscheinlich, dass identische Form und Dekoration über eine derart weite Zeitspanne unverändert bestanden haben. Der Grossteil der Daten fällt in einen Zeitraum, der im Calima-Gebiet dem Ende der Yotoco-Periode entspricht, obwohl die stilistischen Züge eher in Richtung Sonso weisen. Yotoco und Pavas scheinen unabhängige, regionale, gleichzeitige Stilrichtungen zu sein, die sich in Bezug auf ihre geografische Verbreitung gegenseitig ausschliessen. Pavasurnen sind weit-

gehend unbekannt in Calima, während im Pavas-Gebiet fast keine Yotoco-Funde vorkommen. Es gibt noch andere Hinweise, die diese Hypothese stützen. Mit Yotoco werden Goldfunde assoziiert, die in allen Museen vertreten sind, während das Pavas-Gebiet fast keine Goldfunde vorzuweisen hat.

Einzig aus Bitaco sind uns Yotoco-Grabkomplexe bekannt, und es existieren sogar wenige Llama-Belege in Lesefunden. Bitaco scheint in einer Zone zu liegen, wo Einflüsse aus Calima und Pavas wirksam sind.

Weitere Ähnlichkeiten bestehen mit Fundkomplexen aus dem Cauca-Tal. In vielen Grabanlagen finden sich neben den Urnen im Grabinventar kleinere Gefässe, die ebenfalls die dekorativen Elemente wie Dreieckseindrücke, Negativmalerei, Ritzmuster, aufgesetzte Schnüre aufweisen, die die Sonso-Tradition in einem weiten Umfeld des Cauca-Tales charakterisieren und ebenfalls in den Zeitraum vom 8.–12. Jh. n. Chr. datiert sind (Salgado 1986:116 und Rodríguez 1984:106).

Bestimmte Urnenformen können nicht – oder noch nicht – bestimmten Zeithorizonten oder geografischen Örtlichkeiten zugewiesen werden. Die Urnen zeigen einen Variantenreichtum, der von den charakteristischen subglobularen über birnenförmige zu zylindrischen Gefässformen reicht. Leider verfügen wir bisher nur über ein einziges Datum für die Erdbestattungen, das relativ früh ist mit 530 ± 70 n. Chr. (B-4679). Für die Art der Bestattung wie Purilia sind keine vergleichbaren Daten aus dem Calima-Gebiet vorhanden.

Die Daten der Siedlungsplätze fallen in einen einzigen Zeithorizont und lassen keine Kulturabfolge erkennen.

Ausgrabungen von vorspanischen Siedlungsterrassen in Jiguales, Calima (1. Grabungskampagne)

Von Carlos A. Rodríguez und Vladimir Bashilov

Gemeinsame Ausgrabungen von Archäologen des Instituto Vallecaucano de Investigaciones Científicas (Cali, Colombia) und des Instituts für Archäologie der Russischen Akademie der Wissenschaften (Moskau) wurden im Jahre 1983 in «Cabo de la Vela» durchgeführt. Diese vorspanische Siedlung lag an einer zentralen Stelle im kleinen Tal von Jiguales, einem Seitental des Calima-Flusses. Die Siedlung bestand aus 24 Plattformen (*tambos*), die an den Abhängen und auf dem Hochplateau des Hügels zum Bauen von Häusern angelegt worden waren. An den Abhängen waren Bewässerungskanäle und Feldlinien erkennbar und im unteren Teil des Hügels befand sich ein Gräberfeld (Abb. 76 und 77).

Die Ausgrabungen im unteren Teil des nordöstlichen Abhangs umfassten eine Fläche von 106 m², was die beiden künstlich angelegten Siedlungsterrassen Tambo 4 und 4a einschloss (Abb. 78 und 79). Drei Schachtgräber mit Seitenkammern, die zur Sonso-Kultur gehörten, wurden ebenfalls in die Grabungen einbezogen. Durch die Ausgrabungen erhielt man Aufschluss über die ursprüngliche Begehungsfläche der Siedlungsterrasse. Im weiteren fand man Steine, die zum Fixieren der Kochtöpfe dienten, Vorratsgruben und Pfostenlöcher der Häuser. Zudem ergab sich ein repräsentatives Muster von Keramik und Steinartefakten aus verschiedenen Kulturabschnitten.

Die Keramikfunde von der ursprünglichen Begehungsfläche der Siedlungsterrasse 4a gehörten zum Yotoco-Horizont (Abb. 80). Ausserdem lieferte eine C¹⁴-Probe ein Datum von 1020 ± 70 n. Chr. (Beta-16334). Demnach waren Bau und Besiedlung des Tambo 4a gegen Ende der Yotoco-Periode erfolgt. Die Analyse der Keramik der

Plattform 4 und ein C¹⁴-Datum von 1550 ± 70 n. Chr. (Beta-16333) zeigten, dass gegen Mitte des 16. Jh., d. h. in der Schlussphase der Sonso-Periode, kleine Gruppen von künstlich angelegten Siedlungsterrassen immer noch benutzt wurden.

Archäologische Untersuchungen in vorspanischen Siedlungsplätzen in der Calima-Region (2. Grabungskampagne)

Von Héctor Salgado López

In diesem Artikel werden die Ergebnisse der zweiten Grabungsetappe in einer vorspanischen Siedlung im Calima-Gebiet vorgestellt. Die Ausgrabungen von 1984 und 1985 wurden vom Instituto Vallecaucano de Investigaciones Científicas (INCIVA) finanziell unterstützt.

Im höchstgelegenen Teil des Hanges wurde eine Fläche von 227 m² in einem Siedlungsplatz freigelegt (Abb. 76). Am Ende der Grabungsarbeiten hatte man Aufschluss erhalten über die ursprünglichen Begehungsflächen, Keramik und Steinartefakte sowie Steine, die zum Fixieren von Töpfen gebraucht wurden. Zudem waren unregelmässige Flecken von verbrannter Erde, Feuerstellen mit verkohlten Maiskörnern und Bohnen, Vorratsgruben für Lebensmittel und Pfostenlöcher ersichtlich. In diesem Kontext befand sich auch eine Grabstätte. Alle diese Befunde erlaubten es, vier Hausgrundrisse zu rekonstruieren, wobei drei der Sonso-Periode und einer der Yotoco-Periode zugeordnet werden konnten (Abb. 81–86).

Zwei der Konstruktionen aus der Sonso-Zeit hatten einen unregelmässigen runden Grundriss (V-1 und V-4) und eine kleine Grundfläche (Abb. 83). Die Siedlungsterrasse 2 (V-2) hatte einen rechteckigen Grundriss, wurde aber nur teilweise ausgegraben (Abb. 82 und 83). Die Kohlenstoffproben, die von Pfostenlöchern dieser Siedlungsterrasse stammen, ergaben ein Datum von 650 ± 80 n. Chr. (Beta-16945).

Die Konstruktion von grösserem Ausmass gehörte ebenfalls in die Sonso-Zeit (V-3). Sie besass den ovalen Grundriss einer grossen Hütte (Abb. 82 und 83). Die Holzkohle stammt von der hinteren abfallenden Wand (Zone B4, B5 und B6) und erlaubte es, die Anfänge der Anlage zwischen das 3. und 9. Jh. n. Chr. (860 ± 60, Beta-16946) zu datieren.

Die Siedlungsterrasse (V-5), die in die Yotoco-Zeit datiert wurde, war klein und besass einen unregelmässigen runden Grundriss (Abb. 81 und 83). Am Rand der Plattform befand sich ein Grab, das allerdings schon ausgeraubt worden war (Abb. 85,4). Mitten in der Plattform war eine tiefe Grube von 1.68 m zu sehen, die vielleicht dazu gedient hatte, Vorräte zu speichern (Abb. 85,1). Kohle aus dieser Grube ergab ein Datum von 370 ± 60 n. Chr. (Beta-16947). Die Grube und vielleicht auch die Plattform wurden also im 4. Jh. errichtet und konnten folglich der frühen Yotoco-Periode zugeordnet werden.

Die Gesamtheit der Befunde liess den Schluss zu, dass diese Plattformen sowohl im oberen Teil des Areals wie an den Abhängen Wohnzwecken dienten, doch hatten nicht alle die gleiche Funktion, wie dies die Yotoco-Hütte (V-5) und die kleine Sonso-Plattform (V-4) zeigten. Diese beiden letztgenannten wurden angelegt, um die Gruben zu decken, wo Vorräte gelagert wurden. Die restlichen Plattformen waren Wohn- und Schlafstätten, wie die Ausmasse, die Feuerstellen mit Holzkohle, die Körner, die verbrannte Erde, die Scherben und die Steinartefakte vermuten lassen.

Die Untersuchungen gaben auch Aufschluss über die Art der Siedlung während der Yotoco- und Sonso-Periode. Vorherrschend waren Gruppen von wenigen Plattformen. Sie waren meist auf künstlich angelegten Plattformen oder auf ebenen Partien errichtet, die nahe von Feldlinien oder Bewässerungskanälen gelegen waren (Abb. 76 und 77). Was die Bestattungssitte betrifft, stellte man fest, dass es in beiden Kulturen üblich war, die Gräber in den Wohnzonen selbst oder nahe der Siedlung anzulegen.

Das Siedlungsmuster und die Behausungsart, die in Jiguales untersucht worden waren, gleichen denjenigen in andern Gegenden wie

Tierradentro, San Agustín und Nariño, sofern sie zeitlich in etwa die gleiche Zeit wie Yotoco und Sonso fallen.

Zusammenfassend kann man feststellen, dass die Besiedlung des *Cabo de la Vela* hauptsächlich in der Yotoco- und Sonso-Zeit erfolgt ist. Doch das Vorkommen von einigen wenigen Ilima-Tonscherben lässt vermuten, dass es in irgendeinem Zeitabschnitt im oberen Teil des Hügels auch eine Besiedlung während der früheren Ilima-Periode gegeben hat. Die C^{14} -Daten zeigen, dass der Hügel mit Unterbrüchen vom vierten Jahrhundert bis zur Ankunft der Spanier im 16. Jh. von Yotoco- und Sonso-Leuten besiedelt war.

Résumé

Rapport sur la campagne de fouilles de 1984 dans la région de Calima

Par Warwick Bray, Leonor Herrera et Marianne Cardale Schrimpf

1. Introduction

La saison 1984 sur le terrain comprit une brève prospection au printemps et une fouille principale pendant les mois de juillet à septembre. Les trois buts principaux étaient les suivants:

1) La fouille du site d'El Topacio qui venait d'être découvert, 2) l'achèvement des travaux sur la grande plate-forme dans la vallée d'El Dorado et 3) une nouvelle tentative d'éclaircir le problème des lignes agraires ainsi que l'étude de la sédimentation dans la vallée de l'El Dorado.

Chaque année nous documentons et photographions également un certain nombre d'objets qui ne proviennent pas de nos propres fouilles (voir le frontispice).

2. Le site d'El Topacio

Les travaux de recherche mentionnés dans *Pro Calima 3* ont pu être intensifiés grâce à l'aide financière de la Fundación de Investigaciones Arqueológicas Nacionales del Banco de la República. Les fouilles entreprises en 1984 se sont concentrées sur le site d'El Topacio, un site Ilima près de Darién (fig. 2). Le lieu des fouilles se trouve sur un éperon avec vue sur la rivière Calima, à l'endroit où elle débouche dans une large vallée. Aujourd'hui, une grande partie de cette vallée est submergée par les eaux d'un lac artificiel dû à la construction récente d'un barrage. A l'époque Ilima, El Topacio se trouvait probablement au bord d'un grand marais.

Un article paru dernièrement dans le *Boletín de Arqueología* (Fundación de Investigaciones Arqueológicas Nacionales del Banco de la República, año 1, no. 3, 1986) était consacré aux résultats provisoires des travaux. Les dates du radiocarbone pour le premier et le dernier horizon de la culture Ilima permettent de

conclure que l'habitat d'El Topacio avait persisté du neuvième au premier siècle av. J.-C. (fig. 5).

Les premiers habitants Ilima ont agrandi et aplani le lieu de l'habitat en formant deux terrasses en gradins dans la partie arrière du site. Trois foyers ont été découverts et il était possible de reconnaître, malgré l'absence de traces de poteaux, un secteur de couleur sombre comprenant une grande quantité de carbone et d'autre matériel, entouré d'une zone glaiseuse et très piétinée. Ces données pourraient indiquer qu'il s'agissait d'une aire protégée par un toit, entourée d'une aire de travail. Les outils de pierre étaient en général assez grossiers, à l'exception des petits artefacts de silex soigneusement travaillés qui pouvaient avoir servi de perçoirs. Parmi les céramiques trouvées, les pots sont les plus fréquents; des tessons de récipients à double bec, des coupes ainsi qu'une assiette ont également été découverts. La majeure partie des tessons ne portait pas de décor, seuls quelques-uns possédaient des traces de couleur ou des motifs gravés. Les fragments gravés ont été trouvés surtout dans l'horizon supérieur. Les différentes couches contenaient en outre de nombreuses graines qui ont presque toutes été identifiées comme précurseurs de la variété de maïs Nal/Tel/Chapalote. Il n'y avait pas de pollen, mais l'analyse des phytolithes a permis de déterminer la présence de courges et de «sagú» (*Maranta arundinacea*), de même que celle de plusieurs sortes de palmiers dont quelques-uns portant des fruits comestibles.

Une partie du site avait été utilisée comme cimetière. Six tombes appartenant à la culture Ilima ainsi que quelques autres tombes datant d'époques ultérieures ont été découvertes et mises à jour dans ce secteur avant que nous n'entamions nos fouilles. Pendant la période suivante de la culture Yotoco, l'aire était plantée d'arbres sous lesquels les débris se sont accumulés. Un peu plus tard, des cultures ont été établies dans ces lieux. Le dernier horizon comprend des fragments datant de l'époque Sonso dont la plupart sont apparus à la surface à la suite de travaux de labourage.

3. Fouilles dans la plate-forme 1 de l'Hacienda El Dorado (fig. 17-25)

Les fouilles faites en 1982 dans la plate-forme 1, la plus grande de tout le complexe de la vallée d'El Dorado, ont montré que celle-ci a été établie après 1160 ± 50 apr. J. C. (Beta 6819). Cette date correspond au dernier horizon précédant le remblaiement du site; elle permet d'attribuer l'établissement de ladite plate-forme à la période Sonso (cf. *Pro Calima* 4:20, fig. 14).

La coupe 7 a été effectuée pendant la même étape des fouilles, à l'extrémité de la plate-forme, à l'endroit où quelques grosses pierres sortaient des couches de terre amassée (fig. 18). Ces pierres, allochtones, ont été apportées par l'Homme. De plus, elles se caractérisaient par des formes bizarres quoique naturelles, accentuées par quelques retouches. Elles étaient à demi enterrées et formaient un demi-cercle. Une accumulation de tessons, de pierres grossières de grandeur variable et de pierres travaillées a été découverte à proximité de l'endroit décrit.

En 1984, la surface initiale des fouilles a été prolongée en direction d'un éperon situé au bord de la plate-forme près du demi-cercle de pierres. Les premiers travaux consistaient à redéterrer le matériel mélangé provenant des fouilles effectuées en 1982 (fig. 19); d'autres remblais dus à l'activité des *Guaqueros* ont alors été trouvés. En essayant de déterminer l'étendue et la profondeur de la zone perturbée, on découvrit des blocs de roche dans les carrés 4CD et 3CD (fig. 20). Ces blocs avaient probablement servi à stabiliser le remblai. Toutefois, ils n'avaient pas tous été déplacés lors de l'intervention des *Guaqueros* (fig. 23 et 24).

Les carrés dans la partie sud de la zone perturbée étaient en place et il a été possible d'établir une stratigraphie; les couches correspondent aux diverses occupations de la plate-forme (fig. 21). Pedro Botero a été consulté en vue de leur interprétation. La couche 6 se compose d'argile rouge intempérisée qui constitue également le matériel de remblai de la plate-forme. Les premières traces d'occupation sont apparues dans cette couche. De

l'argile brûlée, indice de la présence de foyers, a été trouvée à plusieurs endroits (carrés 7E, 7B et 21B). A proximité, il y avait de petits trous irréguliers remplis de terre foncée (fig. 22 et 23) et parfois de charbon. Des traces évidentes de poteaux avec une quantité considérable de charbon de bois ont été découvertes dans le carré 7E. Plus tard, on assiste à un changement d'activités: le remplissage de la couche 5 forme une transition à la couche 4, de terre meuble brun foncé. Celle-ci est formée de matières organiques peut-être dues à la présence de graminées telles que le Maïs. Vient ensuite une couche mince comprenant du matériel de remblai (couche 3), qui a contribué probablement à la conservation de ce sol. Ce remblai avait peut-être servi à renforcer le sol en vue de l'établissement d'une seconde construction. Dans la couche 2 du carré 7E, une lentille d'argile compacte brûlée pourrait de nouveau indiquer un foyer. La couche 2 correspond à l'humus actuel. Dans les carrés en dehors du remblai (couche 3), l'humus est plus meuble et foncé, il est donc comparable à celui de la couche 4 dans la zone du remblai. La couche 1g témoigne d'une perturbation due aux *Guaqueros*; la couche 1a se compose du déblai dû aux fouilles de la coupe 4, effectuées en 1982.

Il est difficile d'établir une relation entre la formation de pierres et les carrés B1 et B4 au moment de l'utilisation de la plate-forme. Quelques-unes des pierres étaient entourées de terre brun foncé. Ce fait suggère que les pierres ont été placées à cet endroit au cours d'une phase plus tardive de la terrasse d'habitation, alors que la couche correspondant à ce matériel s'était déjà formée. Si l'on admet toutefois que ce matériel s'est déposé peu à peu dans les interstices entre les pierres, on devrait conclure que les pierres ont été mises en place au cours d'une période antérieure.

Il n'est pas facile de comprendre la fonction de cette formation de pierres ainsi que l'accumulation de tessons et d'artéfacts lithiques qui l'entourent. Sans exclure complètement la possibilité d'un dépôt détritique, il faut admettre plutôt qu'il s'agissait d'un lieu culturel, où les vases en terre cuite jouaient un

rôle important et étaient peut-être même cassés intentionnellement.

4. Etudes pédologiques de la vallée d'El Dorado

Sur les pentes de la région de Calima, la stratigraphie était compressée, l'érosion a amputé les séquences et de plus, les sols ont été perturbés par l'agriculture. Dans l'espoir de trouver des dépôts plus épais et une séquence plus détaillée, une tranchée a été creusée dans une vallée sèche (ou «vaga») sur les pentes de la vallée d'El Dorado.

a. La «tranchée vaga» (fig. 26, V)

Cette fouille a mis au jour les trois unités habituelles (argile, recouverte par une couche cendreuse, à laquelle succèdent des sols de couleur sombre) (fig. 27). Une stratigraphie détaillée peut être consultée en fig. 28.

L'argile et la couche cendreuse ne contenaient aucun matériel archéologique. Au sommet de cette dernière s'est développé un sol forestier (couche 6), contenant les premiers signes de présence humaine, sous forme de poteries Yotoco, de charbons et de pollen de Maïs. Cette séquence fut suivie par une phase d'érosion (couche 5), puis d'une période de sédimentation, surtout de matériaux détritiques et de cendres volcaniques (couches 1-4). Les mélanges de couches dus aux successions de dégradations et d'agradations sont illustrés par les recoupements de distribution verticale des tessons Yotoco et Sonso dans la couche supérieure.

b. La tranchée «geo»

Cette tranchée (fig. 26, G) se trouvait juste au-delà du bord du lac qui remplissait autrefois la vallée, représenté par une couche d'argile grise trouvée dans nos tranchées de 1982, pratiquées dans le fond de la vallée. La stratigraphie de la tranchée «geo» se trouve en fig. 29 et une sélection des trouvailles en fig. 30. Le sol couvrant (couche 1) a surtout livré des poteries Sonso. La couche 2 contient du matériel Sonso dans sa partie supérieure et des tessons Yotoco en bas. Un tesson Ilima, redéposé (fig. 30, 21), provient également de cette couche. La couche 3 forme la transition entre le sol brun et l'argile lacustre; elle contenait des poteries fines Yotoco

et des objets domestiques. La couche 4 est l'argile lacustre. Du côté amont de la tranchée, celle-ci jaunit et devient plus meuble (c'est-à-dire qu'elle s'est oxydée au contact de l'air à proximité du rivage). Cinq carottages, C1–C5, pratiqués au fond de la tranchée ont mis en évidence un ancien glissement de terrain au-dessous de l'argile grise. Au-dessous s'étendent des sols formés sur l'argile rouge dérivée de la roche-mère diabasique.

c. Fouilles sur le site du fossé 1

Les fossés agraires (fig. 31) ont été examinés lors des campagnes précédentes *Por Calima* 3 et 4). Les fouilles de 1984 visaient à localiser la marge de l'ancien lac et à étudier la sédimentation au fond de la vallée et sur les pentes. La stratigraphie décisive provient de la tranchée 3 (fig. 32). Les sols supérieurs contenaient du matériel Sonso (fig. 33–36) et la présence de fosses ainsi que celle d'au moins un trou de poteau suggèrent que l'endroit était habité. Au-dessous des dépôts Sonso se trouvait une couche cendreuse (No 3), surmontant le bord de l'ancien lac, bien marqué par la transition horizontale entre 4a (une argile lacustre) et 4b (argile jaune oxydée, formée surtout en milieu sec). Afin de corréler la stratigraphie de la tranchée 3 avec celle des fouilles des fossés (tranchées 1 et 2), les carottages C1–C9 ont été effectués à 4 m d'intervalle le long d'une ligne entre ces deux zones (fig. 31). Les données de ces prélèvements sont résumées en fig. 37 et fournissent la base d'une esquisse historique de la sédimentation au fond de la vallée.

Le cycle 1 commence par la formation de sols (couche 2) au sommet de l'altérite (couche 1) dérivée de la roche-mère. Ensuite suivirent divers épisodes d'érosion et de sédimentation. Ces processus ont été interrompus par l'obstruction de la vallée, causant la formation d'un lac (lac 1) sur le fond de la vallée (couche 4). Une désobstruction de la vallée vida le lac, auquel succédèrent d'abord des marécages, puis des sols forestiers (couche 5).

Cycle 2 (fig. 37, couches 6–7).

Le second cycle commença par la formation d'un nouveau lac (lac 2) au fond de la vallée (couches 6A–6C dans les carottages). C'est l'argile de ce second lac qui apparaît dans la

tranchée 3; quelque part au fond de la vallée, celle-ci est directement surmontée par les systèmes agraires préhispaniques. Le lac 2a probablement été formé vers 25 000–20 000 avant J.-C. Ce second lac s'assécha également, pour faire place à des marécages (couche 6C), et le cycle 2 se termine par le dépôt d'alluvions mêlées de cendres (couche 7) au fond du lac asséché.

La phase finale de sédimentation.

Cette phase est représentée par des sols archéologiques dans la majorité des tranchées du fond de la vallée. La base de cette unité comporte des sols marécageux (couche 8 de C1–C3), que surmontent des sols cultivés Yotoco (c'est-à-dire les systèmes agraires étudiés durant les campagnes précédentes), puis des sols des périodes Sonso et posthispanique (couches 10 et 11).

5. Le problème des lignes agraires

Dans plusieurs localités à lignes agraires (fig. 39), des coupes ont été pratiquées dans les fossés (fig. 41, 45), des prélèvements ont été effectués pour analyse pédologique et palynologique, et les drainages ont été mesurés (fig. 42). Des pollens de maïs ont été trouvés partout dans les sols archéologiques. Des lignes agraires parcourent tant les pentes douces que celles plus déclives, et sur les deux principaux types de sols de Calima, d'une part les sols bien drainés dérivés de cendres volcaniques et d'autre part les sols plastiques mal drainés (p. ex. à Loma Larga et Ceilán). Ainsi, les problèmes de drainages n'expliquent pas convenablement la présence de ces fossés. Sur deux sites (Ceilán et Altamira) nous avons tenté de dater ces lignes agraires.

a. Hacienda Ceilán (fig. 43–46)

Une tranchée a été pratiquée à travers une petite terrasse de maison de la période Sonso. Des charbons du remplissage primaire d'un fossé de drainage à la base du mur arrière du tambo a livré une date de 1520 ± 120 de notre ère (Beta-11805). Cette tranchée a été prolongée pour couper une ligne agraire adjacente à la plate-forme, et un tesson du remplissage primaire de ce fossé a livré une date de 1440 ± 70 ap. J.-C., par thermoluminescence. Dans cette localité, les tambos et les lignes agraires sont d'époque Sonso.

b. Hacienda Altamira (fig. 47–50)

Une reconnaissance de ce site a révélé la présence de deux pétroglyphes et celle d'un groupe de lignes agraires, dont l'un paraissait recouper (ou être interrompu) par une plate-forme de maison. A cause de perturbations, il n'a pas été possible de définir clairement le fossé au-dessous du tambo, mais la maison elle-même a livré des tessons Yotoco. Des pollen de maïs ont été trouvés associés à la couche d'habitat. La fouille n'a livré aucun indice suggérant que le fossé traverserait le sol de la maison, ce qui laisse à penser que cette ligne agraire (si elle a existé) a été détruite par la construction de la plate-forme. Dans ce cas, sans être catégorique sur ce point, le fossé serait d'âge Yotoco.

6. La campagne de 1987

Celle-ci a été consacrée à la fouille de deux sites précéramiques de plein air, à Sauzalito et à El Recreo, dans le Municipio de Darién. Sur les deux sites, le matériel archéologique se trouvait dans la partie supérieure de la couche de cendres volcaniques et au-dessous des sols contenant des poteries Yotoco et Sonso. Pour Sauzalito, nous disposons de trois dates C14: 7720 ± 150 av. J.-C. (Beta-23476), 7650 ± 110 av. J.-C. (Beta-23475) et 7350 ± 100 (Beta-18441). Deux autres dates proviennent de El Recreo: 6030 ± 120 av. J.-C. (Beta-26019) et 5880 ± 140 av. J.-C. (Beta-26020). La présence d'outils semblables à des houes montre un lien de ces sites avec la première occupation à El Pital, site fouillé par Héctor Salgado (1986) et daté à 5350 ± 140 av. J.-C.

Restes végétaux carbonisés de la région de Calima, vallée de Cauca, Colombie

Par Lawrence Kaplan
et G. Earle Smith Jr.

Des restes végétaux carbonisés ont été découverts dans les fouilles d'El Topacio (époque Ilama), de

l'Hacienda San Rafael (une plate-forme de maison d'époque Yotoco), de la plate-forme 1 d'El Dorado (époque Sonso), et de Cabo de la Vela à Jiguales (époques Yotoco et Sonso). Habituellement, il s'agissait de grains de Maïs et de Haricot commun, *Phaseolus vulgaris*.

Le Maïs d'El Topacio est probablement un précurseur du complexe morphologique de Chapalote/Nal Tel/Pollo. A San Rafael, la majorité des grains peuvent être attribués à la lignée des Chapalote/Nal Tel/Pollo, même si quelques grains plus gros indiquent un développement vers la variété moderne, nommée *Cabuya* en Colombie. Le Maïs de Jiguales se divise en deux groupes; l'un, représenté par la majorité des grains, est le complexe Chapalote/Nal Tel/Pollo, et l'autre, comportant trois grains seulement, plus gros, et se rattachant à la variété *Cabuya*.

Les Haricots Yotoco, provenant de la Hda. San Rafael, sont les premiers exemplaires archéologiques analysés en Colombie. Malgré la variabilité de la taille, il semble qu'une seule variété soit présente. Les parallèles les meilleurs pour les Haricots proviennent du site de Huacaloma à Cajamarca, dans les Andes péruviennes septentrionales. Les échantillons Huacaloma et les Haricots de San Rafael sont tous deux plus petits que les *Porotos* des Andes centrales et méridionales. On peut se demander si *Phaseolus vulgaris* ne serait pas une forme propre aux cultures du nord des Andes.

L'identification de graines du Lupin comestible et cultivé, *Lupinus mutabilis* de San Rafael et celle d'une graine fragmentée de *Bixa orellana* d'El Topacio reste douteuse.

Analyse pétrologique de poteries Ilama

Par F. E. S. Roe

Des coupes fines ont été faites sur vingt tessons de poteries Ilama. Deux types différents ont ainsi pu être distingués. Le groupe de *tonalite à grain fin* comprenait de la roche pulvérisée tandis que la *céramique*

fine de la culture Ilama contenait peu de roche à grains fins ainsi qu'un matériau ferrugineux.

Un nouveau fragment fabriqué sans dégraissant à titre expérimental avec de l'argile de la vallée d'El Dorado, a également été examiné. L'analyse a révélé une proportion de 75.2% d'argile, 19.9% de quartz et de feldspath ainsi que 4.9% de fer.

Les cinq tessons appartenant au groupe de tonalite contenaient en moyenne 53.35% d'argile, 38.5% de quartz et de feldspath ainsi que 3.02% de fer. Ces fragments se caractérisaient par une structure assez grossière et par une proportion de tonalite variable. Des comparaisons avec le fragment expérimental permettent de conclure qu'un dégraissant, à savoir de la roche pulvérisée, a été mélangé à l'argile.

Les quinze tessons attribués au groupe de la céramique fine Ilama se composaient en moyenne de 62.13% d'argile, de 20.33% de quartz et de feldspath ainsi que de 10.42% de fer. Leur structure était plus fine que celle des objets du groupe de tonalite à grain fin et contenait peu de grains plus gros, tandis que la proportion de fragments de roche ne correspond qu'à 1.612% de l'ensemble. Ces tessons contenaient comme dégraissant un peu d'oxyde de fer.

Les fragments des deux groupes sont faits de matériau provenant des affleurements de tonalite dans les environs de Restrepo. Le gisement d'El Tambor au sud-est de Restrepo, constitue la source principale de ce matériau. Les types de sol peuvent également jouer un certain rôle. Il est bien connu que la série Parnaso (série 200) d'origine volcanique contient des particules de fer. Quelques-uns des minéraux décelés dans les poteries pourraient également provenir de la cendre volcanique, fréquente dans la région étudiée.

Il n'est pas toujours facile de distinguer les deux groupes à l'œil nu ou avec une loupe, mais les inclusions apparaissent nettement dans les coupes. Du tonalite pulvérisé et des particules de fer ont vraisemblablement été ajoutés à la glaise, mais aucune différence chronologique n'a pu être établie entre les deux types de structure.

Recherches archéologiques dans la région de Pavas-La Cumbre

Par Theres Gähwiler-Walder

1. Introduction

La région de Pavas-La Cumbre se distingue des régions voisines par la présence d'inhumations en urnes. La suite des travaux commencés en 1981 visait à définir la répartition géographique de ce rite plus précisément et d'établir ses liens avec les territoires voisins, en particulier avec celui de Calima (fig. 52). Il s'est avéré que la répartition des sépultures secondaires est strictement limitée au Municipio La Cumbre, sans débordement sur la région de Calima, Il s'agit donc deux zones indépendantes à développement culturel distinct.

2. Rites funéraires

L'inhumation en urne s'est avérée dominante, coexistant avec divers types d'inhumation de squelettes, dont l'ordre séquentiel n'a pas encore pu être établi par manque de datations.

2.1. Inhumations en urne (figs. 54-66)

Les sépultures typiques de la région de Pavas sont La Amapola T1, T2 et T5 à La Cumbre et La Bolivia T1 à Cordobitas (figs. 54, 60 et 61). Un puits de section ronde ou quadrangulaire mène à une profondeur de 4 à 5 m, où s'ouvre, habituellement vers l'ouest, une chambre funéraire, contenant une urne, parfois accompagnée d'un petit récipient en offrande (fig. 61). A La Bolivia T1, l'accès à la chambre latérale est barré par des pieux, signalés par des vestiges de fibres ligneuses. L'état du contenu des urnes varie selon l'étanchéité de leur couvercle. T1 et T5 ont livré des fragments de textiles (fig. 55) et leur empreinte sur certains os.

La Amapola T4, La Cumbre, est remarquable par la forme pentagonale de son puits d'accès (fig. 56). Certains parallèles avec la tombe voisine de Rancho Grande sont à signaler, comme la niche aménagée à mi-profondeur, vers l'est, contenant un petit récipient (fig. 57). A 3.80 m

de profondeur s'ouvrait une chambre latérale, orientée vers l'ouest et contenant une urne. Les os qui s'y trouvaient portent d'étranges traces de «grattements» (fig. 59).

Le complexe funéraire de Rancho Grande, découvert par des pillards, mérite une attention particulière. Deux puits mènent à une chambre contenant une statue anthropomorphe de style Tierradentro (figs. 63 et 64). A l'origine, il s'agissait sans doute de deux sépultures indépendantes. Le deuxième puits circulaire a été creusé en dernier lieu, avec une niche à 2,50 m, comme à La Amapola T4. A une profondeur de 3,95 m, la chambre funéraire à la statue, déjà creusée, a été atteinte. Pour éviter de perturber cette tombe, l'accès en fut rebouché avec des pierres et des blocs de terre, et l'urne déposée dans le puits (fig. 62). Une datation C14 sur des ossements de la grande urne a livré une date de 1060 ± 70 ap. J.-C. (B-4031). Nous pensons que la tombe à statue est plus ancienne. Pour la région de Tierradentro, il n'existe que deux dates pouvant servir de référence. La première, 630 ap. J.-C., provient d'une sépulture primaire de Santa Rosa (Chaves et Puerta 1980: 73). La deuxième, de la Tombe A-3 de Loma del Aguacate, indique 850 ± 200 ap. J.-C. (Chaves et Puerta 1986: 121). Le complexe de Rancho Grande s'intègre très bien dans cette fourchette chronologique.

2.2 Inhumations en terre (figs. 67–69)

En plus des inhumations secondaires en urne, nous avons également découvert des inhumations de squelettes dans des tombes en puits avec chambre latérale. A Matadero T1 et Amapola T3 à La Cumbre, celles-ci s'étaient écroulées (fig. 67) et ne contenaient aucun mobilier. Ces sépultures comportaient toutes deux des niches de forme allongée, à mi-hauteur de leur puits.

Un autre type d'inhumation en terre est apparu au cours des fouilles: Purilia et La Escocia à La Cumbre. Il s'agit de tombes d'environ 2.5 m de profondeur, à puits de section ovale irrégulière. A 2.0 m se trouve un surcreusement, de forme rectangulaire allongée (fig. 68 et 69) comparable à celle d'un cercueil. Les deux sépultures n'ont pas livré de mobilier sauf quelques tessons et

quelques restes de charbons, lesquels ont livré une date C14 de 530 ± 70 ap. J.-C. (B-4679) pour Purilia.

3. Sites d'habitat (figs. 70–72)

La région de La Cumbre est riche en terrasses d'habitat, bien visibles dans le paysage actuel. Des fouilles ont été effectuées sur une plate-forme de l'Amapola (figs. 53 et 70) à proximité d'une nécropole à urnes Pavas typiques. Une coupe de 13.90 m de longueur sur 90 cm de largeur a été creusée par décapages de 10 cm, et les structures cartographiées (fig. 71). La couche d'habitat atteint 60 cm de profondeur et son bord antérieur oriental a livré une concentration d'artéfacts. Les artéfacts lithiques étaient plus nombreux que les tessons. Les céramiques ne comportaient que peu de matériel typique. L'ensemble des trouvailles peut être attribué à l'horizon tardif. A 40 cm. de profondeur, un prélèvement C14 a livré une date de 1390 ± 50 ap. J.-C. (B-4684). Les stratigraphies n'ont révélé aucun aménagement de terrain visant à agrandir la surface habitable (fig. 71).

4. Fosses (figs. 73–74)

La Fosse de Matadero, La Cumbre, est de forme irrégulière (fig. 73). A 70–80 cm de profondeur, la fosse a été prolongée vers l'est par une poche. La couche d'occupation atteint une épaisseur de 120 cm. L'inventaire des trouvailles comportait de nombreux objets de pierre et d'argile. Les tessons typiques se divisent en deux groupes: l'un comporte les céramiques grossières, comme les urnes Pavas et l'autre la céramique fine, comme celle dont sont faits les couvercles et les récipients à offrandes qu'on trouve dans les tombes. Une partie des tessons sont décorés (fig. 74), dans un style qui s'apparente à celui de Sonso. Aucun reste de charbon ni d'autre matière organique n'a été mis au jour.

5. A propos de la Chronologie

Les listes des datations C14 montrent que les inhumations en urnes couvrent une longue période (fig. 75). La majorité des dates se concentre dans la période correspondant à Calima à la fin de la période Yotoco, même si les traits stylistiques y correspondant s'apparentent

plutôt à la période de Sonso. Yotoco et Pavas sont deux styles régionaux indépendants et contemporains, s'excluant du point de vue de leur répartition géographique. Les urnes Pavas sont pour ainsi dire inconnues à Calima, alors qu'à Pavas n'apparaît presque aucun matériel Yotoco. Yotoco est également associé à de riches objets en or, lesquels manquent presque totalement sur territoire Pavas.

Seul Bitaco a livré des complexes funéraires Yotoco. Bitaco semble subir les influence conjuguées de Calima et de Pavas.

D'autres similitudes sont à signaler avec des complexes de la vallée de Cauca. De nombreuses tombes ont livré en plus des urnes des récipients plus petits portant des décors, tels les impressions en triangles, peintures en négatif, décors gravés, et ficelles appliquées, caractérisant la tradition Sonso d'une grande partie de la vallée de Cauca. Ces trouvailles tiennent de la tradition Sonso mais sont également datées de la fin de la période Yotoco (Salgado 1986: 116 et Rodriguez 1984: 106).

Certains types d'urnes ne peuvent pour l'heure être attribués à aucune période ni zone déterminée. Les urnes sont de forme très variable, allant du subglobique au cylindrique. Pour les inhumations en terre, nous ne disposons jusqu'à présent que d'une seule date, de 530 ± 70 ap. J.-C. (B-4679), ce qui semble relativement ancien. Dans la région de Calima, il n'existe aucune datation comparable de ce genre de sépulture. Les dates des sites d'habitat correspondent au 14^e siècle ap. J.-C.

Fouilles effectuées dans des habitats préhispaniques en terrasse à Jiguales, Calima (1^{ère} étape)

Par Carlos A. Rodriguez
et Vladimir Bashilov

Des fouilles communes ont été entreprises par des archéologues de l'Instituto Vallecaucano de Investigaciones Científicas (Cali, Colombie) et

de l'Institut d'Archéologie de l'Académie des Sciences d'U.R.S.S. (Moscou). Les travaux ont été effectués en 1983 au «Cabo de la Vela». Cet habitat précolombien occupait une position centrale dans le vallon de Jiguales, une petite vallée latérale de la rivière Calima. Le site se composait de 24 plates-formes (*tambos*) établies sur les flancs et sur le plateau supérieur de la colline en vue d'y construire des habitations. Des canaux d'irrigation et des lignes marquant des cultures ont été découverts sur les pentes et un cimetière a été trouvé dans la partie inférieure de la colline (figs. 76 et 77).

L'étendue des fouilles faites dans la partie inférieure de la pente située au nord-est comprenait 106 m² et incluait les deux terrasses d'habitation artificielles tambo 4 et 4a (figs. 78 et 79). Trois tombes en puits avec chambres latérales attribuées à la culture Sonso ont également été fouillées. Elles ont permis d'obtenir des informations relatives à la surface d'occupation initiale de la terrasse d'habitation. De plus, des pierres servant à la stabilisation de marmites, des fosses à provisions et des trous de poteaux des maisons ont été découverts. Les fouilles ont permis d'obtenir en outre un échantillon représentatif de céramiques et d'artéfacts lithiques appartenant à différentes époques culturelles.

Les céramiques trouvées dans la surface d'occupation initiale de la terrasse 4a font partie de l'horizon Yotoco (fig. 80); de plus, une analyse du radiocarbone a permis d'établir la date de 1020 ± 70 apr. J.-C. (Beta-16334). Ainsi, la construction et l'occupation du tambo 4a ont eu lieu vers la fin de la période Yotoco. Il ressort de l'analyse des céramiques de la plate-forme 4 et de celle du radiocarbone indiquant une date de 1550 ± 70 (Beta-16333) que de petits groupes de terrasses d'habitation artificielles étaient toujours occupés vers le milieu du 16^e siècle, soit dans la phase finale de la période Sonso.

Recherches archéologiques sur les sites d'habitat précolombiens dans la région de Calima (2^e étape)

Par Héctor Salgado López

Cet article est consacré aux résultats de la deuxième étape des fouilles effectuées dans un site précolombien de la région de Calima. Les fouilles de 1984 et de 1985 ont bénéficié du soutien financier de l'Instituto Valleciano de Investigaciones Científicas INCIVA.

Une surface de 227 m² a été dégagée dans la partie la plus haute de la colline. Les travaux terminés, il a été possible d'obtenir des informations au sujet des surfaces de foulement initiales, de céramiques, d'artéfacts lithiques ainsi que de pierres employées pour la stabilisation de pots. En outre, des taches irrégulières de terre brûlée, des foyers comprenant des graines de Maïs et des Haricots, des fosses pour entreposer des provisions et des trous de poteaux ont été mis au jour. Une sépulture fait également partie du site dégagé. Toutes ces découvertes ont permis de reconstituer quatre plans d'habitations dont trois appartiennent à la culture Sonso; le quatrième est attribué à la culture Yotoco (figs. 81–86).

Deux des constructions de l'époque Sonso se caractérisent par un plan circulaire irrégulier (V-1 et V-4) et sont de dimensions réduites (Fig. 83). La terrasse d'habitation 2 (V-2) de forme rectangulaire, n'a été dégagée que partiellement. Il résulte de l'analyse des échantillons de carbone prélevés dans les trous de poteaux que la terrasse d'habitation remonte à 650 ± 80 apr. J.-C. (Beta-16945).

La construction de plus grandes dimensions appartient elle aussi à l'époque Sonso (V-3). Son plan de forme ovale correspond à celui d'une grande hutte (figs. 82 et 83). Le charbon de bois, qui provient de la paroi postérieure inclinée (zones B4, B5 et B6), date du 9^e siècle apr. J.-C.; par conséquent, le site a été

établi vers 860 ± 60 apr. J.-C. (Beta-16946).

La terrasse d'habitation attribuée à la culture Yotoco (V-5) n'occupe qu'une petite surface et possède un plan circulaire irrégulier (figs. 81 et 83). Une tombe déjà pillée se trouvait au bord de la plate-forme (fig. 85,4). Une fosse profonde de 1,68 m, qui pouvait avoir servi au stockage de provisions (fig. 85,1), a été découverte au milieu de la terrasse. La date établie sur la base du carbone prélevé dans cette fosse se situe vers 370 ± 60 apr. J.-C. (Beta-16947). Ainsi, la fosse et peut-être aussi la terrasse ont été construites au 4^e siècle, soit au début de la période Yotoco.

L'étude de tous les éléments découverts permet de conclure que les plates-formes de la partie supérieure du site, de même que celles dégagées sur le flanc de la colline, servaient à des fins domestiques; cependant, leurs fonctions n'étaient pas toutes pareilles: la hutte Yotoco (V-5) et la petite plate-forme Sonso (V-4) avaient été établies pour recouvrir les fosses à provisions. Les autres plates-formes comprenaient les lieux d'habitation et les endroits pour dormir, comme le laissent présumer les dimensions, les foyers avec du charbon de bois, les graines, la terre brûlée, les tessons et les artéfacts lithiques.

Les fouilles ont permis en outre d'obtenir des indications relatives aux structures des habitats pendant les périodes Yotoco et Sonso. En général, la population était répartie en petits groupes qui occupaient quelques plates-formes; certains vivaient aussi dans des habitations individuelles établies pour la plupart sur des plates-formes artificielles ou sur des parcelles plates; la majeure partie des habitations était proche de lignes agraires ou de canaux d'irrigation (figs. 76 et 77). En ce qui concerne les coutumes funéraires, il apparaît que dans les deux cultures, les cimetières étaient établis à l'intérieur ou à proximité des lieux d'habitation.

Le modèle d'habitation et le genre de logis examinés à Jiguales ressemblent à ceux d'autres régions telles que Tierradentro, San Agustín et Narino, pour autant qu'ils aient été établis durant la période archéolo-

gique correspondant à celle de Yotoco et de Sonso.

En résumé, l'occupation du *Cabo de la Vela* a eu lieu principalement pendant les périodes Yotoco et Sonso. La découverte de quelques fragments de céramique Ilama laisse supposer une occupation antérieure, durant la période Ilama. Les données résultant de datations au radiocarbone permettent de conclure que des peuples Yotoco et Sonso ont habité la colline de manière discontinue depuis le 4^e siècle jusqu'à l'arrivée des Espagnols au 16^e siècle.

Resumen

Informe del trabajo de campo en Calima durante el año 1984

Por Warwick Bray, Leonor Herrera y Marianne Cardale Schrimpf

1. Introducción

Los trabajos de campo comprendieron un corto reconocimiento en primavera y la etapa principal de julio a septiembre. Tres objetivos ocuparon un puesto destacado: 1) la excavación de un sitio de vivienda recientemente descubierto en El Topacio, 2) la terminación de los trabajos de la gran plataforma de la Hacienda El Dorado, 3) un intento para aclarar el problema de los canales en pendiente, así como para estudiar la historia de la sedimentación en el valle de El Dorado.

Cada año se documentan y fotografían un gran número de objetos que no provienen de nuestras excavaciones (véase portada).

2. La excavación del sitio El Topacio (Figs. 2-16)

Como se menciona en el número anterior de Pro Calima, la investigación del período Ilama se intensificó gracias a un contrato con la Fundación de Investigaciones Arqueológicas Nacionales del Banco de la República. En 1984 nos concentramos en la excavación del sitio El Topacio, un asentamiento Ilama localizado a corta distancia de Darién (Fig. 2). El sitio está en un espolón bajo que mira hacia el río Calima en el punto donde éste entra en un amplio valle interandino, la mayor parte del cual yace hoy bajo las aguas de una represa construida recientemente. Durante el período Ilama el sitio probablemente yacía en el borde de un área pantanosa amplia.

Recientemente apareció publicada en el Boletín de Arqueología (Fundación de Investigaciones Arqueológicas Nacionales del Banco de la República, año 1, no. 3, 1986) una reseña preliminar de los resultados. Las fechas de radiocarbono correspondientes a la parte inferior y

a la parte superior del nivel Ilama indican que la ocupación Ilama en el asentamiento de El Topacio duró desde poco más o menos el siglo noveno A.C., hasta el segundo o primer siglo A.C. (Fig. 5).

Los primeros habitantes Ilama ampliaron y aplanaron el espolón, cavando en las faldas de la loma que se alza en la parte de atrás de éste, creando al hacerlo, un banquito con dos escalones. Se encontraron tres fogones y aunque no había huellas de poste, la presencia de un sector más oscuro con abundante carbón y material cultural, rodeado por un sector de superficie arcillosa, muy apisonada, se podría interpretar como un área protegida por un techo, rodeada por un área de trabajo externa. Las herramientas de piedra eran usualmente burdas, con la excepción de pequeños instrumentos de chert negro, cuidadosamente trabajados, que pudieron haber sido puntas de taladro. La forma de vasija más frecuente es el cántaro, aunque también se encuentran fragmentos de vasijas de doble vertedera, cuencos, así como un plato. La mayor parte de los fragmentos cerámicos no tenían decoración, pero había algunos con pintura o con incisiones. La decoración incisa era más frecuente en la parte superior del nivel. Se encontró una buena cantidad de semillas, que fueron casi todas identificadas como de maíz (un precursor de la variedad Nal / Tel / Chapalote; véase el artículo de Smith en este mismo volumen). El polen no se conservó, pero el análisis de las fitolitas permitió la identificación de calabaza y «sagú» (*Maranta arundinacea*) así como de varias especies de palmas, algunas de las cuales tienen frutos comestibles.

Parte del espolón se usó como cementerio y allí se habían encontrado, antes de nuestra visita, seis tumbas Ilama, así como varias otras de períodos más tardíos.

Durante Yotoco, el período subsiguiente, crecieron árboles sobre el área y los desechos Yotoco se acumularon bajo éstos. Un poco más tarde parece que hubo cultivos en el espolón. La ocupación final está representada por fragmentos cerámicos Sonso, la mayoría de los cuales se encuentran en los que es hoy la superficie arable.

3. La excavación de la Plataforma 1 (Figs. 17–25)

Las excavaciones llevadas a cabo en 1982 en la plataforma 1, la más grande del monumental conjunto que se observa en la vertiente oriental del valle de El Dorado, definieron que ésta se construyó después del año 1160 ± 50 d.C. (Beta-6819). Esta fecha, que se obtuvo para la última superficie ocupada antes de que el sitio fuera rellenado, corresponde al período Sonso (véase *Pro Calima* 4: 20, Fig. 14).

En esa misma temporada se inició el corte 7, en un punto cercano al borde externo de la plataforma, donde afloraban unas piedras, en el humus formado sobre el relleno de construcción (Fig. 18); piedras que por lo tanto no eran originales del punto sino colocadas intencionalmente, y que además tienen formas caprichosas, naturales, pero probablemente acentuadas con retoques. Estaban enterradas hasta la mitad, formando aproximadamente un semicírculo. Alrededor de ellas se destapó una concentración de fragmentos cerámicos, así como piedras burdas, de varios tamaños y piedras trabajadas.

En 1984 la excavación se amplió hacia un banqueo que bordea la plataforma pasando cerca a la formación de piedras. Estos dos rasgos son lo único notorio que tiene la superficie plana e indiferenciada de esta plataforma. El trabajo comenzó reexcavando el material mezclado, con el cual se había tapado la excavación al final de la temporada de 1982 (Fig. 19): al hacerlo se definió otro tipo de relleno, de guaqueros.

Tratando de precisar la extensión y profundidad del disturbio causado por éstos, se encontró una aglomeración de enormes rocas en las cuadrículas 4CD y 3CD (Fig. 20). Posiblemente fueron colocadas para afirmar el relleno y aunque los guaqueros intervinieron el sitio, al parecer no las desalojaron todas de su lugar original (Fig. 23 y 24).

Las cuadrículas hacia el sur del área revuelta estaban sanas y en ellas se diferenciaron una serie de estratos, que corresponden a etapas sucesivas de uso de la plataforma (Fig. 21). En la interpretación de éstos colaboró Pedro Botero. El estrato 6 es una arcilla vetada roja,

que corresponde al relleno de construcción de la plataforma. Sobre éste se encuentran las primeras evidencias de uso: hay varios parches de arcilla quemada (cuadrículas 7E, 7B y 21B), que corresponderían a fogones, o a las cercanías de estos, así como cavidades de forma irregular rellenas con tierra oscura (Fig. 22 y 23) y en algunos casos, carbón. En la cuadrícula 7E hay una huella inconfundible de poste, que contenía una buena cantidad de carbón. De manera que existió posiblemente en este punto una estructura. Más tarde hubo un cambio en el uso, puesto que la capa de relleno se transforma, a través de una transición (estrato 5) en un humus de color café oscuro y consistencia suelta (estrato 4). Este se formó a través de la presencia de vegetación, probablemente de gramíneas. El maíz es un ejemplo de esta familia. Posteriormente se regó sobre el lugar una delgada capa de relleno (estrato 3), que ayudó a preservar las características de éste suelo de cultivo. El relleno sirvió probablemente para afirmar el piso de una segunda estructura, puesto que en la cuadrícula 7E el siguiente estrato (2) contiene un parche de arcilla compacta con terrones de arcilla quemada y carbón, que se ha interpretado como un fogón. El estrato 2 corresponde al humus actual. En las cuadrículas afuera del área de relleno (estrato 3), la parte inferior de este humus es más floja y un poco más oscura y corresponde al estrato 4 en el área rellenada. El estrato 1g representa el disturbio de los guaqueros y el 1a al material de rezago proveniente de la excavación de la trinchera 4 en 1982.

Es difícil relacionar la formación de piedras en las cuadrículas B1 a B4 con un momento determinado de uso de la plataforma. Algunas de estas piedras estaban rodeadas de tierra café oscura, como si hubieran sido tacadas con ésta, en cuyo caso las habrían erigido en una etapa tardía de la plataforma, cuando ya este material habría tenido tiempo de formarse; si por el contrario se interpreta este material oscuro como depósito gradual en cavidades alrededor de las piedras, estas corresponderían a una etapa más temprana.

La función de esta formación de

piedras y de la densa concentración de material cerámico y lítico que la rodea no es fácil de determinar. Sin excluir la posibilidad de que el punto hubiera sido simplemente un botadero de basura, las indicaciones son más bien de que allí se llevó a cabo una actividad ritual, en la cual jugaron un papel importante las vasijas cerámicas, que tal vez fueron rotas intencionalmente en el punto.

4. Estudios de suelo en el valle de El Dorado

En las laderas de la región de Calima la estratigrafía está comprimida, la erosión ha hecho desaparecer parte de la secuencia y los suelos han sido disturbados aún más por el cultivo. Con la esperanza de encontrar depósitos más gruesos y una secuencia detallada, se excavó una trinchera en una depresión («vaga») en las laderas del valle de El Dorado.

a. La «Trinchera de la Vaga» (Fig. 27, V)

Esta excavación mostró las tres unidades usuales (arcilla, encima un estrato con alto contenido de ceniza volcánica y suelos negros en la parte superior) (Fig. 27). En la Fig. 28 se aprecia un perfil de suelo detallado. La arcilla y el estrato derivado de ceniza volcánica no contenían material arqueológico. Sobre la ceniza volcánica se desarrolló un suelo de bosque (Estrato 6), con las primeras evidencias de intervención humana (cerámica Yotoco, polen de maíz y carbón). Sigue a continuación un episodio de erosión (Estrato 5), luego viene más sedimentación consistente sobre todo en material de escorrentía y algo de ceniza volcánica (Estratos 1–4). El grado de mezcla debido a escorrentía y redepositación se observa en la distribución caótica del material cerámico Yotoco y Sonso en los estratos superiores.

b. Trinchera «Geo»

Esta trinchera (Fig. 26, G) se localizó justo adentro del borde del lago que alguna vez llenó el fondo del valle y que está representado por un estrato de arcilla gris, encontrado en nuestras trincheras de 1982 en el fondo del valle. El perfil se muestra en la Figura 29 y una muestra de los materiales encontrados en la Figura 30. El suelo más superficial (Estrato 1) produjo principalmente cerámica

Sonso. El Estrato 2 contenía material Sonso en su parte superior y tiestos Yotoco más abajo. Un fragmento redepositado Ilama (Fig. 30, 21) también provenía de este estrato. El Estrato 3 es una capa transicional entre el suelo pardo y la arcilla lacustre; contenía tiestos Yotoco finos y cerámica doméstica. El Estrato 4 es la arcilla correspondiente al lago. En la parte ladera arriba de la trinchera ésta es amarilla y moteada (por oxidación bajo condiciones menos húmedas cerca al borde del lago). Cinco muestras tomadas con barreno (*cores* C1–C5) bajo el piso de la trinchera revelaron, bajo la arcilla gris, evidencias de un antiguo deslizamiento de tierra. Subyaciendo ésta se encontraron suelos, formados sobre la arcilla roja derivada de la roca madre de diabasa.

c. Excavaciones en el sitio de la Zanja 1

Las zanjas se habían sondeado en años anteriores (véase *Pro Calima* 3 y 4). Las excavaciones de 1984 se dirigieron a localizar el borde del antiguo lago y a reconstruir la historia de la sedimentación en el fondo del valle y en las laderas. El perfil más relevante es el de la Trinchera 3 (Fig. 32). Los suelos más superficiales contenían material Sonso (Figs. 33–36); la presencia de fosos y de por lo menos una huella de poste, sugiere que era ésta un área de asentamiento. Más abajo se encontró un estrato derivado de ceniza volcánica (3) y, a mayor profundidad, el borde del viejo lago estaba definido por un horizonte de transición entre 4a (la arcilla lacustre) y 4b (horizonte arcilla amarilla oxidada), formado predominantemente sobre suelo seco.

Para correlacionar la estratigrafía de la Trinchera 3 con la de las excavaciones en la zanja (Trincheras 1 y 2), se tomaron las muestras con barreno C1–C9, con intervalos de 4 m a lo largo de un transecto entre las dos áreas (Fig. 31). La información de éstos perfiles se resume en la Fig. 37 y es la base para una reconstrucción esquemática de la historia de la sedimentación en el fondo del valle.

El Ciclo 1 comienza con la formación de suelos sobre la alterita (Estrato 1) derivada de la roca madre. Siguen después varios episo-

dios de erosión y sedimentación. Estos procesos se interrumpieron por el bloqueo de la salida del valle, que causó la formación de un lago (Lago 1) en el fondo de éste (Estrato 4). Cuando la garganta de drenaje del valle se destaponó, el lago comenzó secarse y se formaron primero pantanos y luego suelos que fueron colonizados por vegetación de bosque (Estrato 5).

Ciclo 2 (Fig. 37, Estratos 6–7). El segundo ciclo comienza con la formación de un nuevo lago (Lago 2) en el fondo del valle (Estratos 6A, 6B, 6C en las muestras con barreno). Es esta arcilla del segundo lago la que aparece en la Trinchera 3, y la que yace directamente bajo los sistemas de cultivo prehispánicos encontrados en otras partes del fondo del valle. El lago 2 se formó probablemente alrededor del 25.000–20.000 a.C. Este segundo lago también se secó convirtiéndose en pantano (Estrato 6c). El Ciclo 2 termina con la depositación de material aluvial mezclado con ceniza volcánica (Estrato 7), en el ya seco lecho del lago.

La fase final de sedimentación.

Esta fase está representada por los suelos arqueológicos en la mayoría de nuestras trincheras en el fondo del valle. En el fondo de esta unidad hay depósitos de pantano (Estrato 8 en C1–C3) a los cuales se superponen, primero los campos de cultivo Yotoco (es decir los campos de cultivo investigados en años anteriores) y luego los suelos de los períodos Sonso y pos-hispánico (Estratos 10 y 11).

5. El problema de los canales en pendiente

Se hicieron cortes en varios sitios con canales en pendiente (Fig. 39), (Figs. 41, 45) en los cuales se tomaron muestras para análisis de suelos y de polen; también se midió el drenaje (Fig. 42). En los suelos arqueológicos se encontró polen de maíz. Los canales en pendiente ocurren en laderas de inclinación suave y en las empinadas, así como en las dos principales clases de suelo en Calima – suelos bien drenados derivados de ceniza volcánica y suelos gleizados mal drenados (i.e. Loma Larga y Ceilán). Por lo tanto los problemas de drenaje no serían la explicación

adecuada para la construcción de estas zanjas. En dos sitios (Ceilán y Altamira) se trató de datar estos canales en pendiente.

a. Hacienda Ceilán (Figs. 43–46)

Se excavó una zanja a través de una pequeña terraza de vivienda del período Sonso. El carbón del relleno primario de una zanja de drenaje en la base de la pared trasera del tambo dio una fecha de 1.520 ± 120 d.c. (Beta-11805). Esta trinchera se amplió para incluir un canal en pendiente adyacente a la plataforma; un tiesto procedente del relleno primario de esta zanja produjo una fecha de termoluminiscencia de 1.440 ± 70 . En este sitio los tambos y los canales en pendiente corresponden al período Sonso.

b. Hacienda Altamira (Figs. 47–50)

Reconocimientos realizados en esta localidad revelaron la presencia de dos petroglifos y un grupo de canales en pendiente, uno de los cuales parecía cortar (o ser cortado) por una plataforma de vivienda. Por causa de disturbios, la zanja bajo el tambo no pudo definirse claramente, pero el lugar de la vivienda propiamente dicha produjo tiestos Yotoco diagnósticos. Se encontró polen de maíz asociado al estrato de ocupación. La excavación no mostró señales de que la zanja cortara a través del piso del tambo, lo que sugiere que el canal en pendiente (si realmente éste existió) fue decapitado por la construcción de la plataforma. En este caso, aunque no podemos asegurarlo, la zanja sería de la época Yotoco.

6. La temporada de campo de 1987

Esta se dedicó a la excavación de dos sitios precerámicos a campo abierto en Sauzalito y El Recreo, en el Municipio de Darién. En ambas localidades el material cultural estaba en la parte superior del estrato de ceniza volcánica y bajo suelos que contenían cerámica Yotoco y Sonso. Sauzalito produjo tres fechas de radiocarbono: 7720 ± 150 a.c. (Beta-23476), 7650 ± 110 a.c. (Beta-23475) y 7350 ± 100 a.c. (Beta-18441). En El Recreo se obtuvieron dos fechas: 6030 ± 120 a.c. (Beta-26019) y 5880 ± 140 a.c. (Beta-26020). La presencia de herramientas de tipo azada con acanaladura para enmangar en estos dos sitios, vincula el Recreo y Sauzalito con la

ocupación más temprana de El Pital, fechada en 5350 ± 140 a.c., a través de las excavaciones de Héctor Salgado (1986).

Restos carbonizados de plantas de la región de Calima, Valle del Cauca, Colombia

Por Lawrence Kaplan y
C. Earle Smith Jr.

Se han recuperado restos carbonizados de plantas en las excavaciones en El Topacio (período Ilama), en la Hacienda San Rafael (una plataforma habitacional Yotoco), en El Dorado Plataforma 1 (período Sonso) y en Cabo de la Vela, Jiguales (períodos Sonso y Yotoco). Estos restos corresponden principalmente a granos de maíz y a frijol común (*Phaseolus vulgaris*).

El maíz de El Topacio es probablemente un precursor del complejo Chapalote/Nal Tel/Pollo. En San Rafael la mayoría de los granos parecen representar la línea de descendencia Chapalote/Nal Tel/Pollo, aunque unos pocos granos más grandes podrían indicar una línea de evolución que se dirige hacia una raza moderna de maíz colombiano llamado Cabuya. El maíz de Jiguales se divide en dos grupos; la mayoría de los granos representan el complejo Chapalote/Nal Tel/Pollo, mientras que tres granos más grandes tienden hacia la raza Cabuya.

Los frijoles del período Yotoco en San Rafael son las primeras muestras arqueológicas de frijol procedentes de Colombia, que se han analizado. A pesar de la variabilidad en tamaño, sólo una raza parece estar presente. Los frijoles que más se parecen a estos son los del sitio Huacaloma en Cajamarca, Andes del norte del Perú. Estos, así como los de San Rafael, son más pequeños que los «porotos» de los Andes Centrales y del Sur y de la costa peruana, lo cual plantea la posibilidad de una domesticación independiente de *Phaseolus vulgaris* en el norte de los Andes.

Otras identificaciones menos seguras del material vegetal de Calima incluyen una semilla que podría ser

de altramuз comestible (*Lupinus mutabilis*), y de El Topacio, una única semilla, identificada tentativamente como de achiote (*Bixa orellana*).

Análisis Petrológico de la Cerámica Ilama

Por F. E. S. Roe

Se hicieron láminas delgadas de veinte fragmentos cerámicos Ilama, las cuales fueron examinadas con el microscopio petrológico. Esto permitió distinguir dos clases distintas de pasta. El Grupo con *Desgrasante de Tonalita* contiene fragmentos de roca triturada, mientras que las *Pastas Finas Ilama* tienen una cantidad pequeña de roca de grano fino y además material férrico agregado.

Se examinó también un fragmento de una vasija elaborada recientemente como experimento. Estaba hecha con arcilla de el valle de El Dorado, sin aditivos. Se encontró que su contenido era de 75.2% arcilla, 19.9% cuarzo y feldespato y 4.9% hierro.

Los cuatro fragmentos correspondientes al Grupo con *Desgrasante de Tonalita* tienen, en promedio, 53.35% arcilla, 38.5% cuarzo y feldespato y 3.02% hierro. La pasta es relativamente burda y también contenía cantidades variables de tonalita. La comparación de éstos con el fragmento de la vasija experimental sugiere que se agregó deliberadamente roca triturada a la arcilla.

Los quince fragmentos correspondientes a las *Pastas Finas Ilama* en promedio contienen 62.13% arcilla, 20.33% cuarzo y feldespato y 10.42% hierro. La pasta es de grano más fino que la del Grupo con *Desgrasante de Tonalita*, contiene menos granos grandes, y los fragmentos de roca llegan únicamente al 1.612% del total. Estos tiestos parecen tener algo de óxido de hierro agregado como desgrasante.

La fuente de donde se obtuvo la materia prima para estos dos grupos podría relacionarse con las intrusiones de tonalita en las vecindades de Restrepo. El principal aflora-

miento de ésta se halla en El Tambor, al Este de Restrepo. Los tipos de suelos podrían ser pertinentes también y la Serie Parnaso (Serie 200), derivada de rocas volcánicas, contiene pequeñas concreciones de hierro. Así mismo algunos de los minerales que se observan en la cerámica también ocurren en la ceniza volcánica, que se encuentra en muchas partes del área estudiada.

No siempre es fácil distinguir los dos tipos de cerámica a simple vista o con la lupa, pero las inclusiones en la arcilla se pueden apreciar en fragmentos cerámicos partidos con sierra. Se concluye que tanto los fragmentos de tonalita triturados, como los nódulos férricos, fueron agregados a la arcilla, pero no se encontró diferencia cronológica entre los dos tipos de pasta.

Investigaciones arqueológicas en la Región Pavas-La Cumbre

Por Theres Gähwiler-Walder

1. Introducción

La región Pavas-La Cumbre se diferencia de las regiones vecinas por la presencia de entierros en urnas. La continuación de los trabajos empezados en 1981 gira en torno a este rito, tratando de definirlo geográficamente en la forma más precisa posible y ubicarlo en relación con las regiones vecinas, sobre todo con la región de Calima. Se mostró que se trata de dos zonas separadas e independientes, con diferente desarrollo cultural. La extensión geográfica del rito corresponde más o menos al municipio de La Cumbre (Fig. 52).

2. Costumbres funerarias

Como se mostró, el entierro secundario en urnas predomina en la zona de Pavas, además existen también diferentes clases de entierros con restos óseos, cuya asignación temporal no es clara por falta de fechas.

2.1 Entierros secundarios en urna (Figs. 54–66)

La Amapola T1, T2, T5 en La Cumbre y La Bolivia T1 en Cordobitas son tumbas características para la región Pavas (Figs. 54, 60 y 61). La tumba de pozo circular o rectangular oscila entre 4 y 5 m de profundidad. Generalmente se abre hacia el occidente una cámara lateral que contiene una urna con restos óseos y en algunos casos pequeñas vasijas como ajuar funerario (Fig. 61). En La Bolivia T1, la entrada a la cámara lateral estaba bloqueada con estacas, cuyas fibras se pudieron observar. El estado de conservación del contenido de las urnas varía y esto depende de qué tan herméticamente se selló la tapa. En T1 y T5 se hallaron fragmentos de textiles (Fig. 55) y sobre los huesos se observaron las huellas de los mismos.

La Amapola T4, La Cumbre se diferencia de las demás tumbas, ya que muestra un pozo de planta pentagonal (Fig. 56). También hay ciertos elementos en común con la tumba vecina Rancho Grande, como por ejemplo, el nicho con una pequeña vasija, construido a media profundidad y orientado hacia el Este (Fig. 57). A 3.80 m de profundidad se abre una cámara lateral que está orientada hacia el occidente y contenía una urna. Los huesos hallados dentro de ésta mostraban curiosas huellas (Fig. 59).

Especial mención merece el complejo funerario Rancho Grande, que fue descubierto por guaqueros. Dos pozos, uno circular y uno rectangular, conducen a una cámara que muestra una figura antropomorfa al estilo de Tierradentro (Fig. 63 y 64). Según nuestra interpretación se trataba originalmente de dos tumbas independientes. El pozo circular fue construido posteriormente y como en la Amapola T4, dotado con un nicho a 2.50 m. de profundidad. A 3.95 m de profundidad se llegó a la cámara ya existente, la cual contenía la figura. Para no alterar esta tumba, taparon nuevamente el orificio con piedras y bloques de tierra y la urna fue colocada en el fondo del pozo circular (Fig. 62). Un análisis de radiocarbono de los huesos de la urna grande permitió obtener una fecha de 1060 ± 70 D.C. (B-4031).

88 Esto significaría que la tumba con la

figura fue erigida en una época más temprana. Para la región de Tierradentro existen desafortunadamente sólo dos fechas, las cuales pueden ser aprovechadas para comparación. La primera proviene de un entierro primario en Santa Rosa, con una fecha de 630 D.C. (Chaves y Puerta 1980: 73). La segunda fecha corresponde a la Tumba A-3, Loma del Aguacate es de 850 ± 200 D.C. (Chaves y Puerta 1986: 121). El sitio Rancho Grande encuadra muy bien en este lapso de tiempo.

2.2 Entierros primarios (Figs. 67–69)

Además de los entierros secundarios en urnas, hemos hallado dos clases de entierros primarios. La primera categoría es muy parecida a las tumbas de pozo con cámara lateral. Las cámaras laterales tanto de Matadero T1, como La Amapola T3, en la Cumbre, estaban derrumbadas (Fig. 67), y no contenían ajuar funerario. Ambas tumbas tenían nichos longitudinales y no muy profundos.

En el transcurso de las excavaciones, se presentó otro tipo de entierro primario: Purilia y La Escocia en La Cumbre. Se trata de tumbas de aproximadamente 2.50 m. de profundidad. Tienen un escalón en el piso (Figs. 68 y 69), el cual sugiere un ataúd de forma longitudinal, rectangular. Ninguna contenía ajuar funerario, aparte de algunos tiestos y unos restos de carbón, los cuales proporcionaron una fecha de 530 ± 70 D.C. (B-4679) para la tumba Purilia.

3. Asentamientos (Figs. 70–72)

La región de la Cumbre es rica en plataformas de vivienda prehispánicas, las cuales se pueden reconocer muy bien en el paisaje actual.

Se llevaron a cabo excavaciones en una plataforma en la Amapola, (Fig. 53 y 70) localizada cerca de un cementerio que contenía urnas típicas de Pavas. Se realizó un corte Este-Oeste de 13.90 m de largo por 90 cm de ancho y se excavó por niveles arbitrarios de 10 cm de espesor. La capa cultural llegó hasta 60 cm. de profundidad. La mayor densidad de material cultural se encontró entre 30–50 cm de profundidad en la pendiente oriental de la plataforma (Fig. 71). Entre los

hallazgos registrados cabe anotar una piedra con decoración (Fig. 72). La proporción de artefactos líticos fue mayor que la de cerámica. Los tiestos contenían poco material diagnóstico y todo éste puede asignarse al período tardío. El análisis del carbón vegetal recogido entre 40–50 cm proporcionó una fecha de C^{14} de 1390 ± 50 D.C. (B-4684).

El perfil resultante no reveló ninguna modificación de los estratos de la plataforma para nivelar y ampliar la superficie de ésta (Fig. 71).

4. Fosos con cerámica (Figs. 73–74)

El foso en el Matadero, La Cumbre, tenía una forma irregular (Fig. 73). A 70–80 cm de profundidad se notó una ampliación en forma de bolsillo hacia occidente. El depósito de material cultural alcanzó una profundidad total de 120 cm. El inventario de hallazgos era rico en material cerámico. Los tiestos se clasificaron en dos categorías: paredes gruesas, como las de las urnas de Pavas; paredes delgadas como las de las tapas de urna y y otros objetos funerarios. Algunos tiestos tenían decoración (Fig. 74), similar a la del período Sonso. No se encontraron ni restos de carbón ni otro material orgánico. Como en diferentes niveles se encontraron fragmentos de la misma olla, se concluye que el material dentro del foso se acumuló rápidamente.

5. Cronología

La lista de fechas muestra que los entierros en urnas han perdurado en un lapso grande de tiempo (Fig. 75). Gran parte de las fechas se sitúa dentro de la segunda parte del primer milenio D.C., que cronológicamente corresponde al final del período Yotoco en la zona Calima. Yotoco y Pavas parecen ser contemporáneos, pero no comparten rasgos comunes. Los rasgos estilísticos de Pavas se asemejan más a los del período Sonso. La alfarería de la zona Pavas tiene los elementos decorativos como por ejemplo impresiones triangulares, pintura negativa, incisiones, cordones aplicados, que caracterizan al horizonte tardío en gran parte del suroccidente del valle del Cauca. Las urnas de Pavas son desconocidas en Calima mientras que

en la región de Pavas casi no se presentan hallazgos Yotoco. Con la tradición Yotoco se asocia también una orfebrería muy elaborada mientras que en la región de Pavas la falta de ésta es notoria.

Unicamente en Bitaco sabemos de vestigios funerarios similares a los de la época Yotoco. El ajuar de estas tumbas es característico del período Yotoco. Bitaco parece estar en una zona donde las influencias de Calima y Pavas se translanan.

Existen otros nexos, tanto cronológicos como formales, con material proveniente del Noroccidente del valle del Cauca (Salgado 1986: 116) y Guabas (Rodríguez 1984: 106).

Determinadas formas de urnas no pueden todavía asignar a determinadas épocas o lugares geográficos. Las urnas muestran una amplia variación que alcanza desde las formas subglobulares hasta las cilíndricas.

Para entierros primarios disponemos hasta ahora sólo de dos fechas. La fecha de Purilia 530 ± 70 D.C. (B-4679) es relativamente temprana. Para esta categoría de entierros tampoco existe ninguna fecha comparable de las regiones aledañas. El sitio de Ocache ha sido discutido en *Pro Calima* 3.

La fecha del sitio de vivienda La Amapola P1 pertenece al siglo XIV D.C. Por la delgadez de los depósitos culturales no se observó ningún desarrollo cultural.

Excavaciones en sitios de vivienda prehispánicos en Jiguales, Calima (primera temporada)

Por Carlos A. Rodríguez
y Vladimir A. Bashilov

Investigaciones conjuntas entre especialistas del Instituto Vallecaucano de Investigaciones Científicas (Cali, Colombia) y el Instituto de Arqueología de la Academia de Ciencias de la U.R.S.S. (Moscú) se realizaron en el año de 1983 en el poblado prehispánico «Cabo de la Vela», el cual ocupaba seguramente una

posición central en el «vallecito de Jiguales», una pequeña ramificación del valle del río Calima. El poblado estaba conformado por 24 plataformas (tambos), hechos en las pendientes, en los cuales se construían las viviendas indígenas y por una altiplanicie en la parte superior del cerro. En las pendientes también fueron hallados canales de drenaje de eras de cultivo y en la parte más baja del cerro, un cementerio nucleado (Figs. 76 y 77).

La excavación de sitios de habitación se realizó en la parte baja de la ladera NE del cerro y abarcó una extensión horizontal de 106 m^2 , cubriendo la totalidad de dos plataformas artificiales para vivienda (tambos 4 y 4a) (Figs. 78 y 79). Igualmente, se excavaron tres tumbas de pozo con cámara lateral, pertenecientes a la cultura Sonso. En general, se obtuvo información referente a las construcciones como: el piso original de las plataformas, pequeñas cunetas, probables pozos para almacenamiento y huecos de postes de antiguas viviendas. Además, se encontró una muestra representativa de cerámica y artefactos líticos de diferentes culturas. La cerámica recogida del antiguo piso de ocupación de la plataforma 4a pertenecía a la cultura Yotoco (Fig. 80); además un análisis de C14 dió una fecha del siglo XI (1020 ± 70 D.C., Beta-16334), lo cual sitúa la construcción y ocupación del tambo 4a hacia el final del segundo complejo alfarero de la región Calima. El estudio de la cerámica de la plataforma 4 y una fecha de radiocarbono indican que a mediados del siglo XVI D.C. (1550 ± 70 D.C., Beta-16333), todavía subsistían en Jiguales, pequeños conjuntos de plataformas artificiales, donde construían sus viviendas las familias indígenas pertenecientes al período final de desarrollo de la tradición cultural Sonso.

Excavaciones arqueológicas en sitios de vivienda prehispánicos de la región Calima (segunda temporada)

Por Héctor Salgado López

En este artículo se presentan los resultados del segundo proyecto de investigación a cabo en un sitio de vivienda prehispánica de la región Calima; el cual fue realizado entre finales de 1984 y comienzos de 1985 y contó con el apoyo financiero del Instituto Vallecaucano de Investigaciones Científicas INCIVA.

La investigación se efectuó en la parte más alta del cerro (Fig. 76, ver artículo anterior en este número) y consistió en excavar parte de un asentamiento por medio de un corte de 227 m^2 . Al terminar la excavación se pudo apreciar una zona de ocupación en la cual había cerámica, artefactos líticos, manchas irregulares de tierra quemada, fogotas y fogones con semillas carbonizadas de maíz y posiblemente de frijol; una cuneta, probables pozos para el almacenamiento de granos o víveres, una tumba asociada a una vivienda y huecos de postes que permitieron reconstruir cuatro plantas de vivienda de la cultura Sonso y una de la cultura Yotoco (Figs. 81 a 86).

Dos de las construcciones Sonso son de planta circular-irregular (V-1 y V-4) y de poco tamaño (Fig. 83). La vivienda dos (V-2) corresponde a una planta rectangular Sonso, excavada parcialmente (Figs. 82 y 83); el análisis del carbón vegetal recogido en los huecos de poste, que forman la vivienda dos, arrojó una fecha del siglo VII D.C. (650 ± 80 D.C., Beta-16945), para esta construcción.

La estructura de mayor dimensión también pertenece a la época Sonso (V-3) y es una planta de forma ovalada de un bohío grande (Figs. 82 y 83); el carbón proveniente del declive de la pared posterior de esta vivienda (cuadrículas B4, B5 y B6) permitió obtener una fecha del siglo IX D.C. (860 ± 60 D.C. Beta-16946), para la ocupación inicial del bohío tres.

La construcción Yotoco (V-5) es una pequeña planta circular-irregular (Figs. 81 y 83); en los límites de su perímetro se halló una pequeña tumba de pozo con cámara lateral, pero los guaqueros ya la habían saqueado (Fig. 85,4). Dentro de esta planta, también, se localizó un profundo hoyo (1.68 m) que pudo servir para guardar provisiones (Fig. 85,1); carbón vegetal procedente de este hueco dio una fecha de radiocarbono de 370 ± 60 D.C. (Beta-16947), la cual indica que la construcción del pozo y, posiblemente, de la vivienda que lo cubría (V-5) se realizó en las últimas décadas del siglo IV D.C., o sea en una fase temprana del desarrollo de cultura Yotoco.

El estudio de todos los elementos culturales permitió establecer que tanto las plataformas de las laderas como las viviendas de la parte superior del cerro fueron utilizadas con fines domésticos, pero no, necesariamente, todas tuvieron la misma función como lo demuestran el bohío Yotoco (V-5) y a la pequeña vivienda Sonso (V-4), las

cuales fueron construídas para cubrir los pozos donde se almacenaban productos; las otras viviendas sirvieron para dormir y preparar alimentos, pues así lo señalan las dimensiones de las plantas, las fogatas con carbón, las semillas, la tierra quemada, los tiestos e instrumentos líticos.

Igualmente, las excavaciones permitieron deducir la existencia de un mismo patrón de asentamiento, durante las dos culturas por medio de un poblamiento disperso en pequeños grupos de viviendas semi-nucleadas o en viviendas individuales, ubicadas en plataformas artificiales o en áreas aplanadas, siempre cerca a los campos de cultivo con eras y zanjas de drenaje (ver artículo anterior en este número, Figs. 76 y 77). En cuanto a las pautas funerarias se encontró, al igual que en otros sitios de la región Calima, la costumbre de enterrar cerca o dentro de las viviendas en ambos períodos o en un cementerio nucleado en la época Sonso.

La pauta de asentamiento y el tipo de vivienda estudiado en Jiguales

(Calima) es similar a la pauta de habitación encontrada en otras áreas arqueológicas del suroccidente colombiano (San Agustín, Tierradentro y Nariño), para períodos arqueológicos que tienen una ubicación temporal similar con la de Yotoco y Sonso.

En términos generales los resultados arqueológicos, proporcionados por ambas investigaciones, indican que en el cerro «Cabo de la Vela» hubo ocupaciones prehispánicas que corresponden a las culturas Yotoco y Sonso; pero, la prescencia de unos pocos fragmentos de cerámica llama sugieren que en alguna época hubo, en la parte alta del cerro, un asentamiento del complejo alfarero más temprano de Calima. También se logró establecer, por medio de los resultados de C14, que el cerro fue ocupado, alternadamente por grupos Yotoco y Sonso durante unos mil docientos años, desde el siglo IV D.C. hasta poco tiempo después de la llegada de los colonizadores europeos al Valle del Cauca (siglo XVI D.C.).

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