abstract

This study is a report on an archaeological survey and excavations undertaken in the Coclé Province of Panamá, between the Santa María and Coclé rivers, from October, 1969 to April, 1970. Five sites were excavated and forty-three collected from the surface. A four-phased sequence of polychrome pottery is established according to the stratified position of sherds in the excavated units and statistical analyses of the surface samples. Transitional forms between the four major Polychrome Groups are suggested and other polychrome types whose relative age is less clear are described. Non-polychrome pottery is analyzed and the categories assigned an approximate relative age. Faunal refuse excavated at three sites is described and a list included of all the animal bones, shells and plant remains identified to date. Artifacts in bone and stone are described. The archaeological chronologies of all the sites excavated in western Coclé by the author and other investigators is assessed and an approximation made of the relative ages of some of the surface-collected sites. The ideas of S.L. Lethrop concerning the chronology of the Sitie Conte and "Coclé" culture in general are reconsidered. A reconstruction is attempted of the pattern of life from 5000 B.C. to the Conquest according to available archaeological and ethnohistorical evidence. A survey is made of the relationships between the surveyed area and regions outside the frontiers of Coclé, incorporating much data that is unpublished. The emphasis in the descriptions and analyses is on the horizontal development of culture throughout the Pacific littoral of Panamá east of Chiriquí and not on isolated regional developments. A gazetteer of all known archaeological sites is included, with precise topographical locations where possible.
ACKNOWLEDGEMENTS

So many number the people who have helped me with this project that a listing of them would appear apocryphal; sed Apocrypha veritatem dicat.

The project was first suggested to me by Mrs. Eronay Hankey; much invaluable help both material and intellectual was provided by the members of the "Ilanos de Coolé" irrigation project: Mr. and Mrs. Robin Goodyear, Mr. and Mrs. Rupert Thorp and Massara. Mike Clark and Robin Cadwallader of the British team; and Sr. Abraham Ross of the Panamanian team. To Robin Cadwallader I am indebted for having let me litter his house with sherds during the first season. Three vehicles were very kindly loaned to me by the Anthropology Department of Florida State University, without whose help the project would have failed utterly. Continual help and advice was given by Dr. Edwin Tyson and Horace Loftin, of the Canal Zone Branch of Florida State University, and by members of the Isthmian Anthropology Society who helped me with surface collections and provided me with photographic and other facilities in the Canal Zone. Special thanks are due to Dr. and Mrs. Wallace Snyder, Mr. and Mrs. "Brownie" Brown, Sra. Las Joly and Mrs. Ruth Stuhl. Help in the excavations was provided by Miguel Becerra, Jose Maria Dolores, Adan Ortega, Basilie Ortega, Manuel Saavedra and Albin Land, who were a superlative team. A great number of the archaeological sites were located by Luis "Cholo" Calve whose knowledge of the prehistory of Coolé is formidable. The site survey is really his work. To Olga Linares I am indebted for much professional help and advice and for the acquisition of photographs of Mason’s pottery from the University of Pennsylvania Museum. Dr. Alain Ichon, of the Musée de l' Homme, Paris, has been exceedingly unselfish in his release of much unpublished data on the French Project in Tonosi and in his permission to allow me to photograph much of his material; it was through his agency that the carbon-14 date was run. He has supplied me with a constant stream of information. Dr. Charles McGimsey III turned over to me his unpublished field notes on his campaign in Coolé in 1955–1956 and provided me with facilities to study the sherd collections in the University of Arkansas Museum; any faults contained herein com-
concerning his work are entirely my own. Dr. Junius Bird granted me permission to include in this study drawings and photographs of unpublished collections from Coclé housed in the American Museum of Natural History and also copies of the field notes and sketches of A. Hyatt Verrill; Dr. Gordon Willey to include drawings of sherds from the unpublished collections from Site de Conte in the Peabody Museum; and Dr. Frederick J. Dockstader to include photographs of unpublished material excavated by Philip Dade housed in the Peabody Museum, Museum of the American Indian. Animal and plant remains from the excavations were identified by Dr. Alexander Wetmore, Smithsonian Institution; Dr. Sidney MacDonald, Mississippi State University, who also made botanical notes for me in the field; and by personnel of the British Museum of Natural History: Dr. Juliet Clutton-Brock, Mr. M. Sheldrick, Dr. Gareth Underwood, Dr. E.B. Greenwood and Mr. A. Stimpson. Finally, thanks are due to Dra. Reina Torres de Araúz, Directora del Patrimonio Histórico de Panamá, for granting me permission to excavate in Coclé and providing me with her library facilities; to Dr. Roberto de la Guardia, for unearthing obscure documents on Panamanian prehistory; and to all the officials of the Museo Nacional de Panamá, especially Raúl González, Gladys de Brizuela and Pedro Quiros. The last-named is responsible for locating a number of archaeological sites in Coclé. My supervisor, Dr. Warwick Bray, has dealt with me with patience and understanding during the project and my parents have had to put up with potsherds and dust and bones for far too long; their encouragement during the writing-up period has been invaluable.
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CHAPTER I

COCLE IN THE ARCHAEOLOGY OF PANAMA

For the romantically minded, Panamanian archaeology was born in 1858, when the notorious cemetery of Bugaba, in the Province of Chiriquí, was opened and found to contain a plethora of gold objects. The possibilities of a California half-way to San Francisco engendered a veritable gold-rush, and soon other Pre-Columbian cemeteries from Bugabita and Boquete were looted (Otis, 1859 and Bateman, 1860). Bollaert summarises the instant enthusiasm for the finds:

"Much excitement was lately occasioned at Panamá,...by the accidental opening of Indian graves, in the Chiriquí district, 150 miles distant, and the discovery therein of large quantities of golden images. As there are supposed to be many thousands of these graves, hundreds of persons have gone thither and thousands of dollars worth has been taken out and sent to Panamá" (1860: 31).

Chiriquian artifacts, both metal and ceramic, soon inundated museums and institutions all over Europe and the United States. A rudimentary attempt to make a scientific classification of tombs and objects was undertaken by de Zeltner, then French consul in Panamá (de Zeltner, 1866 and 1967), and the two classic museum studies of the Province's archaeological wealth, by Holmes (1888) and MacCurdy (1911), were based primarily on the collections of the French diplomat.

It was in these pioneer works that the first illustrations of the elaborate polychrome ceramics, now recognised as originating in the Provinces to the east of Chiriquí, were published. The pieces were mostly without proveniences or excavation notes and the authors logically considered that they were the products of exceptionally able local potters (Holmes, 1888: figs. 183 & 207 - 215; MacCurdy, 1911: Front., Plates XLIV and XLV and figs. 246 & 255 - 258; Lothrop, 1942: figs. 223, 480, 482 & 485).
The wealth of Chiriquí soon attracted Max Uhle, who made a brief visit to Panamá and published five new examples of the "exotic polychromes" housed in the Museo Nacional: an unprovenienced pedestal plate; two bird-effigy jars from Parita; and two other painted jars (Uhle, 1924: 194-5 and fig. 1.) Uhle correctly envisaged a wider distribution throughout the Republic of these polychromes:

"Hay que suponer que el tipo estaba desde antes radicado en el país, porque no hay duda que el número de sus representantes va a aumentar más, cuando las sepulturas panameñas menos se abren con el solo interés en el oro que contienen, y que por el carácter de civilización tuvo que faltar en sepulturas de esta clase" (op.cit.: 196.)

But his interest was merely transitory, and the article seems to have been written with the express purpose of proving that the dominant influences in Panamá were Mayoid. The arguments are hammered home with dialectic manipulations of great verve. As Diffusionism, in its essentially unmodified form, was the dominant creed of the time, Uhle can hardly be criticised for his exotic extrapolations.

Some years before Uhle's visit to Panamá, the archaeological emphasis on Chiriquí was mitigated by an exhibition of local Panamanian products for the inauguration of the Panamá Canal in 1915. It contained a collection of Pre-Columbian pottery from the Province of Coclé, and attracted the attention of the owl-eyed Karl Curtis who subsequently visited the locality whence the pottery was supposed to have come. Curtis' investigations led directly to the campaigns in Coclé of A. Hyatt Verrill, in 1925-6, and Harvard University, between 1931 and 1934, which first established the Province firmly on the archaeological map. (See Lothrop, 1937: 30-31, for a brief summary of Curtis' work in the Province.)

The British Museum bibliography lists no fewer than seventy-three publications under the name of Alpheus Hyatt Verrill, with titles as diverse as "The A.B.C. of Automobile Driving," "Harper's Wireless Book," and "Deep Sea Hunters of the Frozen Seas." His eccentricities
seem to have won him few friends in the academic world and his relations with Lothrop were certainly not cordial. Unfortunately, the sites discovered and worked by Verrill have only been published in a preliminary or popular form (see Verrill 1927a, 1927b, 1928 and Verrill & Verrill, 1953; ) his exegeses are often extremely bizarre; and some of his sites are impossible to relocate. To judge from his field notes, and the large collections of pottery housed in the American Museum of Natural History and the Heye Foundation, he traversed every centimetre of Coclé and excavated at least four interesting sites, among them the "Temple Site," near El Caño, whose recent destruction and loss is an unfortunate disaster. With the authorisation of Dr. Junius Bird of the American Museum of Natural History, illustrations of Verrill's finds and quotations from his unpublished field notes will be incorporated within this study.

In 1928, a Panamanian by the name of Agustín Ferrari undertook an archaeological survey and excavations in Coclé, and recorded his findings in two short articles. Small-scale digs were made at Las Barrancas, Potrero Riquelme, La Herradura and at other localities in the Province, and a detailed description of the artifacts was made, (See Ferrari, 1928 and 1932,)*

The first organised scientific expedition to visit Panamá excavated in Coclé between 1931 and 1934, under the general direction of S. K. Lothrop. Work concentrated on a site of immense wealth which had been unearthed from the banks of the Río Grande by erratic flood waters. The amazing discoveries of the Sitio Conte, as the site is now known, need no introduction for the results were published in two sumptuously illustrated volumes (Lothrop, 1937 and 1942.)

* I am indebted to Dr. Roberto de la Guardia for having brought to my attention these obscure documents.
The site was later visited by a University of Pennsylvania team under Alden Mason, in 1939, but the results of these excavations were limited to two short articles, and most of the material remains unpublished (Mason, 1940 & 1942.)

The impact of the Sitio Conte upon the archaeology of Panamá is perhaps best summarised in these words by Stirling:

"Seldom has a single archaeological site received the detailed study that has been accorded the Sitio Conte in the Province of Coclé, Panamá;......it is the first site to receive scientific field study in Panamá despite the fact that many Museums are loaded with Panamanian pottery, the byproduct of a century of systematic grave looting in search of gold. The basic background work for Panamanian archaeology has been done" (1949b: 514-515.)

It has become fashionable at the present time to "knock Lothrop". The primary criticism of the work at the Sitio Conte has always been that Lothrop failed to make full use of the stratigraphy that was obviously present at the site; and that consequently, as his sequence of graves cannot be guaranteed, his stylistic breakdown of the funerary pottery is erroneous. It is true that Lothrop largely ignored the stratigraphic accumulations of refuse and concentrated on the excavations of graves. No doubt, a contemporaneous exploitation of both types of deposit would have facilitated chronological interpretations. Nevertheless, a glance at the detailed record of excavations, would, I am sure, make most excavators cringe: the superimposition of graves and the looting of earlier graves by subsequent generations created a hotch-potch deposit which cannot have been easy to decipher. Lothrop's absolute life-span for the burials of only 190 years, although several centuries too late, might not be far from the truth. It is true, too, that some of the excavator's omissions and conclusions are puzzling, but there was a dearth of comparative material available at the time of the publication of the project, and his Diffusionistic emphasis was merely, like Uhle's, a sign of the times.
After 1942, Lothrop was always ready to modify his ideas in the light of new evidence. It is not easy to incorporate the Sitio Conte into subsequent studies, but this is primarily due to the relative massiveness of the site over others in the area: its interpretative influence is bound to be disproportionate. Some of the problems of the chronology and ceramic sequence of the Sitio Conte will be discussed in this study and some of Lothrop's initial ideas reconsidered. But the fact remains that we are indebted to him for the discovery of an important part of Panama's prehistory and for the exquisitely detailed publication of what amounts to a fantastically rich site. The Sitio Conte is treated herein as "just another site" and is relegated to a numerical PB-5, but this is done to place the site in a broader archaeological context and not to minimize its intrinsic splendour.

Lothrop divided the Sitio Conte into two major phases, "Early," and "Late," according to a stylistic breakdown of the polychrome pottery recovered in the graves. A third phase - the Period of Decline - was added to include the final years of the site when the quality of the grave furniture seemed to diminish drastically (1942: II & I83-I98). In addition to the "local" polychromes ("Sitio Conte Polychromes"), which were divided into two categories, based on vessel shape and elements of the design, within the two major phases - "Early Polychrome Carafes," "Late Polychrome Rounded Bowls" - seven polychrome "foreign styles" and nine "exotic black-line styles" were differentiated on the basis of anomalies in design, line and quality, and considered to have originated in unspecified "foreign" localities. Monochrome and other plain wares were also described and an appendix added illustrating examples of polychrome and plain pottery of similar styles from regions outside Coale - Parita, Macaracas etc. - whose temporal and spatial significance was not appreciated at that time.

"The system utilised in this study for the nomenclature of sites is discussed on pp. 488-492."
Lothrop's research into Colonial accounts was always very thorough and his summaries of historical events following the Conquest of western Panamá remain the best available in English. However, as far as the Sitio Conte is concerned, this reliance on the rather meagre ethnographic evidence in the chronicles led to some rather risky conclusions concerning the date of the occupation of the site. Presuming that the gold objects from the rich graves "were obviously the same as those described by the Spaniards" (op. cit.: 192,) he concluded that the final occupation must have been more or less coeval with the Conquest and attributed the so-called "decline" to the subjugation of the overlord of Sitio Conte by Natá, who was the dominant "cacique" at the time of Badajoz' first incursion, and resided in the town which bears his name, five kms. to the south-west. The absolute chronology worked out for the graves was based on this assumption of contemporaneity and was accordingly backdated from 1520 to 1330 A.D. The 190 year span itself was based on:

"stylistic analyses which are not open to exact demonstration, and also on the assumption that the average working life of a potter was approximately forty years, which is surely a maximum figure. The total period of about two centuries........ might therefore be reduced. On the other hand, two thin sterile bands in the refuse may represent occasions when the site was temporarily abandoned, which would increase the length of occupation" (Lothrop, 1942: 199 and Table VI.)

The most important long-term repercussion of Lothrop's sojourn at the Sitio Conte was the entrenchment of the term "Coclé" in the archaeological terminology of Panamá.* Though Lothrop himself admitted that his analysis of the material could only be temporary, and though he realised the localism of his discovery, he contradicted himself by concentrating in the latter stages of the 1942 volume (pp. 221-248,) on a "Coclé culture" which carried its artifacts by "trade" over a wide area. The objects illustrated, for example, in figs. 477 a, b

* The limits of this "Coclé culture" are given in Lothrop, 1942: fig. 486. It was the fourth "culture area" formulated for Panamá, the others being "Chiriquí," "Veraguas" and "Darién."
known to post-date the typical "Sitio Conte Polychromes" all over west-central Panamá. Lothrop noticed the dissimilarities in style between these ceramics and the "Sitio Conte Polychromes," but to state in one breath, when referring to a plate obviously anomalous from the major sample that "no comparable design is on record," and then to include the piece in question and five others, under the general heading of "Coclé artifacts spread by trade" is puzzling. This insistence upon the fact that all polychrome vessels found outside the Coclé area defined in 1942, fig. 486 were artifacts carried by trade and contemporary, led directly to the gross misinterpretations of Lothrop's 1950 publication on Veraguas, wherein as many as 200 polychromes were dismissed as trade pieces. Though the work conducted after 1942 has helped to clarify some points of chronology and style, the detrimental influence of these ideas is still at large. The following chapters of this study will discuss more minutely the whole problem of the terminology and the distribution of ceramics in west-central Panamá, but it is worth bearing in mind at this juncture, before the mass of names is reached, that subsequent interpretations of the fine polychrome wares, "culture areas," and chronological sequences have been seriously distorted by the concept of type locality and expansion from a centre of origin. Interpreters have too often looked for fine differences rather than general similarities without enough comparative material to substantiate their impressions.

Following the Harvard and Pennsylvania excavations at the Sitio Conte, there was a quiet decade until the arrival of the National Geographic - Smithsonian Expedition of 1948-49, which concentrated work along the eastern side of the Azuero Peninsula. The results of these campaigns, and a follow-up season in 1952 by Willey and McGimsey, have been published in a series of monographs and shorter articles, while
some material, notably that from Mojarra, near Ocú, still remains unpublished (Stirling, 1949a, 1950 & 1953; Willey and McGimsey, 1952 & 1954; Willey and Stoddard, 1954). The work "in toto" amplified considerably the archaeological picture of the western Pacific littoral of Panama and was the first to attempt a broader appreciation of the resources of the region: complete site surveys were conducted and stratigraphic excavations of middens undertaken alongside the digging of tombs. Of the several sites studied, only one was in the Coolé province - Co-2, Cerro Girón (AG-2 in my site list), which was excavated with a triad of stratitests and gave the first indications of a greater time depth in the region than that suggested by Lothrop's chronology. Two new complexes of pottery, labelled "El Hatillo" and "Santa María", were described as different from the "Coolé" complex, which comprised both early and late styles at Sitio Conte. Co-2 lacked physical stratigraphy, but on the basis of quantitative evidence, Willey and Stoddard created a Santa María Phase based on a Santa María pottery complex "which extended around Parita Bay from the Sitio Conte at least as far as the Girón site. The Santa María Phase immediately preceded and seems to have been in part ancestral to such phases as the Coolé at Sitio Conte and the El Hatillo further south" (1954: 339). The other new complex, El Hatillo, was found mixed with Coolé pottery only in the upper few levels, and Willey and Stoddard concluded that the two styles were contemporaneous but with different centres of distribution; hesitantly, because:

"the presence of Coolé polychrome in the Parita locality and the relationship to El Hatillo is even more puzzling than the relationship of the two styles at the Sitio Conte. Near Parita there are sites with graves that yield a "pure" or slightly variant Coolé Polychrome and nothing else. . . . The Sitio Pinilla is such a location. . . . yet Sitio Pinilla is not more than two miles from the Delgado site (a pure El Hatillo manifestation), and not more than four miles from the El Hatillo type site. The geographical proximity of these sites suggests, again, a chronological difference, but we have no clue as yet as to what this difference might have been" (op.cit., 340).
The new Santa María Phase as established by Willey and Stoddard was allotted a chronological position, based upon Lothrop’s original two-hundred year span at Sitio Conte, to about 1300 A.D. The El Hatillo complex was made coeval with Parita-Coclé and another new complex known as La Mula. A further complex, the Alvina, isolated at the Monagrillo site, was linked with the Early Coclé pottery, and two others, the El Tigre and La Arena, were assigned Colonial and Modern dates respectively.

While writing the Cerro Girón report, Willey and Stoddard had noticed the possibility of extracting stratigraphic information from the Sitio Conte itself, and in 1957 Ladd published an analysis of selected samples from Trench XI which was dug in 1934 some distance away from the cemetery area. Though only gross inferences could be made because of the nature of the sample, the results in general corroborated the Cerro Girón findings. Willey’s system of nomenclature was preserved and a percentage calculation of pottery per excavated unit revealed a tripartite clustering of polychromes, with El Hatillo overlying Coclé and Coclé overlying Santa María. For the first time an attempt was made to discern chronological changes in “utilitarian” wares which likewise proved susceptible to quantitative analysis.

Ladd’s study indicated a considerable overlap of the three styles:

“(the results) support the impressions of Willey and Stoddard (1954) that the bulk of the Santa María Polychrome occurs in levels lower than those containing the bulk of the Coclé sherds. However the present study indicates a considerable overlap of the two styles which had not previously been demonstrated and, in addition, places the greatest concentration of Coclé at lower levels than was believed to be the case. Finally, the El Hatillo ware, while overlapping Coclé styles as had been expected, is more heavily concentrated in the extreme upper levels than Coclé and thus appears to have reached its greatest popularity after that of Coclé had begun to decline. The finding indicates a slightly different sequence than that at the Girón Site where the highest concentrations of Coclé and El Hatillo appeared in the same levels.” (1957: 266).
Though Ladd thought that the appearance of distinctive rim types might indicate gradual evolution, the "overlapping" suggested was calculated on statistical grounds, and no case was presented either for the intrusion of the Coclé material, nor for its stylistic origins in the Santa María complex.

Further archaeological work of a broad nature was undertaken in Coclé in 1955-56 by McGimsey who conducted a thorough site survey and excavated at several localities.* The bulk of this material has never been published, and I am grateful to Dr. McGimsey for allowing me to incorporate within this study all the information that has laid dormant. The one site that was published in detail, Cerro Mangote (McGimsey 1956, 1958; McGimsey, Collins and McKern, 1966,) extended the Panamanian sequence by 4000 years. On the Coclé side of the Santa María river, it is a predominantly pre-ceramic site which has given a date of 4853 ± 100 B.C. for a simple lithic assemblage.

Though the pre-ceramic nature of some aspects of the site – particularly the burials – is still uncertain (McGimsey et. al.: 1966: 26-28,) the age of the lowest living deposit can be in no doubt. About thirty kms. south-east of the Cerro Mangote, in Herrera Province, a shell mound at Monagrillo, excavated a few years before, disgorged the oldest pottery yet known from Panamá, dated by radio-carbon to 2130 B.C., while another supposedly early complex, "Sariguá," independent of the Monagrillo, was defined by Willey and McGimsey on the basis of findings at the He-16 site (Willey and McGimsey, 1954.) The Sariguá sample is small (150 sherds) and its chronological position still obscure, but it has been assigned a possible date of 1000 B.C. in the literature (Baudex, 1963; 46.)

* Some brief notes on burials found at these Coclé sites are contained in McGimsey's survey of Panamanian burial customs (1959.)
An additional, though rather uncertain extension to the chronology of the Bay of Parita was provided by the excavation by Mr. and Mrs. Neville Harte, of the Archaeological Society of Panamá, of some shaft-and-chamber tombs on top of the Guacamayo "Volcano" near Penonomé, Coclé. (Harte, Eva: 1958; Harte, N.A.: 1966). The pottery found in the tombs, tall vases with light incisions ("scarifications") and small appliqué motifs, has been dated by analogy with material from an unlocated site in highland Chiriquí to 340±35 B.C. (Ladd, 1964: 12). Similar material has been excavated in the Serranía de Tabasará (Feriz' original site for which the carbon was unsuitable for dating), the Tonosí Valley and another site in highland Coclé, just outside the area in May I, El Limón (Feriz, 1959; Ichon, personal information; Stirling, 1964a: Plate 27, a-d).*

Since the concentrated attentions of Stirling, Willey and McGimsey, there has been a burst of activity in Panamá, which has all centred on regions outside of Coclé. Apart from several unofficial or semi-official lootings by professional "huasqueros," Cerro Girón and Cerro Mangote, and the two "scarified" sites were the last sites in Coclé to receive adequate press coverage. In 1961-2, McGimsey headed a research programme of considerable potential entitled the "Inter-Andean Research Program" which conducted a complete survey of the Pacific coast of Panamá from Chiriquí to eastern Darien (except the Bay of Parita), and excavated on the coast of Chiriquí, the western side of the Azuero Peninsula, and at a few coastal stations in Darien. The excavations at these last two localities have only been published in preliminary form (McGimsey, 1964), but the Chiriquí work has been covered by Linares de Sapir in an excellent monograph (Linares de Sapir, 1968). Linares*

*See Chapter 10 for a commentary on the "scarified" wares whose chronology is uncertain, in spite of the radio-carbon date.
work followed Willey and McGimsey in its totality of approach: emphasis was laid upon the excavation of stratified refuse deposits as opposed to graves; and on complete site survey and surface collections. Linares has since returned to Panamá at the head of a large team who plan, over a period of several years, to make a comparison between the settlement patterns of Chiriquí on the Pacific and Bocas del Toro on the Atlantic. In 1969-70, sites were excavated at Cerro Brujo in Bocas del Toro (Linares, 1971,) in the Chiriquí Highlands near Cerro Punta, and at Isla Palenque on the Pacific coast. In conjunction with Linares’ work, Ranere made a survey of shelters in the Cordillera Central and began excavations at Paja de Sombrero, which has revealed deep deposits of a pre-ceramic nature. Radio-carbon dates have already indicated the possibility of considerable antiquity. Another large project of similar scope and sophistication, but with emphasis on sequences, rather than paleoecology, has recently terminated in the Tonosí Valley and its environs, at the southern end of the Azuero Peninsula. It was led by Dr. Alain Ichon of the Musée de l’Homme, Paris, who has been responsible for the discovery of an exotic pottery completely different stylistically to anything else known previously from Panamá. Ichon’s work is still in the process of analysis, but a four-phase chronology has already been worked out, aided by a sequence of radio-carbon dates which add a degree of absoluteness to the study.

To the east of Coclé, in the Canal Zone, Lothrop and the Panamá Archaeological Society opened during the 1950s a large number of graves at a rich cemetery near Venado Beach. Typically, the material has only been published in a few very brief monographs (Bull, 1958 & 1961; Lothrop, 1954, 1956 & 1960; Sander, Mitchell & Turner, 1958;) the site has been subjected to systematic looting, and now has the appearance of a practice bombing range. The only positive good
so far to have appeared has been the discovery of pottery and other artifacts very similar stylistically to the material of Sitio Conte, and of simpler wares related to the Santa María Complex, as defined by Willey and Stoddard. The chronology of the Venado Beach is in a turmoil; the heterogeneity of ceramic styles is extreme and surely indicates a longer occupation at the site than most authorities would like to admit. Two carbon-14 dates were obtained from "Coolé-like" material: 227±60 A.D. and 900 A.D., for burials with "no stylistic differences" (Lothrop, 1959: 169, 1960 and 1966: 205).

Fairly complete sequential chronologies, corroborated in most cases by radio-carbon, are now available for Chiriqui, coast and Cordillera, the Tonosi Valley and the western part of the Azuero Peninsula. Carbon dates have also come out of unpublished material from McGimsey's Mariato sites, as well as Venado Beach. The result has been that the up-to-date revision of the chronology of Coolé as suggested by Lothrop in 1942 has been made by referring back to the Province from outside areas.

The radio-carbon system is responsible for notching a large hole in the two-century, immediately pre-Conquest chronology devised for the Sitio Conte, though the actual sequence has remained much the same. Bandes' excellent summary of the chronology of Lower Central America bases its six-phase chronology on a combination of available radio-carbon dates and similarities in pottery and other artifactual styles. Hence, the Santa María Phase is back-dated to Period IV (500-500 A.D.) and associated with McGimsey's "White-lipped Polychrome" from Mariato. The Lothrop division of the Sitio Conte material is preserved: "Early Coolé" is assigned to Period IV (500-800 A.D.); "Late Coolé" to Period VI (800-1516 A.D.) (Bandes, 1963: 45-53). The eventual publication of Ladd's 1964 monograph on certain sites of the Willey-Stirling expeditions enabled a further division of Bandes' Period VI into two, as Ladd was able
separate three divisions of developed polychromes in the Herrera Province: the "Early Coolé" phase of Lothrop is kept; "Late Coolé" pottery is made coeval with a new style, the Macaracas Polychrome, and combined with it into a "Late Coolé" phase, and - on the basis of stylistic differences and the presence and absence of types at the different sites - a later phase, the "Herrera" is added, with "El Hatillo" and "Parita" the diagnostic polychromes.

In spite of the growing mass of names caused by the division of Panamá into arbitrarily defined regions and of pottery into arbitrarily defined units within these regions, some cohesion is evident from the cross-dating of trade material from the "Coolé" area with Chiriquian styles, which corroborates the sequence devised by Baudez and Ladd remarkably well. As Linares herself states:

"It is interesting to note that Ladd's chronological arrangement of the Parita Bay phases and my arrangement of the Gulf (of Chiriquí) sequence, done independently of each other before the results of the carbon-14 tests were in, agree almost perfectly" (1968: 89).

In the midden levels of Linares' initial phase in Chiriquí, Bardea, a few sherds of "Coolé-type" were found, "too eroded to be assigned Early or Late." They were supposedly associated with a "Venado Beach" sherd and Linares favours an "Early Coolé" date. The second phase, San Lorenzo, had as many as twenty-five "Late Coolé - Macaracas" sherds. The material called "El Hatillo" by Ladd occurred after a hiatus in levels of the ultimate Chiriquí phase which Linares estimates as dating from 1200/1300 to the Conquest. As a result she, like Ladd, divides Baudez' Period VI into two, VIa ("Late Coolé" and San Lorenzo) and VIb ("El Hatillo" and "Chiriquí") (op.cit.: 88 and Tables I, 3 & 4).

Summarising the period between 1948 and 1971, we see Panamá preserving more or less the culture areas first suggested by Lothrop. Chiriquí, in the
west, will soon have a sequence running, it is expected, from 10,000 B.C. to the Conquest. Inter-relationships between the Cordillera and the coast are in the process of analysis and Bocas del Toro is beginning to sort itself into the general picture. Linares' team are reconstructing the total culture: settlement patterns, diet, social anthropology and paleo-ecology. In short, Chiriquí is the first region in Panamá to break through the barriers set by preliminary typological and chronological work. In the Tomosí Valley, at the southern end of the Azuero Peninsula, Iahon has revealed a stylistically unusual polychrome style and has been able to create a four-phased sequence of which at least the last two phases link closely with outside areas. On the eastern side of the Azuero Peninsula, Ladd's analysis of the Stirling-Willey material has added two new phases to the Lothrop chronology of the Bay of Panamá - the Santa María and the Herrera. Excavations at Venado Beach have extended eastwards the range of the original "Coclé culture area". In the midst of all this fervour, one realises the archaeological poverty of the Coclé Province itself. Only four sites have been professionally published since 1942; nothing is known about the location or ceramic composition of living sites, apart from Cerro Mangote and Cerro Girón, and little attempt has been made to study aspects of culture other than funerary artifacts. Ladd's 1964 monograph persists in referring to the mysterious "Period of Decline" as the final phase of the prehistoric occupation of the Province. It receives a mere dozen lines in Lothrop's Sitio Conte study and is almost an embarrassment considering that the invading Espinosa was "very much afraid of the large population of Natá" (1892: 466). Conversely, the influence of Coclé, in spite of the neglect in the field, has in many ways been detrimental to investigators working in outside areas, who have naturally tried to preserve Lothrop's original divisions and terminology and to relate new ceramic styles from newly worked
areas back to the Sitio Conte. From being in the archaeological vanguard in the 1940s, Coclé has slipped into a backwater; this study hopes to restore it to a more equitable position, but to view Coclé in terms of Panamá, and not Coclé in terms of Coclé, or Panamá in terms of Coclé.
CHAPTER 2

THE CASE FOR A LESS REGIONAL APPROACH TO THE CULTURAL DEVELOPMENT OF THE PACIFIC LITTORAL OF PANAMA, EAST OF CHIRIQUI

As archaeological work in Panamá expands and intensifies, the cultural homogeneity of the old "Veraguas" and "Coclé" culture areas of Lothrop (1942: fig. 486) becomes increasingly apparent. That local differences within this region — which we will take, at present, to include the entire Pacific watershed from the Serranía de Tabasará to the environs of Panamá City — do exist, is to be expected, but they seem to be of degree rather than of kind. This is illustrated by recent work in the Valley of Tonosí, where Ichon has established a four-phased sequence spanning approximately 0 A.D. to the Conquest. His third and fourth phases, Cañazas and Bijagualles, are characterised by fine polychromes which are so similar to Lothrop's "Early Coclé" and Ladd's "Asuero Group" polychromes, that they must be part of the same general traditions, while the second phase, El Indio, has a polychrome ware that is stylistically unusual and probably more localised in its distribution. Ichon's artifactual sample was complete enough to ensure the accurate determination of the nature of the dissimilarities between Tonosí and outside areas, and the adoption of a localised sequence into a broader, Pan-Panamanian scheme, but over the second, as yet anomalous phase, El Indio, there still hovers the old Damocles' sword of Panamanian archaeology: that of the creation of and constant reference back to a "type locality", without the accumulation of sufficient evidence from elsewhere to justify such action. The needle fell hard in Coclé and resulted, in my opinion, in a series of misinterpretations, the effects of which have not been totally eradicated from our way of thinking.
It is perhaps unfair to refer to the Tonosí Valley in this context and the above comment does not reflect any ideas of Dr. Ichon whose material has not yet been fully published and whose interpretative opinions have not been revealed. It has been made strictly within the context of the argument proposed in this chapter and is intended to be merely analogous: for there is an obvious similarity between the discovery of the El Indio pottery of Tonosí and the Coclé pottery of the Sitio Conte, both styles being of exceeding aesthetic beauty and, before the campaigns of their discoverers, almost unknown. Think of the repercussions of the publication of Lothrop's sumptuous volumes: a mass of terminology was created, dominated by the word "Coclé", which has run like a "leitmotif" through subsequent descriptions and interpretations of archaeological findings. There is now a "Coclé" polychrome, a "Coclé" style, a "Coclé" phase. "Coclé" influences are paramount, and at times it seems as though "Coclé" people chased all over Panamá like obsessed Osage warriors, leaving examples of their fully developed art style wherever they arrived. This study hopes to begin to restore Coclé to an equal footing with outside regions and to achieve this it is necessary to break from some traditionally accepted aspects of terminology, if by so doing we can facilitate the interpretations of subsequent finds.

*As stated in the Acknowledgements prefacing this study, Dr. Ichon has showed great kindness in allowing me to view his material before its publication and in keeping me supplied with a constant stream of information. His facts have, I hope, been fully acknowledged in the text. My own interpretations of the Tonosí material have been made strictly within the context of the information recovered in the field during the 1969-71 seasons in western Coclé and the author bears totally the responsibility for any errors of judgement and premature conclusions. None of the suggestions regarding the Tonosí material is Ichon's and it is known that he disagrees with some of the ideas expressed herein. The author also accepts responsibility for the provisional terms given him by Ichon and utilised in the text and for any other information that might be altered when the publication of the Tonosí project appears.*
The two basic misconceptions that led directly to the methodological ascendancy of Coclé over other areas were mentioned in the previous chapter: firstly, that Veraguas was not a centre for the manufacture of fine polychrome pottery; and, secondly, that pottery styles different from those found in the Sitio Conte graves were nevertheless part of a chronologically uniform tradition that carried its artifacts by trade across the Isthmus. These ideas, though mitigated to a certain degree by professional excavations, were unfortunately perpetuated by the failure of certain archaeologists to publish their material, and also by the persistence of what we may call the "Tradition of Bugaba:" "huaquerismo," the often very effective looting of Indian graves for sale of the contents on the antiquities market. These "huaqueros" sometimes worked under the cover of official permits, more or less within the law, though the Museo Nacional now has the power to rescind the permits and deal strongly with the offenders. The hypocrisy of their looting is elicited by the concessions made by some of them to academic conventions: sites were recorded, photographs made, and some of the artifacts published in serious magazines and journals. Gold was, conveniently, ignored. The result has been that thousands of polychrome vessels have found their way into museums, unprovenienced or badly provenienced. Accurate publication of these sites would have extended our knowledge of the region to a considerable degree. Their loss can never be fully recuperated.

Ironically, it was probably the cunning of some local "huaqueros" that led directly to Lothrop's assertions that "apart from polychrome pottery secured by trade and a few pieces of doubtful origin, all pottery found in Veraguas in unpainted" (1950: 76.) So sure was he
that the "cultures" of Veraguas and Coclé were dissimilar, though contemporary, that he substantiated the above statement by claiming that female slaves paid by the Veraguans for their pots were responsible for the manufacture of "Veraguas-style" vessels made in local clay found at PH-5. Wassén, ten years later, was clearly influenced by the same dogma when he suggested that five "Coclé-style" pots found in a single grave, "speak for a wider fabrication of Coclé-style pottery in Veraguas," but remained convinced by the slaves and concluded that the pots were probably the result of Coclé potters working in Veraguas (1960: 71.)

The emphasis on Coclé was soon balanced by the appearance of Veraguas as a centre for the manufacture of polychromes, championed by Philip Dade in his article "The provenience of polychrome pottery in Pahama" (1961) Dade, whose knowledge of Panamanian polychromes was probably better than anyone else's, as he had excavated the largest number of graves, noticed quite rightly that Veraguas, the Asuero Peninsula and Coclé were manufacturing centres of equal importance, but his basic thesis fell down for the same reason as Lothrop's: he assumed that the three distinct groups of styles from the three different areas were contemporaneous, and thus remained provincial himself, imagining that all pieces with "Asuero" or "Veraguas" designs found in Coclé were carried thither by trade. This misconception was based yet again on the premise that the political boundaries of today represent the cultural frontiers of the Pre-Columbian population.

Dade was perhaps partly correct in claiming that certain styles he described - notably the bird-effigy, the sting-ray and the wood-stork - were indeed local, but in the final analysis, he remained over-awed by Sitio Conte and Coclé: attempting to corroborate his theory, he analysed the pots found in Veraguas at present housed in the Museo Nacional de Panamá, and split them into the three groups - Coclé, Azuero and
Veraguas — according to his criteria. Out of a total of forty-three examples definitely found in Veraguas, twenty were considered "Coclé ware found in Veraguas." Lothrop and Wassén were absolved at the last moment.

Further east, we encounter the same problem. In Leo Biese's article "The Prehistory of Panamá Viejo" (1964a) twenty-one polychrome sherds in addition to one whole example and nine sherds of Lothrop's "Red-Line Ware" are all labelled "trade" and in his peroration the author states: "Cultural contact is definitely shown with the western Provinces, primarily Coclé, through the admixture of polychrome vessels and sherds." Contact, maybe, but does this mean that Panamá Viejo was part of a broad cultural pattern that evolved gradually all over the Pacific littoral of central and eastern Panamá, in situ; are the sherds from traded vessels or did the human components of the "Coclé culture" arrive at Panamá Viejo from Sitio Conte?

The above references have perhaps been unfairly selected as these articles were all written before the publication of Ladd's monograph on the National Geographic - Smithsonian expeditions of 1948-9 which has greatly clarified the situation. Lothrop was always willing to change his ideas and Biese actually states in another article that "some of the styles formerly thought to be representative of specific cultures are now known to be rather widespread" (1964b: I94). But sentiments such as those alluded to above are still prevalent and a glance at Ladd's monograph will show that all is not yet right.
Ladd uses in his description of the polychrome pottery extracted from cemetery sites in Herrera the Type-Variety system devised by Willey, Gifford, Wasley and others (1964: 5). The Types are then combined where necessary into broader ceramic Groups. Theoretically, this tripartite division is sound where a large sample is concerned and when the total geographic extent of the complexes in question has been completely surveyed. It is worth dwelling on the latter statement as I feel that it is here where the Type-Variety system runs up against problems along the Pacific littoral of Panamá: how does one incorporate local variations of a widespread tradition within such a dogmatic classification? Let us return to a comparison between the area covered by this study (see Map I) and the Tonosi Valley studied by Ichon, as the fundamental geographical differences between the two areas epitomise this dilemma.

The Tonosi Valley, lying at the tip of the Azuero Peninsula, is a reasonably isolated environmental unit, for want of a more precise term. It is surrounded by high hills and its remoteness before the construction of the new road from Macaracas was such that it had the reputation of being a natural refuge for criminals. Some animals, notably the Howler Monkey (Alouatta palliata) and the macaws (Ara spp), have managed to survive here, whereas they have been eliminated along the remainder of the coast. In complete contrast, the area chosen for this study - western Coolé between the Santa María and Coolé rivers - is part of a much more extensive environmental unit and is certainly not isolated topographically in the sense that the Tonosi Valley is. The Santa María river, though a sizeable river by Panamanian standards, is by no means an impenetrable barrier, and, in spite of Lothrop's observation to the contrary (1942: 225), the physical environment differs little over a wide area extending from
the El Valle volcano in the east to the region of Soná and Santiago in the west, and on down the eastern side of the Abara Peninsula to Pedasí. Some bird species, notably the Aplomado Falcon, the White-winged Dove and the Yellowish Pipit, which are dry-lands endemics, are limited to the area just defined.

We have already seen how two of Ichon's three polychrome phases link with what we know of outside areas, and one does not. The "Coolé-like" polychrome has been grouped into the "Joaquín Polychrome," while the "Macaracas-like" and "Farita-like" polychrome will, I believe, preserve Ladd's names. Ichon's broadly defined ceramic categories are very practical, bearing in mind his colossal sample, both funerary and domestic, and his creation of localised groupings for the "Coolé-like" and the as yet undescribed Tonosí Polychromes, and of a localised chronological nomenclature, is justified by the thoroughness of his study and the relative geographical isolation of the region in which he concentrated. The Joaquín Polychrome is without doubt stylistically similar to the "Coolé" polychrome, but the totality of differences between the two groups is such that a separate classification does justice to their idiosyncrasies. However, the "Coolé" pottery found in western Coolé is so similar to that found over the river at He-I and He-2, or near Coó, or in the Santiago region, or down the western side of the Abaru Peninsula, or at Panamá Viejo, that at this stage of our knowledge - the creation of a too rigidly localised system of typology and chronological nomenclature, defined by the arbitrary boundaries of one observer, seems premature. To hark finally back to Tonosí, I have noticed that it is becoming fashionable to think of the Tonosí Polychrome (El Indio Phase) as actually originating in the area worked by Ichon, and diffusing from there. As a word of warning, though it is fairly certain that the Tonosí Polychrome and the Aristide Polychrome
are contemporaneous, being the eastern and western divisions of a similar development, there lurks the possibility that the Aristide Polychrome lingers on after the demise of the Tonosí polychrome style and extends its range westwards. At any rate, the total geographic ranges of these two polychromes have certainly not been worked out, nor have the frontiers between them been calculated. For these reasons, if the Tonosí Polychrome is already thought of as pertaining to the environs of Tonosí alone, there will be some nasty interpretative repercussions once its total extent has been ascertained. Ichom’s sample was both greater in quantity and far richer in iconographic variation than, say, Ladd’s El Hatillo Polychrome from Ho-4, and it is no small mercy that he has refrained from a complicated Type-Variety system based on minor stylistic differences with a welter of names.

Before this study, the best known polychrome pottery of western Coolé was the Coolé Polychrome of Lothrop et. al., which had been split into two periods, “Early” and “Late”, according to the stratified sequence of graves at the Sitio Conte. Ladd’s Macaracas Polychrome, which was described initially from funerary sites in Herrera Province, had been extended to include the Sitio Conte by the discovery of “El Hatillo” sherds - which at that time included “Macaracas” styles - in the refuse of Trench XI (Ladd, 1957) and the assignment to the Macaracas Group of certain of Letherp’s and Mason’s complete vessels from the graves (Ladd, 1964: 108 & 112). A third polychrome Group, the Aristide Polychrome, had been described from two sites, Cerro Girón and Sitio Conte (AC-2 and PM-5) and was considered an anterior tradition.

These polychromes were taken to be the representatives of three polychrome phases in the “Coolé Region,” which comprised “Coolé,
Parita and Azuero" (1964: 18-19 and Chart 2). (By "Parita" I presume Ladd means the coastal regions of the Azuero Peninsula in the vicinity of the Parita river.) In the Cocle Province itself, the Aristide Polychrome represented the Santa Maria Phase; the "Early Cocle Polychrome" the Early Cocle Phase; and the "Late Cocle styles of Sitio Conte" the Late Cocle Phase. Over the river, in Herrera, the Aristide and Early Cocle Polychromes remained as temporal diagnostics, while the Late Cocle Phase was represented by the Macaracas Polychrome. The final phase, the Herrera, was represented in Herrera by the "El Hatillo" and "Parita" polychromes. Only two vessels of these Types were described from Cocle by Ladd and consequently it was assumed that the "Period of Decline" at the Sitio Conte was the limit of Herrera Phase occupation in Cocle.

The most obvious problem of Ladd's terminology is the grouping of the El Hatillo and Parita (Herrera Phase) and Macaracas (Late Cocle Phase) polychromes into one regional Ceramic Group (the "Azuero") and the Early Cocle (Early Cocle Phase) and the Late Cocle (Late Cocle Phase) polychromes into another (the "Cocle"). Thus regionalism in polychrome developments is accepted theoretically by Ladd even when he makes a valiant attempt at advocating in the text a more generalised developmental picture on both sides of the Santa Maria river. Sometimes this paradoxical approach is very difficult to unravel and it seems as though Ladd was continually baulked in his writing by the need to honour Lothrop's terminology for the Sitio Conte. He acknowledges that Macaracas Polychromes occur in the graves at Sitio Conte, but suffixes them with terms like "done in Cocle style", "Cocle variants" etc. (op.cit.: 108 & 112). In his chronological summary, the Macaracas Polychrome, Higo and Pica-Pica Varieties are considered to be contemporary with the Late Cocle Polychrome, while elsewhere in the study, Macaracas "styles" are postulated as "developing in the Late Cocle Phase" (op.cit. 51). Ladd does attempt to summarise precisely what he means by a
"Coclé" style and an "Azuero" style vessel, but it must be remembered that the Coclé sample of the "Late Coclé-Macaracas" material is very small and cannot be totally representative of the "styles" in the region. In short, there is no satisfactory definition of what is a Coclé or a Macaracas style and Ladd had to create a residual category "Coclé-like" for this very reason.

Adding to the typological confusion, the name "Coclé" has been preserved in the chronological sequence for both sides of the river, with their respective "Coclé" and "Azuero" Ceramic Groups, while the final phase, the Herrera, has been extended into Coclé, when only two Herrera Phase vessels have ever been published (1964: 66 & 76.)

Frankly, in sections where both pottery and chronology are discussed together, it is virtually impossible to know what is going on.

In this study, provincial and significant regional names have been banished from both chronological and typological terminology. In the author's opinion the name "Coclé" has had a detrimental, almost psychological effect on investigators who persist in trying to refer "Coclé" pottery back to that Province. In its place in ceramic typology is substituted the name "Conte." After all, Lothrop did initially call the polychromes from Sitio Conte "Sitio Conte Polychromes" and I do not know why "Coclé" came into general usage. Polychromes in styles identical or very similar to the material initially recovered from Sitio Conte, both "Early" and "Late," that I have seen in collections from Western Veraguas, central Veraguas, the Azuero Peninsula outside Tonosi, Western Coclé, and the Coclé foothills, would be indistinguishable from the Sitio Conte examples were they all mixed together. As regards the division of the Conte Polychromes into "Early" and "Late," which is discussed more fully in Chapter 4, I have not abandoned Lothrop's ideas, but have shifted the major temporal division forward, to run between Conte and Macaracas Polychromes, and taken the Conte Polychrome to be the representative of one Phase in Coclé, and the Macaracas of the
subsequent Phase. Since the Mason excavations, no funerary material has come out of Coclé – except for the badly published material excavated by Dade from PN-17 – and, for this reason, the author cannot possibly "get at" Lothrop's division for aggression's sake. From a purely stylistic point of view – bearing in mind that the graves at Sitio Conte did occur in a more or less stratified sequence, contrary to what anybody says – the pottery of the "Late" graves is slightly different from that of the "Early," but without an enormous corroborative sample from other sites in the region, it is difficult to elucidate on fine points of style between them. What is much more important from a chronological point of view, is the determination of what constitutes the developed polychrome styles of each relative Phase; for it is much easier to collect viable carbon dates for a developed pottery first, isolate that pottery in the time sequence, and think about transitions later. The adoption of the name Conte, and the assignation of Lothrop's Fine-Line and Foreign Style A firmly to the Macaracas Polychrome – as Ladd himself attempted – merely emphasises that the pottery of the Sitio Conte represents a natural ceramic evolution that occurred all over the Pacific littoral east of Chiriquí, from simple black-on-red patterns through the first adoption of white slip and colour-filled designs, to the determination of a complicated iconography and the cluttering and fragmentation of that iconography, until the stylised saurians of the El Hatillo polychromes are reached. In the author's opinion, "Late" Coclé styles are a transitional manifestation between the Conte and Macaracas traditions. Developed Macaracas sherds occur at twenty kitchen sites in western Coclé and whole vessels have been found at at least three localities, so there is no reason any longer to consider Macaracas an "Asuero" tradition, and Late Coclé a "Coclé" tradition. If you left Sitio Conte at daybreak on foot or by canoe you would probably arrive at the Parita river in under half a day,
and you can swim across the Santa María river.

Turning now to the "Period of Decline", this study has shown that polychrome pottery very similar to Ladd's El Hatillo and Parita Polychromes from Herrera - which are both assigned to the Herrera Phase - is very widespread in western Coclé, occurring at about thirty kitchen and grave sites over the surveyed area (Table II). Analysis by the author of the refuse of Trench XII at Sitio Conte and of the Verrill collections (for example the Temple Site) has extended the occupation of these sites beyond the "Early" and "Late" Coclé Phases attributed to them in the past by the recognition of this material. El Hatillo-like and Parita-like pottery occurs commonly east of Chiriquí, from the western confines of Veraguas - Espalá*, Bubí, Río de Jesú - across central Veraguas and the eastern side of the Azuero Peninsula, over the Plains of Coclé, and maybe as far as Panamá Viejo and the Pearl Islands, though this eastern extension is hazy at present.

Having asserted the typological principle of generalised evolution, let us now make a final consideration of the Type-Variety-Group system, as the terminology utilised herein for ceramic typology is, in effect, a compromise between this system as used by Ladd and something more simple. The sample of El Hatillo-like and Parita-like sherds recovered during the survey consists solely of sherds though a few whole vessels were studied in collections. It was originally intended to follow Ladd's division into two Types made for the He-4 sample, but this was dropped in favour of a broader Ceramic Group - the Mendoza Polychrome. It was considered too pedantic at this stage of our knowledge to use Ladd's descriptive system for s-shaped dishes which are decorated with three of the El Hatillo varieties, two designs which have not been described before, and some Parita-like

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*Espalá, only a few miles inside Veraguas from Chiriquí, was, in fact, Lothrop's "type site" for the El Hatillo style
designs as well. Alphabetical categories have been utilised in the descriptions of the Mendoza Polychrome, to bring together such salient traits as design and shape, but this has been done for the sake of descriptive clarity and to facilitate the re-arranging of associations when the need arises. It is conceivable that the division made by Ladd into El Hatillo and Parita Types is quite sound, but there is some evidence of a transition between the two, and the premise has been taken once again that it is safer to describe and isolate chronologically the developed rather than the transitional aspects of a ceramic style. When a good funerary sample of the Mendoza Polychrome is obtained, we might be able to revert to Ladd's original nomenclature.

Moving backwards in time, the Aristide Polychrome of Ladd was anchored firmly at two new sites, one in the Grande valley (PH-II) and the other in the Santa María valley (AG-3). With this pottery, which is not strictly polychrome, but a geometrically decorated single-line ware, it was found that Ladd's typology was apt and that very few changes were required. His Type-Variety system has accordingly been preserved apart from the changing of one name and the revision of the status of one of the Types. In this case, the very large sample, the homogeneity of the shapes and designs, and the simplicity of the decorative concepts makes such a system much more manageable. It is probable that a further subdivision of the Aristide Polychrome according to the shape of the lip and the mode of applying the design will be feasible when more material has come to light; this has been suggested in the text but not honoured in the typology, though the Santa María Phase has been split into two halves according to the ceramic contents of PH-II and AG-3. In the author's opinion, illustration is the most important aspect of the description of any polychrome material, as only then can sufficient comparisons be made with outside areas and a more localised differentiation of styles formulated. For example, sherd lots from Venado
Beach and Panamá Viejo abound in pottery that is very similar to the Aristide Types, but without illustrations it is difficult to determine the degree of idiosyncrasy that exists in either area. It might be that the differences are so slight that the entire Aristide typology can be shifted eastwards; it might be that the Bay of Panamá east of Chame deserves a localised terminology like the Tonosí Valley. As many sherds as possible of both the Aristide and Mendoza Polychrome Groups have been illustrated in this study. Preference has been made over the Conte and Macaracas Polychromes because the sherd material of these Groups is so similar to that already published from other sites that, given the limited illustrative possibilities open to the author, further illustrations would be somewhat superfluous. Comparisons with Lothrop's and Ladd's illustrations have been made in the text, under the respective headings.

The rejection of regional names for chronological purposes has resulted in the adoption of a simple numerical approach. My reasons for so doing are threefold: firstly, a numerical system is much easier to subdivide than a nominal; though some stylistic apogees have been defined, the picture we have of ceramic evolution is still full of gaps. (Two "transitional" polychromes are beginning to materialise: the Conte Polychromes of the latest graves, 5 and 26, at FN-5 which stand mid-way between Phases V and VI; and the Corotú Polychrome, considered transitional between the Aristide and Conte Polychromes). Secondly, the environmental similarity of western Coclé to the eastern side of the Azuero Peninsula, Veraguas across to Soná and Santiago, the entire Pacific coast of Coclé and Panamá across to the Canal Zone and up to Chepo, is so obvious that any rigidly localised sequence is an artificiality imposing an irrelevant divisional system upon a natural region which was partly aided in its homogenisation by the very cultures which are being codified. And, thirdly, only one radio-carbon date has yet been processed from the samples obtained during the campaign and the absolute chronology of the surveyed area still relies on cross-dating with outside areas which already have radio-carbon
sequences.

The numerical system that has been followed is that initially suggested by Baudes (1965) and later modified by Linares (1968), whereby the cultural development of Lower Central America is split into seven Periods (though I have preferred to use "Phase" as it is well entrenched in Panamanian archaeological jargon.) The last four Phases are characterised by the four major Polychrome Groups, which are chronological and not regional entities.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Current terminology</th>
<th>Approximate age</th>
<th>Polychrome Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Pre-ceramic</td>
<td>1 to 2000 B.C.</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Monagrillo/Sariguá</td>
<td>2000 B.C. to 300 B.C.</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Scarified/Guanamayo</td>
<td>300 B.C. to 300 A.D.</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Santa María</td>
<td>300 A.D. to 500 A.D.</td>
<td>Aristide*</td>
</tr>
<tr>
<td>V</td>
<td>Early Coëlé</td>
<td>500 A.D. to 800 A.D.</td>
<td>Conte (formerly &quot;Early Coëlé&quot;)</td>
</tr>
<tr>
<td>VI</td>
<td>Late Coëlé</td>
<td>800 A.D. to 1200 A.D.</td>
<td>Macaracas (formerly &quot;Late Coëlé&quot;) and Macaracas</td>
</tr>
<tr>
<td>VII</td>
<td>Herrera</td>
<td>1200 A.D. to 1516</td>
<td>Mendesa</td>
</tr>
</tbody>
</table>

Baudes' Period VI, which he still (1970) preserves as a single Period, is split according to Linares' suggestion, but into Phases VI and VII as opposed to VIa and VIb. Phase IV has also been split into two halves, A and B, according to the ceramic composition of the Phase IV levels of AG-2, AG-3 and PH-II. A carbon-14 date of about 300 A.D. for the tail end of the first half, A, and other date estimations from the Tomoci region should push the date of the beginning of the Phase back to about 200 A.D. Phase VIII has been added to include those indications of a post-Conquest occupation in the archaeological record. A survey of the relationships between the surveyed region and outside areas, with correlations of carbon-14 dates, is contained in Chapter 10. Recently acquired dates from the Azuero Peninsula and Veraguas are corroborating the dates initially suggested by Baudes very closely and I doubt whether there will be any drastic modification to the sequence of the entire Pacific littoral east of Chiriquí in the future, at least after the beginning of Phase IV, A.

*A summary of the chronological distribution of the different ceramic categories, including the Types and Varieties of the Aristide Polychrome, is given in Table 17
If a simple enumeration of sequences according to general trends were followed by all investigators, it would be much easier to incorporate new data within the existing reservoir of knowledge, and expansions and contractions of the known geographical ranges of artifactual styles would be facilitated.
When the project was first conceived, it was intended to limit the Site Survey to the "Llanos de Coolé", which in popular parlance refers to the strip of flat land between the Cordillera Central and the Bahía de Parita, stretching in varying width from the Rio Santa María in the west to the boundary of the Panamá Province in the east. To the geographer, the term "Llanos de Coolé" has a more restricted meaning: Matthews and Guzman confine it to the region of Tertiary ejecta soils, directly related to the El Valle volcano, which run from the Rio Coolé del Sur in the west to the region of Bejuco, in Panamá Province, to the east, and they exclude the belt of Recent alluvium which comprises the lower Grande, Chico and Santa María valleys (1956: 8). As the former soil belt is now, and probably always has been, infertile and unpropitious for settlement, while the latter provides annually replenished soils which are the best agricultural land in the Province, it was decided to use the popular definition and to concentrate work in the western ("alluvial") part of the "Llanos", that is between Antón in the east and the Rio Santa María in the west. However, even this restricted area proved too large for one investigator to handle, and so the final area shrunk to the one illustrated in Map 1. It must be emphasised that the survey in no way claims to be a complete catalogue of sites. It was the policy of the author to cover as much of the territory on foot as was humanly feasible. For obvious reasons, the lower valleys of the rivers Grande, Chico and Santa María received most attention, and full use was made of asphalted and dry season roads which lead out of the "Llanos" into the foothills. The primary crops of Coolé at the present time - maize, tomatoes and onions - require a varied system of rotation: what is
fallow and obscured one year will be ploughed over the next and then left fallow for a further five years. A sudden flash-flood will reveal lenses of sherds in the river bank, only to allow a complete tangle of foliage to obscure them by the next dry season. Vast areas of the Province have been under cattle pasture for several decades and will probably remain so; and there are hectares under sugar cane which cannot at the present time be worked. Before a sophisticated settlement pattern survey can be attempted in Coclé, a considerable period of time will have to elapse to encompass all occupational possibilities.

Fifty-six sites were visited by the author between October, 1969 and May, 1971. Thirty-four of these are probably living sites, fifteen living-cum-cemetery sites, and seven cemeteries alone. A complete gazeteer of all sites in the area, including those recorded by other investigators, is contained in the final chapter, with site histories, precise locations and co-ordinates and discussions of the possibilities for future research. Random surface collections were made at all the living sites, except PN-I8 (not collected), NA-20 and PN-I3 (selectively collected). Five sites were excavated, with varying success: AG-3, NA-8, NA-I3, NA-3I and PN-II. In this chapter, it is proposed to include not only details of the author's excavations, but also those of Charles McGimsey III, most of whose field work of 1955-1956 has never been published. Unpublished field and excavation notes made by A. Hyatt Verrill in 1925-1926 are also included.

McGimsey's 1955 excavations at AG-2 (Cerro Girón)

AG-2 was initially excavated with three pits by Willey and McGimsey in 1952, and the results were published in preliminary form in 1954 by
Willey and Stoddard. In late April and May 1955, McGimsey returned to the site and dug a further nine pits, the results of which have never been published. I am indebted to the excavator for permission to incorporate this information.

Pit enumeration follows on from pits I-III excavated in 1952.

**Pit IV**

A 1 x 1 m. pit placed in a level area three-quarters of the way up the hill and about 1000 ms. downstream from pit 1. During excavations, big rocks at 0.60 cms. necessitated extension to 1 x 1½ ms., and the pit was secured at 80-90 cms. Shells were predominantly *Anadara grandis* and similar types.

**Pit V**

Located on the first rise above the river flats, halfway between pit IV and the down river end of the hill. The soil was dark brown and compact. There were some sherds, but shell was rare. The pit was discontinued at around 50 cms. as it appeared there were no more sherds in the next levels.

**Pit VI**

A 2 x 2 ms. pit located halfway up the hill on a slight flat area, about halfway between pits I and IV. Soil auger tests showed the presence of shell and sherds to at least 50 cms. The area of the pit declined towards the river, so the uphill slope was 20 cms. higher. The 0-10 cms. level followed this slope, but by 20 cms. the bottom of the pit was level. All measurements were taken from the river side, so that the 40 cms. level was actually 60 cms. deep on the uphill side. Sherds were fairly frequent and shell (mainly *Ostrea* spp.) dense until the 60-70 cms. level when sherds dropped off in quantity while shell remained dense, but loose. At the 90-100 cms. level the soil changed hue, becoming now reddish rather than black; shell
diminished slightly and sherds remained not very numerous. Little further change was noticed until 140 cms. when the uphill part of the pit shaded into a reddish-brown soil with predominantly *Anadara grandis* and related species as opposed to *Ostrea* ssp. The downhill half still contained *Ostrea* ssp. and a few sherds. Levels 150-170 cms. became homogeneous, with *Anadara grandis* and a fair number of sherds. 170-180 cms. had fewer shells, but sherds were numerous and rocks were encountered. 180-190 cms. could again be differentiated according to the slope: the downhill half continued the pattern of the above level, while the uphill half extended into a level of dense, clayey, red soil, with only scattered shell and sherds. Some of the sherds of this half were very thin and others striated to achieve a "Sariguá-like" effect.

In the 190-200 cms. level, a skeleton was recovered, in a lens of damp red clay, with only scattered shell and sherds. It was situated in the upper end of the pit, and laid on the right side, in a foetal position, very tightly flexed, with head to the south-east. The humeri were parallel to the body, pointing downwards. The lower half of the right arm was likewise parallel, but flexed upwards with the right hand at the shoulder. The lower half of the left arm was bent at right angles to the elbow, crossed the body at waist level, and passed under both legs, with the hand at the front, at waist level. The vertebral column measured 50 cms. A large male.

After removal of the skeleton, the pit was continued down to 220 cms. There was no delineation of soil colour around the skeleton, though occasional small, darker patches were noticed and small carbon flecks appeared. Directly downhill from the skeleton, immediately to the right of his back, was a columnar basalt shaft, 75 cm. long and 28 cm. wide. It was not clear whether this was a deliberate association, as one or two smaller
rocks had been found earlier in the pit. The red clay continued until 240 cms. with only occasional shell and rare sherds, but some of the latter had definite "Sariguá-like" decoration and were very thin, with applique ridges, and fine incision. At 240 cms., the soil turned an even brighter red, and looked sterile, even though rare shell and sherds were found. The pit was secured at 275 cms., as the fifteen cms. above had been sterile.

Pit VII

A 2 x 2 m. pit located in the centre of the same mound as Pit III of 1952, approximately 10 ms. to the north. The mound in question is about 1 m. high above the level of the flood-plain, 1.5 ms. wide and 30 ms. long (north-south). In the 0-10 cms. level, sherds were infrequent and shell rare, but in the next level, sherds increased rapidly and shell less so, with Anadara grandis and a few Ostrea spp. The 20-30 cms. level had extremely dense sherds and shell continued in moderate quantity, with still mostly Anadara grandis and rare oyster. There was part of a metate in this level. In the 30-40 cms. level a skeleton was recovered, supine, with head to the south. Two stone tools were lying next to the body. Sherds were large and numerous and included brightly coloured polychromes. From 40-90 cms., shells continued with little or no oyster, and there was little change in this pattern until 130 cms., when several oyster shells appeared in the river side. Before this level, the composition of shell had been half (by bulk) of Anadara grandis and other small bivalves and half Ostrea spp., with very rare single spiral shells (Terebra robusta, ?, author's note). At 140 cms., oyster comprised about 40% of the total on the river side and by 150 cms. dominated the entire pit. At 160 cms., sherds picked up relative to shell and the shell reverted to 50% Anadara grandis.
small bivalve and *Terebra robusta* and 50% oyster. At 170 cms., the soil became sandier, though continuing basically clay, turning much more clayey at 190 cms. with a concomitant drop-off in sherds. From 200-215 cms. the soil was damp and clayey and formed heavy clods, similar to the alluvial clay of Pit II (1952). 215-225 cms. had a damp, alluvial brown clay, with almost no shell and only occasional sherds. Rare shell and sherds continued to 0.240 cms., and the final level, 240-250 cms., had no artifacts or shell, so the pit was terminated at 250 cms.

**Pit VIII**

A 2 x 2 m. pit on a knoll half way up the hill, similar in location to Pit VI. It is halfway between Pits IV and V. The deposit from 0-30 cms. contained many often very large sherds, but the majority of the rest of the pit was of a dark, powdery soil. Shell, however, was frequent, with *Anadara grandis* predominant, and also small bivalve, *Terebra robusta*, and only occasional oyster spp. At 40 cms. large rocks appeared and the pit had to be terminated at 70 cms., as the size of the rocks prevented further digging. Sherds and shell continued numerous up to this point.

**Pit IX**

A 1 x 2 m. pit put into the shell-heap area of the downriver (eastern) end of the hill. This area has been badly pitted by people digging the shell for lime, but a small area, apparently undisturbed, was located on the riverside edge of the mound, on the other side of the path and fence from the hill itself. The mound appears to be about 1.5 ms. above the flood-plain at this point. The 0-30 cms. levels contained a blackish soil with clumps, crushed shell and some sherds. In the 30-50 cms. levels, the shell was about 50% oyster, 30% small bivalve, and 20% *Anadara grandis*, generally whole. At a depth of 50 cms., a skeleton of a child in its teens
was encountered. The body was extended face down, with its head to the south-east. Only the head, left arm and ribs extended into the pit and only these were saved. The body covered the 50 and 60 cms. levels. Levels 60-80 cms. had looser soil, of a lighter brown colour than above, with sherds and shell more numerous. Level 80-90 cms. had predominantly oyster, and shell increased in the next level, 90-100 cms. with oyster still predominant. Between 110 and 135 cms. shell increased yet again, and became very dense indeed with little soil and not too many sherds. 125-135 cms. had almost pure shell like the top levels of Pit VI. From 135 to 160 cms. the deposit continued in similar fashion with almost solid oyster and rare Anadara grandis and snail (Thais haemostoma, author's note). Sherds remained rare. From 160-210 cms. shell continued dense and rocks increased, and the soil began to get damp and ologgy, becoming at 0.200 cms. more clayey and darker brown, finally grading at 0.215 cms. into the typical rich brown alluvium with no shell and rare sherds at this level. The pit was terminated at 225 cms., by which depth the rocks had become larger.

Excavations at AG-3 (Sitio Sierra)

AG-3 is situated in pastureland on the estate of Pepe Sierra, of Panamá City, about 4 kms. south-east of the village of La Loma de El Roble. The site itself occupies a low rise above the Santa María flood-plains, about 500 ms. north of the river and 5.3 kms. upriver from AG-2. Sherd material is visible over most of the rise, which probably delineates quite accurately the extent of the occupation (for details, see Maps 1 and 4). The vegetation in the general vicinity has obviously been considerably
modified. The western edge of the rise slopes into a swamp which dries out only during the height of the dry season. To the south-west is a small patch of woods which, though undoubtedly influenced by man, gives some idea of what the original vegetation may have been like. To the east of the site is a savannah-like area with scattered trees. It is probable that the vegetation during the site's occupation was scattered woodland with savannah intermixed. Dominant species were probably similar to those given for the present vegetation:

**Ridge and savannah:**
- **Dominant:** Pithecolobium saman
  - Enterolobium cyclocarpum
  - Acacia cornigera
- **Other species:** Guazuma ulmifolia
  - Acacia farnesiana
  - Bauhinia pauletia
  - Bombax barrigon

**Woodland:**
- No definite dominant: Sapindus saponaria
  - Enterolobium cyclocarpum
  - Guazuma ulmifolia
  - Lonchocarpus velutinus
  - Erythrina glauca

**Swamp:**
- **Dominant:** Erythrina glauca
- **Other species:** Guazuma ulmifolia

The site was tested with a 1 x 1 m. pit to a depth of 1 m. on April 10th, 1970. Excavations were resumed on January 19th, 1971, with Basilio Ortego and Manuel Saavedra, of Aguadulce, as helpers. The initial pit, A, was put down as a stratigraphic unit of 2 x 2 ms. and conducted in arbitrary

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*Botanical notes were made on site by Dr. Sidney MacDaniel of Mississippi State University.*
levels of 10 cms., as the previous year's test pit had shown no appreciable variation in soil colour or texture apart from a darker humic level of 0-20 cms. At c.50-55 cms., human skeletal remains were encountered in the north-western corner of the pit, and an enlargement was made 1 x 2 m. west and 1 x 2 m. north in order to accommodate the skeleton (Extension A). The top two levels (0-20 cms.) of the extension were not included in the absolute sherd count. What had at first sight appeared to be a secondary, perhaps bundle burial, with the skull and long bones tied together in conjunction with an extended burial to the west, in fact turned out to be two prone bodies, one on top of the other, in a quasi-coital position (see Plate 5). The lower skeleton (A-2) had its skull twisted uncomfortably to the south-west. The long bones, cranium and maxilla were well preserved, but the cervical and thoracic vertebrae, rib cage and pelvis were badly crushed. The left radius and manus were missing. Skeleton A-1 was in a similar state of preservation, though the skull had been removed a short distance to the south and was missing its maxilla and facial bones. The upper shaft and heads of the two humeri were also missing. The bones in the "bundle" to the south-east of the isolated skull - comprising pieces of a humerus, femora and fibulae of an adult - do not belong to skeleton A-1. It is difficult to determine exactly how they came to be there; there were no other human bones nearby, or obvious evidence of disturbance. The gap between the isolated cranium and the "bundle" was 19 cms. Skeleton A-1 had the hands placed underneath the pelvic girdle, with the ungual and intermediate phalanges protruding, while skeleton A-2 was buried with the arms to the sides. The only grave furniture in unequivocal association with the two bodies, was a small buff collared jar which was situated 40 cms. south-west of the right humerus of skeleton A-2. It was tilted 45 degrees to the south-west and seems to have been carelessly thrown in. Another plain buff collared jar, a cache of seven celts, and a
zoomorphic clay whistle were removed before the discovery of the skeletons and were probably associated with one or the other.

Before the final cleaning of the skeletons, a further extension (B) had to be made northward to accommodate the feet of A-1. It was taken down in arbitrary levels of 10 cms. The first 20 cms. were not included in the sherd count. On removal of the bones, the whole extension (A & B) was cleaned down to the 70 cms. level. Digging then continued in the original 2 x 2 ms. unit. The skeletons were considered isolated anomalies within the refuse and the sherd count was maintained by 10 cms. level during their excavation. At c. 80 cms. in pit A another skeleton (A-3) was encountered in the southern half, and the pit was enlarged 0.5 x 2ms. southwards to accommodate the skull (extension C, dug in arbitrary levels of 20 cms.) A-3, lying prone on the base clay was better preserved than either A-1 or A-2. The head was inclined to the west, the right arm extended by the side, and the left arm bent with the fingers protruding just beneath the head of the left femur. To the immediate east of the skull was a strange axe-shaped object in unpainted grey clay and, just to the west of the right humerus, a red "teocomate" with loop-handles and a small pedestal-based pot stand (Plates 7 and 12).

45 cms. north of A-3, with the head at a depth of 93 cms., another skeleton, A-4, was encountered, again prone. Extension A-B was cleaned down to accommodate it. Sterile grey clay reached about 90-95 cms. along the western face of the extension. The two levels of cultural deposit beneath A-1 and A-2 (70-90 cms.) contained a large number of well preserved animal bones and the skeletons seem to have been laid down upon an earlier kitchen deposit.
of the site which correlates with that of levels 6-12 in pit B.

Skeleton A-4 was also laid upon bedrock and had apparently been excavated partly into it, to judge from the occasional flecks of grey clay floating around the body. It was in a poorer state of preservation than the other three. The head was pointing east, and the hands were placed beneath the pelvic girdle, with the fingers projecting. The left-hand (eastern), side of the skeleton had apparently been disturbed, perhaps by burial action beyond the confines of the pit: the left humerus had been shoved out of line with the radius-ulna, and one of the accompanying pots broken in situ.

A-4 was the most lavishly accompanied of these rather poor burials. Strung across the lower arms was a necklace of twenty serpentine beads (Plate 36). Adjacent to the top of the cranium was part of a bone flute fashioned from the humerus of a Brown Pelican (Pelecanus occidentalis) (Plate 36a). The partial skeleton of a Red-blue-and-Green Macaw (Ara chloroptera) was heaped up over the tibiae. To the south of the cranium were two celts and a pedestal pot stand (Plates 38 & 11; to the south-west, a plain buff miniature collared jar (Plate 11). Adjacent to the facial bones was another celt, and the broken pot mentioned above. Immediately to the left of the left radius was a red pot with a zoomorphic lug and a horizontal loop-handle (Plate 11,) to the left of the right elbow another small celt (Plate 37) and 25 cms. to the north of the feet a red jar, with sharply everted collar and medial bevel (Plate 11). This pot may have been associated with another burial beyond the confines of the pit.

After the removal of skeletons A-3 and A-4, the pit was scraped down to the base grey clay, which was irregular in depth and dipped from 0.100 ms. in the north-east corner of the pit to about 1.25 cms. in the south-east corner. Level 10 was taken to include all cultural material scraped out
beneath 1.00 ms. The clay was breached in the middle of the pit to a depth of 1.60 cms., and proved to be sterile, the only change being an increase in ochraceousness with depth.

During the excavations, three other skeletons were found protruding from the walls of the cut, but left in situ. Skeleton A-5 was at 90 cms. with the top of the cranium projecting from the northern wall of extension A-B; skeleton A-6, with only the top of the cranium and part of the humerus and coracoid projecting, was in the south-west corner of extension A at 80 cms.; and skeleton A-7, consisting of lower tibias and feet, was in the wall of extension C, at 90 cms. All these skeletons were pointing north-south and were prone.

Pit B was laid down on February 1st., 1971, with Ortega and Saavedra as helpers, 55 ms. south-south-west of pit A. Levels were again in arbitrary 10 cms. Glass fragments were present in levels 1 and 2. Sherds were exceedingly dense in levels 1 to 3 (0.30 cms.,) especially in the eastern half of the pit. Bone and shell - though present in the upper levels - became more prominent in level 5 (40-50 cms.) In level 6, at about 55 cms., a "floor" of very large sherds was encountered running right across the pit, consisting solely of Phase IV pottery, and mixed with large quantities of bones, sometime clustered in dense patches.

The position and density of these bones within the large sherds must indicate meal refuse. Bones and large sherds together continued from level 6 to the bottom of the pit at level 12. Absolute sherd totals indicate that there were two main kitchen levels: levels 6-8 (50-80 cms.) and levels 10-11 (90-110.) cms.) Some isolated lenses of very fine river sand, almost silt, could be encountered amidst the refuse, as at PN-11. Beneath the very
dense and thick level of sherds in level 6, not one sherd of Phase V polychrome was found. A full analysis of the food bones encountered, within the present limits of identification, can be found in Chapter 7.

At the base of level 12, which was somewhat irregular, some dark patches were at first taken to be post-holes and were accordingly treated as such. The overall picture after cleaning, however, was not one of any regular structure, and the patterning probably relates merely to surface anomalies in the base clay. As in pit A, the clay was breached for 30 cms. in the centre of the pit, before closure at 1.60 ms.

Pit C was begun on March 1st., 1971, with Ortega, Saavedra and Adam Ortega, of El Rincón, Herrera, as a 2 x 2 ms. pit in the manner of A and B, c.20 ms. south-south-west of pit A. It was excavated in arbitrary levels of 10 cms. Sherds were very densely concentrated in the top two levels, but dropped off sharply after c.25 cms. At 55 cms., another extended burial (C-1) was encountered in a rather mutilated condition, prone, with face to the southeast. A small extension, 1 x 0.60 ms., was made to the north to accommodate the feet. The skull had been completely crushed and the upper part of the body was in very poor condition. The leg bones were intact. Burial goods definitely associated with C-1 comprised a crushed red plate with loop handles by the lower left arm, a small red collared jar by the right knee (Plate 13,) and part of a vast Mendoza Polychrome pottery drum, or pot stand, which had been smashed and the surviving pieces piled up on top of each other, beside the right humerus (Plate 9 and fig. 81) A large amount of wood carbon was recovered from between the pieces.

Immediately to the south of C-1 were the crushed remains of what was presumably another burial (C-2), of which only fragments of the cranium, rib cage and humeri were left. There were no traces within the pit of any of the missing parts. In apparent association with this burial were a small
handled red "tecomate", placed over the crushed rib cage, a small pedestal
pot-stand with four pinched lugs on the lip, and a plain buff restricted
bowl (Plates 12 and 13). A considerable amount of carbon was recovered
from beneath a fragmentary Olivo-shape plate with four nubbin supports
(perhaps an incense burner), which was scattered to the side of the red
"tecomate". Three other skeletons were encountered protruding from the
walls of the pit. C-3 was immediately beneath C-1, face down, and
orientated north-west-south-east. Only the legs were visible in the pit.
Around the feet, and presumably related to this burial, though perhaps
connected with disturbed burial C-2, were two small collared jars (one is
in Plate 13). Parallel to C-3, and at the same depth, was yet another
extended skeleton (C-4), of which only the head and right arm and leg
protruded. Immediately to the north of C-1 was C-5, with only the legs
visible, running north-south across the extension. The legs were on the
same level as C-1, but were inclined downwards at an angle of thirty degrees.
In probable association with C-5 was a Smoked Ware effigy vessel with two
simian lugs (Plate 10). At the time of excavation all water had long
evaporated from the pit and the clay had solidified, rendering extraction
of the skeletons extremely difficult. C-1 was lifted, but the others were
left in situ and the pit secured.

Pit D was dug on March 3rd., with B. Ortega, A. Ortega and Saavedra,
as a 2 x 2 ms. unit one metre south of pit B. Preliminary analysis of the
ceramics of pit B had indicated that the bottom 60 cms. or so at this point
of the site were deposited before the appearance of the developed polychromes
of Phase V, and that there was a possible short transition from Phase IV
into Phase V in approximately the 50-60 cms. level. Accordingly, the first
fifty cms. were removed as a unit (level I), as it was considered that an
increase in the already formidable number of sherds recovered from the other
pits would not aid interpretation of the uppermost levels, which had undergone some agricultural disturbance. From 50 cms. to the base of the pit, excavation continued in arbitrary 10 cms. levels (2-7). The picture presented by the adjacent Pit B was reproduced. Refuse bones were dense, and again clustered beneath vast sherds of Phase IV types. The base clay sloped slightly up in this pit, and it was secured at about 110 cms as opposed to 120 cms in pit B.

A final small test, E, was laid down on April 15th., 1971, one metre south of Pit D., for two purposes: to recover controlled samples for thermoluminescence of polychromes of Phase IV, V and VI styles from the same level; and to collect quantities of raw midden for flotation. The pit, 1 x 1.4 ms., was divided into two halves. The eastern half was taken down to the base clay in two sections: 0-50 cms., i.e. to the level of the Phase IV "floor" of large sherds, and 50-110 cms., comprising the Phase IV levels. The western half was first stripped to 50 cms., after the location of the thermoluminescence samples at c.35 cms., and then equal quantities of midden were cleared off the remaining "shelf" and bagged in 10 cms. units, from 50 to 110 cms.

McGimsey's excavations at NA-7

NA-7 is immediately south-west of the modern cemetery of Natá. Four pits were excavated by McGimsey on May 25th, 1955.

Pit I

A 2 x 2 ms. pit located 20 ms. south of the cemetery. The soil was brown and slightly clayey and, below 10 cms., tended to break into hard clods. Sherds and occasional worked stone appeared in about equal amounts
in the first three levels (0-30 cms.) In level 4, 30-40 cms., parts of a human skeleton were encountered, and though McGimsey was certain it was Indian, the pit was too close to cemetery to risk excavation, so the 30-40 cms. level was restricted to the eastern half of the pit. Around 50 cms. the soil became redder and more clayey. There were few sherds in the 55-60 cms. level and only three in the 60-65 cms. level, when the soil turned to a sterile orange clay. A soil auger test was made to a metre and reached nothing but sterile orange clay.

**Pit II**

A 2 x 2 ms. test located 15 ms. south of Pit I. Dark brown soil in the first 15 cms. changed gradually to a lighter brown and increased in hardness (or dryness), tending to break into hard clods. In the 0-20 cms. levels, sherds were about as numerous as they were in Pit I, but in the 20-30 cms. level they became much more plentiful. They continued in this quantity to a depth of 0.45 cms. when the soil became blacker, but equally hard. By 60 cms. it had again turned lighter, but turned to sterile orange clay at 70 cms. Sherds had disappeared by 70 cms. A soil auger test was carried to a depth of 225 cms. At about 150 cms., the sterile orange clay graded into an orange clay with many light grey flecks.

**Pit III**

A 1 x 1.5 m. pit (long dimensions north-south) located 5 ms. south of Pit II. From 0-20 cms., soil was dark brown, with fairly frequent sherds, which increased rapidly in the 20-50 cms. levels, before dropping off in quantity at 0.60 cms. At 60 cms., the sterile orange clay was reached, with no sherds.

**Pit IV**

A 1 x 1 m. pit located three ms. east and one m. north of Pit III. There was only one sherd in the 0-20 cms. levels, with one *Anadara grandis*, which was
the only shell in the excavations, although there were one or two on the surface. Sherds were plentiful in the 20-30 cms. level, and there is little doubt that the 20-50 cms. levels represent the main occupation with only scattered material above and below. The pit was secured at 50 cms., still in black soil.

Excaervations at NA-8 (Potrero Mendoza)

NA-8, the Potrero Mendoza, is about 1.5 kms. south-west of Natá, overlooking a sudden bend in the Rio Chico (see Map 2).

MoGimsey excavated five pits at this site in 1955, the exact position of which is not now discernible. Judging from the sketch-map in his field notes he worked in the flatter area just to the north of the "madre vieja" of the Rio Chico which passes to the south of the site. According to MoGimsey, the site in 1955 consisted of "a dozen or so low mounds 20-50 cms. high, littered with stone, shell and sherds". There were also a few mounds without this litter. Some 80 cms. west of Pit II there was evidence of a brick wall which ran from the remains of some post-frame houses for about 200 ms. north until it turned 45 degrees east and could be traced for a further 100 ms. It was constructed with bricks, "tejas", sherds and stones, which were fist-sized, and may have lined the edges.

Three pits (I-III) were located in the area of apparent Pre-Columbian activity and two (IV and V) within the post-Conquest houses. Pits II, III and IV were the most profitable pits:

Pit II

A 2 x 2 ms. test located about 70 ms. west of Pit I, within an area of stones, shells and sherds. The initial mounding was probably not more than
25-30 cms. high, and extended 6 ms. north by 4 ms. west. It was irregularly oval in shape. From 0-30 cms., sherds were dense with large Anadara, small Anadara, and another bivalve (probably Scapharca or Pitar, author's note), with other species rare. In the 15-30 cms. level the Anadara app. became less frequent. Levels 30-60 cms. contained a decreased amount of shell and sherds, but the soil changed little. The sherds were also slightly smaller. From 60-100 cms., the soil turned light brown, compact and clayey, with shells continuing in small amounts to c.80 cms. Sherds decreased also, but one or two looked like "El Hatillo". At 100 cms. the light brown clay began to be spotted with grey and sherds stopped at c. 125 cms. The pit was closed at this depth, but a soil auger test revealed that the sterile brown clay continued with grey streaks until at least 200 cms.

Pit III

A 3 x 3 ms. pit placed in the flat between the low mounds in the hope of increasing the sample obtained in the lower levels of the mounds: i.e. the strata beneath the dense shell concentrations. From 0-15 cms., the soil was a dark humus with no shell, but fairly numerous sherds. Stone was also very rare. From 15-30 cms., the soil became a little lighter in colour and more compact, increasing gradually in lightness of colour until 40 cms. Sherds dropped off at c.45 cms., and the soil turned greyish-black, forming hard clods. Sherds were not quite as numerous. At 50 cms. square test revealed sterile hard brown clay at 60 cms, and the pit was secured.

Pit IV

Located inside what may have been one of the post-Conquest buildings. 0-10 cms. had reddish-brown, loose, though slightly clayey soil, brick fragments, and a few sherds. 10-60 cms. had hard clayey soil with heavy clods and brick fragments, with the brick making up about 50-75% of the pit
by bulk. The 50-55 cms. level contained a spindle whorl "exactly like those from the upper levels of Pits I and II". At 0.70 cms., a dark red, almost maroon clay with black specks was reached. Very few sherds appeared and the pit was secured at 75 cms.

When the author visited the area in the dry season of 1970, the land just to the north of the "madre vieja" was under scrub. The higher portion of the site, which overlooks the river from a high spur, had recently been ploughed as a trial plot for the Compañía Panamericana de Alimentación and contained a mixed crop. The entire field, which measured about 360 x 200 ms., was liberally spread with cultural material. There were three low ovaloid mounds covered with stone, shell and sherds, in the manner of McGimsey's mounds below, and the foreman assured me there had been more to the west of the field which had been erased. A random surface collection was made in March, 1970 from selected squares of 10 x 10 ms. and 20 x 20 ms. A more sophisticated gridding of the site could not be attempted owing to the nature of the crops, but the six areas were chosen for their apparent differences: two occupied low mounds; two had amazingly dense concentrations of material; and two others were sparsely covered. Analysis of these collections is recorded in Tables 4 and 10. See Map 2 for location of squares.

In December, 1970, the trial plot had been given over to "guandó" (*Cajanus bicolor*), and was covered with a mat of grass. Permission was kindly granted by Sr. Chan of Natá, the owner, and M. Jean Wintgens, the agronomist of the C.P.A., to dig a test within the "guandó".

The trench (A) was laid down approximately west-east, 50 ms. south of the "cañaveral" and 200 ms. east of the track, in the centre of one of the ovaloid mounds of shell and sherd which measured about 6 ms. long by 3.5 ms. wide, and was 15 ms. south of collection square 5 of 1970. It
was begun on December 23rd., 1970, with Albion Land of the Florida State University, as a 2 x 1.40 cms. out which was, unfortunately, limited in size by the surrounding crops. Levels 1-3, i.e. about 5-35 cms. below datum, consisted of a blackish, humic soil intermixed with fire-ant nests, with dense shell, mostly *Anadara grandis* and smaller bivalves (*Pitar, Protothaca* and *Scapharca*), but with occasional *Strombus, Thais* and *Natica*. At level 4 (0.35 cms.), the humic soil turned very abruptly to a light brown clay, whereupon carbon became suddenly more frequent and shells much less common and smaller in size. This change was more noticeable when the soil was wet. The light brown clay continued to 0.55 cms., when it turned yellowish-red. Level 6 (55-65 cms.), was limited to this second clay layer before the orange-red hardpan was reached at 0.65-70 cms. The hardpan was breached in the north-west corner of the pit to a depth of 1.10 ms. Grey specks became more frequent with depth, and the pan was completely sterile.

The initial cut was enlarged by 2 x 1.40 ms. east on December 26th - 28th., with Luis "Cholo" Calvo, Manuel Saavedra and Basilio Ortega. It was dug according to the natural levels discerned in the original excavation: I: Dark humus and dense shell; II: Brown clay and sparse shell; III: Yellowish clay, no shell, grading onto the lateritic hardpan. In level I, the shell was much less dense than in the original out. Small quantities of animal remains - fish, turtle and mammals - were recovered from all levels of the deposit, but were concentrated between 0.15 and 45 cms.

At the base of the final occupation layer of the initial cut was a basin hearth, located about 60 cms. from the west wall. It was 30 cms. deep and 30 cms. in diameter. It showed as a distinct soil mark in the laterite and presumably extended beyond the south wall of the trench. It contained organic soil, lumps of carbonised wood, and fragments of *Pimelodid*
catfish skull. About 5 ms. from the west wall was a small depression about 10 wide by 15 cms. deep, which could possibly represent a post-hole.

McGimsey's 1955 excavations at NA-9

NA-9 is in the Potrero El Santísimō, about 500 ms. south-west of NA-8. It consists of three mounds situated just to the north of the old channel of the Río Chico which passes below NA-8. In 1955, McGimsey excavated three pits: one on top of an one to the side of the largest mound, and another 20 ms. to the north, and 20 ms. south of the smallest mound.

Pit I

A 1.5 x 2 ms. pit (long dimension north-west by south-east) located at the foot of the mound slope on a line with Pit II. Levels 0-20 cms. had damp brown soil with a few sherds, brick fragments and one or two large Anadara grandis shells. In levels 20-50 cms. the soil became dryer and more clayey, breaking up into heavy clods. Between 50 and 60 cms., sherds increased rapidly, generally "large and very thick, and a dirty cream colour". At 60-65 cms. the soil became blacker and was still hard, and sherds continued in quantity, including some with a "heavy filigree just below the rim". Levels 65-90 cms. continued with black soil, and, at times, heavy amounts of carbon, but by 90 cms. the soil became lighter in colour and sherds less plentiful. At 95 cms. the first traces of the sterile laterite appeared though sherds and carbon continued. Red clay hardpan was reached at 0.105 cms. A soil auger was made to 170 cms. The red clay with grey flecks changed at 0.150 cms. to a sandy, golden brown clay. The pit was apparently sterile below 105 cms. and was closed at that point.

* Cortezo Red-Buff (Plates 50-51)
Pit II

A 1.5 x 2 ms. pit with the long dimension north-west by south-east, placed in the centre of the highest point of the mound. As in Pit I, the first 10 cms. revealed a damp brown soil with frequent bricks and some sherds; from 10-50 cms. the soil turned harder and more clayey with the same tendency to clod. Sherds were sparse and bricks continued to 50 cms. At 50 cms. the excavation reached what appeared to be a fired adobe floor and/or wall fall, which was fairly level and came up in chunks about 10 cms. thick. The top was packed and looked worn. It had obviously been subjected to considerable heat. The area was not composed of brick, nor was it fired as well as brick. One sherd seemed to have been an original part of the matrix. Sherds were rare in the rest of the pit which consisted of a dark brown clay that clodded easily. After 60 cms., when the floor terminated, the deposit consisted of sterile reddish-brown clay to a depth of 85 cms. when a few sherds began to appear. A soil auger revealed the probability of another occupation level beneath and the pit was continued. There was little soil change and little cultural material until 145 cms. when what was probably another floor appeared across the north-west face and halfway down the two adjoining faces. It was orange in colour and looked like pottery. At 190 cms. human bone was encountered in the eastern corner of the pit. The skeleton was lying in an unusual position: the body, probably that of an adult to judge from its length (80 cms. from head to pelvis), was lying on its back, with its legs doubled back over its body so that the head rested below and between the proximal portion of the tibiae. The back and legs were straight and it appeared that the body was articulated. The arms were placed across the chest under the legs. A spindle whorl was found in between the two femora. The head was to the north and the body aligned north-south. Under the body and around it,
the earth had been burned and much carbon was present. The sherds found
in association with the body appeared to have been burned, but the bones
did not appear to have been subjected to heat. Cultural material continued
in the sandy clay soil to about 210 cms. when the sterile red clay was
reached. In the 200-205 cms. level, a few red-daubed sherds appeared, as
well as a stone projectile point and a possible polishing stone. A piece
of chipped obsidian was found at 208 cms., and two carbonised corn cobs,
which looked like row corn, at 205-210 cms. The cobs were about 1 cm. in
diameter and the fragments were 0.2 cms. long, though this was, of course,
not the full length. The pit was closed at 210 cms. after a soil auger
had revealed sterile clay to 340 cms.

Pit III

A 2 x 1.5 m. pit (long dimensions north-west by south-east) located
2 m. east of Pit I, on a line between Pits I and II. From 0-50 cms. the
soil was dark brown and clayey, with very few sherds, almost no brick and
no sign of the fired floor. Sherds continued sparsely until 145 cms and
the only soil change was at c.95 cms. when the clay became looser and
sandier and some dark patches appeared. At 145 cms. a level of fired
earth was encountered (at the same level as in Pit II). There was no
evidence of ash or carbon immediately above the fired area so apparently
the mound was swept or rain washed after the fire and before it was
covered over. The fired sections were fairly extensive, at least 2 ms.
square in one direction, and there appeared to have been more than one, as
the most intensely fired areas of the two pits were not adjoining. At
155 cms. the soil became sandier, as in Pit II, and at 200 cms. a lot of
carbon appeared. Red sterile clay was reached at 205 cms. and the pit was
closed.
Pit IV

A 1 x 1 m. pit placed 20 ms. north-west of Pit II beyond the edge of the mound, in the pasture, in order to check the stratigraphy against that of the basal part of the mound. Blackish humic soil with little material was encountered to 40 cms. when a dry brown soil appeared. A soil auger test was made at 40 cms. and carried to 130 cms., revealing a loose, sandy clay soil (missing in Pit II) which became progressively harder and contained small black flecks and other impurities. The auger revealed obvious sterility in the deeper portions, though the sherds may have extended beneath 40 cms.

Excavations at NA-13 (Finca Cornejo)

NA-13 is on the western bank of the Río Chico, about 4 kms. west of the New Highway as it passes through Natá. It occupies a low plateau above the river, whither the annual flood waters never reach, (The opposite bank of the river is considerably lower and takes the brunt of the flow). The field which contains the site was under a dense cover of "pangola" grass in 1970-71. (See map 3). Dominant tree species in the immediate vicinity are Byrsonima crassifolia, Curatella americana, Guazuma ulmifolia, Acacia cornigera, Pithecolobium saman, Enterolobium cyclocarpum and Spondias purpurea. Along the river bank there is a stand of Ficus, intermixed with tall Anacardium excelsium. The site is dominated by a low ovaloid mound of sherds and occasional large shell (Anadara grandis), similar in shape to the mounds at NA-8. It measures 18 ms. long, by 8.00 ms. wide and is 4.0 cms. high at the centre. It is 145 ms. south of the river. Owing to the thickness of the grass in the field, the precise extent of the occupation area could not be
ascertained from the surface, but the test square, A, placed near the mound, revealed a shallow layer of occupational debris, typologically homogeneous, and the site probably represents a light occupation, one house or a group of houses. No other mounds were visible in the vicinity. Two outs were dug on March 8th and 9th, 1971, with Basilio Ortega and Manuel Saavedra. Pit A, a 2 x 2 ms. square, was put down 17 ms. east of the boundary fence between Cornejo's and Méndez' land, 140 ms. south of the river and 12 ms. north-west of the mound. The pit was begun in arbitrary levels of 10 cms., but cultural material extended for only c.25 cms., in the humic layer, before the red clay was reached. Modern debris was in evidence for the first 15 cms. and a farmer apparently built a "ranchería" nearby about thirty years ago. The clay was breached for thirty cms. but the characteristic black and white flecking indicated sterility and the pit was closed. Pit B, 6.80 ms. n-s by 1.50 ms. e-w, was put down across the narrow axis of the low mound. Sherds were so densely concentrated that there was barely any soil, and excavation was extremely difficult. There was about 40 cms. of piled pottery at the deepest point of the mound, but sherds vanished on reaching a thin band of yellow clay which graded rapidly onto the hardpan. The deposit was treated as a single entity. Most of the sherds were very large and two almost complete pots were found. The contents of one of the pots was floated and found to contain fish vertebrae, turtle carapace, fragments of catfish (Ariid) skull and maize, and a carbonised seed. There were so many sherds in the mound that it was considered impractical to make an absolute sample, so Ortega was instructed to make a random selection while he was digging. The trench was terminated when the laterite was reached, and a further extension was abandoned owing to the colossal sample of pottery. It was impossible to see whether there
was any layering in the mound. The pottery was piled up in a topsy-turvy fashion. I presume that the mound — and others of similar shape and construction at other sites — represents a specially designated "kitchen-area", reserved solely for accumulation of broken pottery.

The excavations of A. Hyatt Verrill at NA-20 (Temple site)

The eccentric Hyatt Verrill excavated in Coolé between 1925 and 1926 at several sites in the general vicinity of PN-5 (Sitio Conte). They are listed in Lothrop (1942: 211-216) as Rio Caño (Temple Site), Espinosa Burial Mound, Barrancos Grave, and Rio Grande Valley. In the catalogue of the American Museum of Natural History there is also a group of numbers under the heading "Ancón" (AMNH 30.1. 784-790). Ancón is a prominent landmark of the Canal Zone, and the artifacts in question are almost certainly not from there. In the eastern "Llanos" there is a sizeable settlement called Antón, but according to Verrill's own notes and map, he did not excavate that far east. A lot of the material listed under these numbers is Mendoza Polychrome, though there are sherds from the other three polychrome groups as well. The precise location of the excavation must remain a mystery. Also listed in the AMNH catalogue is a site called the "Lieson Grave, Limón, Coolé", (30.1.1116-1140), which presumably is in the same general area as El Limón, excavated by the Stirlings (Stirling 1964 a)

That the full account of Verrill's excavations in Coolé will never be recovered is a great tragedy. The material housed in Museum collections is indicative of great material wealth at the sites, and one site, the Espinosa Burial Mound, seems to have contained the four polychrome horizons,
the transition between Phases IV and V, and perhaps even an earlier pre-
polychrome phase, probably superimposed. No one in Coolé knows where
this site might be.

The full account of Verrill's work is contained below. (I am
indebted to Dr. Junius Bird for copying Verrill's notes and allowing me to
include them within this study:)

The locality where work has been carried on during the past six months
is located in the Province of Coolé, about 125 miles from the Canal Zone,
and lies between the Coolé and Chico rivers at approximately ten miles from
the Pacific coast. Over all this district prehistoric remains are
abundant. Along the rivers village sites and burials are exposed by the
waters while in flood, there are innumerable burial mounds scattered over
the plains, and in the dense thorny jungle that covers it in places, and in
several localities there are rows of huge basaltic phallic columns. Here
and there low hills of tufa and basalt rise from the plains; in many places
there are deep deposits of volcanic cinders and ash, and within six miles of
the best remains is a large and somewhat active volcano known as Guacamaya.
Upon the Llanos the soil consists of a thin layer of decomposed vegetation
resting upon a dense hard clay formation. The hills are practically bare
of soil and the brush covered areas between show a bed pan of sticky clay,
a layer of harder sandy clay, a layer of soft gravelly sand, a narrow strata
of alluvium, and a superimposed layer of vegetable mould. The most
interesting spot and that which has yielded the most valuable numerous and
remarkable specimens has, for the sake of convenience, been designated as
the "Temple Site" as it was apparently used as a place of sacrifice and
ceremonials.

THE TEMPLE SITE

This is located on a level plain or alluvial flat about 18 miles from
Pononomé and between the Río Grande and Río Caffio. Although the visible
remains occupy an area of nearly 100 acres only a small portion - about 10
acres - has been cleared of jungle and excavated. This portion, however,
comprised the most extensive and interesting remains and has proved to be the
central portion of the elaborate site. Broadly, the site consists of four
distinct groups of phallic columns of roughly tooled and shaped basaltic
rock, varying in size from five to eighteen feet in length and from ten to
twenty-six inches square. These also vary from square or slightly rounded
forms to hexagonal, octagonal, pentagonal and fairly well rounded semi-
cylindrical sections. The first group (No. 1 on sketch plan)*consists of
about thirty columns running east and west and with their exposed portions
from a few inches to four or five feet above the earth (before excavating).
All have sagged badly, several have fallen, and a few have been broken.
The second group (No. 2) is 350 feet due south of Group 1 and consists of
21 columns several of which were covered with well preserved sculptured
designs in low relief while the others showed signs of having once been
similarly sculptured. Most of the columns of this group have fallen and
the majority are badly chipped and broken by repeated bush fires. This
group runs due north and south. The third group (No. 3) consists of 26

* This plan is contained in Verrill, 1953, fig. 21.
columns none of which are sculptured and which is parallel to and 50 ft.
distant from group No. 2. The fourth group of phallic columns known as
No. 4, lies about 250 feet south west of group 2 and consists of about 30
columns arranged in a rough semi-circle. All of the latter are plain with
the exception of one which bore an incised carving of an Indian with
elaborate head dress. At a distance of 100 feet east of group 1 and 150
feet north of group 3 are two huge columns of square section. At a distance
of 250 feet south of group 3 are two similar monoliths, and 500 feet west
of these and 300 feet south of group 2 are four similar but smaller columns.
In the centre, midway between groups 2 and 3, is a single huge monolith and
placed so that diagonal lines drawn from the "corner marks" cross at this
point. Thus the four corners form an almost perfect square or rectangle
with group 1 forming the northern edge, group 3 the eastern edge, group 1
the western edge. To the east of group 2, and six feet from it, was a row
of stone carvings of animal forms. Still farther east, and from six to
ten feet from group 3, were two other rows of idols, mostly very ancient
and archaic and badly decomposed. About the central pillar were four fine
idols, one a man, another a woman bearing a child on her back, the third an
animal - apparently a jaguar - and the fourth a conventionalized bird
figure. About the columns of group 2 were many small stone idols - many of
children, women pregnant and women carrying children, and scattered over the
area aimlessly were many isolated roughly worked blocks, stones etc. In
every case the idols and columns in groups 2 and 3 were so spaced that lines
drawn diagonally across met at the central pillar, the whole thus forming a
roughly arranged series of ray-like rows about the central column. At the
base of every column and idol excavated were immense stones, usually water-
worn quartz boulders, often smoothed or flattened on one side by hand and
which may have been used partly to support the columns but which, in some
cases at least, served as altars or sacrificial stones. At the northern
end of one row of idols was found a huge slightly hollowed slab bearing a
well sculptured figure of a lizard or alligator, and directly opposite this
at the northern end of another row of idols was a huge almost circular disk-
shaped stone with its edges covered with sculptured human and geometric
figures.

EXCAVATIONS AND OBSERVATIONS

Excavations were made along the various groups of columns in the form
of trenches carried to the bases of the stones and in many cases to 15 to 18
feet deeper to undisturbed bed clay. The groups of idols and corner
monoliths were similarly treated and test trenches were also cut at right
angles and parallel with them. Altogether about 4000 cubic metres of material
was excavated and yet large portions of the rows of columns and considerable
areas of the idol lines were left undisturbed. Upon the surface - and
everywhere over the entire area of the site - and extending to a considerable
depth, are innumerable potsherds many blackened and craked by brush fires,
fragments of stone metates, stone implements, roughly worked cobbles, river
stones etc. In many places, particularly about the columns and idols, this
detritus forms eighty per cent of the soil and has been so cemented together
by clay and percolating lime-filled water that it forms a solid mass as hard
as brick. This is particularly the case about the large corner columns
where the packed potsherds extend down to twelve feet or more. Also, about
many of the idols and columns, the potsherds are packed in a compact mass
and extend from the bases of the columns to the upper portions and even over
the tops, thus forming low rounded mounds completely hiding the column
beneath. The stratification is by no means uniform nor consistent, but in a general way is more or less similar over the whole area. Superficially there is a thin layer of partly decomposed and burned vegetable debris which grades into a true mould extending to a depth of from ten inches to two, and in some places, three feet. Below this is a layer of loose sand showing indications of having once been a river bed or the bed of an estuary, and from a few inches to several feet in thickness. Still lower is the bed pan of stickly bluish or yellowish muddy clay. The potsherds are most numerous from the superficial layer of vegetable debris through the strata of alluvial, and are especially abundant in the upper clay strata.

Some are scattered in the sandy layer and a few occasionally occur in the deepest muddy clay deposit. By far the greater number are in the upper clay or hard layer. There is every indication that all these potsherds are fragments of vessels purposely "killed" or sacrificed, as in many cases stones are mingled with them, not infrequently they are found with jagged holes made by stones, and in some cases the columns and the altar stones showed traces of colour and remains of clay where vessels had been broken against them. Very rarely an entire vessel, or a vessel with its various fragments close together, are found, and in the cases of the entire vessels it was apparently due to accident and failure to break the vessels. The same is true of the stone artifacts and implements, the metates, etc. Aside from the potsherds and broken stone artifacts there are many pieces and flakes of agate and jasper, bright coloured pebbles, clay discs for cotton spindles, clay figurines, and Chama shells, many of which are perforated near the hinge as if they had been used as pounders for preparing bark cloth, exactly as the living Guaymí Indians use the same shells today. Occasionally, too, rude chisels or tools of shell are found. In the case of the stone implements, it is noteworthy that all are rather crude and the majority of the most primitive form, whereas the potsherds show marvellous skill and art in design, colour, patterns, etc. Many are made in two or more layers of contrastingly coloured clays. Others have been engraved or carved and the cut-away portions filled in with a contrasting colour and baked; others are pure white porcelain, and many bear raised or incised designs of beauty. Particularly remarkable is the number of shallow plate-like dishes, peculiar flat three-legged frying pan-like affairs with flat fish tail handles, perhaps used in baking tortillas, and vessels with twisted rope-handles which are made up of three strands laid like true rope. Terra cotta stamps, probably used for painting faces or cotton cloth, occur rarely; two labret-like objects were obtained, and animal heads and figures are quite common, while vase-like incense burners are rare.

In no spot about this temple site, with the exception of the semi-circular row of columns, were any traces of human remains or burials found. Back of this group and within eighteen inches of the foot of the column bearing the incised Indian figure, was the usual flat stone, and resting upon this were human teeth and bones mixed with bits of charcoal. The remains were about three feet below the surface in the hard clay strata and were so badly decomposed that it was impossible to preserve them. No utensils or vessels were found other than the usual fragments. About fifteen feet west of this, and at a depth of six to seven feet, two burials were uncovered. In both cases these were in the hard clay strata but were surrounded and covered to a depth of several inches with the loose sand. The burials were obviously made in the clay, the sand filled in, and the
whole covered with clay stamped down. In the case of the first burial the remains rested on a flat-surfaced stone and in the other, upon a large metate from which the legs had been removed. Both were evidently secondary burials, as the skulls rested upon neatly arranged piles of bones, the whole occupying a space far too small for an entire body. In both cases, the faces were towards the east, as are the faces of all idols and figures - and in each case the remains were surrounded by a number of miniature pots, dishes, etc., together with stone implements. The missing metate legs were found in the clay beneath the metate and some distance from it.

Very little of interest was found about the larger phallic columns. Broken pottery and stone artifacts are numerous, a few nearly entire vessels were recovered, and aside from such material none of the phallic column rows yielded anything of note aside from a large stone head from group 1 and many small stone idols from group 2. All of the rows of figures have, however, yielded wonderful specimens, although in most cases the carved stone figures are badly broken and in many cases have parts missing. This mutilation is due to several causes. When the Spaniards first settled in the district in 1520, they discovered the temple site, and although it was deserted and no Indians had any knowledge of its origin, the priests deemed it a pagan thing and ordered the destruction of all visible images. Since then frequent fires have crooked and flaked all stone and pottery that extended above the surface, and every peon passing by who saw a stone figure knocked it to pieces and carried off heads as souvenirs. Also, I am sure, many of the images were defaced or broken by the people who erected them, much as the present day Panamá tribes break or cut up their wooden images if they prove inefficient.

Only those idols which had become deeply buried under the alluvial deposit, or those which had fallen and had been covered by the accumulation of many years, were entire. In many cases, however, the missing parts were found far distant from one another as if thrown away or carried by some unknown force. Indeed, many of the conditions at this site, such as the huge columns broken and with various sections widely separated and often buried wrong end uppermost, the columns and idols varying in depth below surface in a wave-like manner, can only be accounted for on the supposition of a severe earthquake. As in some places I have found pottery and implements under a layer of volcanic ash over fifteen feet thick; as I have found columns partly finished and abandoned both at the quarries and en route to the temple, I believe that the people were destroyed or partly destroyed by a volcanic eruption and that the survivors, finding their frantic sacrifices of no avail and their most sacred idols being knocked about, deserted the country in terror.

A noteworthy fact is that so far no gold, copper or silver objects have been found in this district.

OTHER SITES

Among the other sites in the vicinity are several groups of phallic columns, both on the open "llano" and in the brush, few of which have been examined and none of which have been fully excavated. Graves in the form of low rounded mounds from two to twelve feet high are numerous. In every
case, and excavations have been carried to eighteen or twenty feet in depth, these burials have proved to be very shallow. They consist of the remains of from one to several immense urns, evidently burial urns, resting upon and surrounded by charcoal, baked clay. Broken stone implements and artifacts, entire stone weapons and immense numbers of fragments of "killed" pottery, a very large proportion of which is of the highly decorated ceremonial type. In many cases, however, it is possible to obtain all the fragments of a vessel so that it can be restored; occasionally an entire vessel is found, and, on the whole, the pottery obtained here is in better condition than at the temple site.

Also, along many of the streams of the banks for several feet in depth are filled with potsherds and stone implements. I at first considered these village sites, but recent excavations have convinced me that in most cases they are cemeteries. During the rainy season the high waters often wash out many perfect pieces of pottery and stone work at these places, but to obtain these by excavating is very difficult and slow work. I believe that wonderful results could be obtained by excavating these by means of a powerful stream of water in the manner of hydraulic mining.

As yet many graves, innumerable river bank remains, a large portion of the phallic column rows, much of the temple and a tremendous area about the temple which has not yet been cleared, remain to be excavated. The graves, as well as phallic columns, extend for miles to the bases of the mountains, and, in the mountains, a totally distinct type of stone lined graves occur. Here and there, too, in the river bottoms are found a still different type of burial consisting of a beehive-shaped grave with an aperture at the top covered with a flat stone. The body and utensils were placed in these, a fire built and the body cremated, and the grave lining of clay baked into rude brick at the same time. These yield very little, the only contents found being plain pottery, a few stone implements and no decorated ware or metal work.

(The final two paragraphs are quoted in Lothrop, 1942: 213)

Excavations at NA-31 (Bocatomas)

NA-31 is situated in a grassy field about 4 kms. north of the New Highway, on the western bank of the Rio Grande, between the river and Cerro Olivo. It consists of about 50 circular piles of river stones, arranged rather haphazardly over the field.

On December 22nd., 1970, one of the piles was excavated by the author and Raúl González of the Museo Nacional de Panamá. The stones covered a
roughly circular area measuring 2.10 ms. north-south by 2.70 ms. west-east. The centre of the pile was about 25 oms. above the ground surface. To the south of the major circle was appended a square "door step" - shaped group of slightly smaller stones, 0.70 ms. north-south by 1.10 ms. west-east. About 25 oms. to the west and east of the circle were two larger cobbles, presumably isolated intentionally.

The stones continued for about 70 oms. below the ground surface, whereupon they were succeeded by a 20 oms. thick layer of coarse yellow sand. This overlaid another layer of river-worn stones continuing to about 1.35 ms. A second layer of coarse yellow sand followed, grading onto a layer of pebbles to at least 1.60 ms. At this point the pit was terminated under threat of torrential rain and the excavations were abandoned.

No cultural material was found below the original pile of stones and the sequence of sand and river stones seemed to represent a natural riverine aggradation rather than any intentional grave-shaft fill. However, the excavations might simply not have gone deep enough and the site should not be totally discounted as an archaeological area. It is possible that the stone piles found all over the surveyed area - especially those composed of water-worn river stones and not jagged volcanics - represent house floors similar to the pile at PN-5 which overlaid a belt of fired adobe (Lothrop, 1942: 40-43 and fig.25).

Excavations at PN-11 (La Herradura)

PN-11 is situated on the east bank of the old channel of the Rio Grande called La Herradura, just west of the township of Rio Grande (See Map 5).

The site was discovered when works for the Pilot Canal, Coolé II, drove
through a lens of sherds which stretched along the canal for a distance of about 140 ms. north-west of the Old Highway. In October, 1969 a 1 x 1 m. test pit, A, was put down 70 ms. from the Old Highway and carried to a depth of 1 m. in arbitrary 20 cms. levels.

Excavations commenced on January 27th., 1970, with Pit B, a 2 x 2 ms. square put down 75 ms. from the Old Highway and 3.5 ms. north of the north wall of the canal. The helpers were Miguel Becerra and Jose Maria Dolores, of Rio Grande village, and Demetrio "Meco" Ortega, of Las Postas. The excavation was undertaken in arbitrary levels of 10 cms. as the previous test had revealed no appreciable anomalies in the soil profile. The first few centimetres consisted of sterile backfill from the canal and level measurements were taken from a datum erected above the backfill.

Levels 1 and 2 (i.e. 10-30 cms. below datum), were well compacted and hardened and had presumably been churned by agricultural activity in the past: some of the sherds showed signs of recent charring and were miniscule in size. No modern artifacts were recovered. Small carbon flecks began to appear in level 4 and by level 5 they had become quite common, but always very small, and never concentrated. In level 3, the grey-brown humic soil graded into a yellower soil which became more clayey in level 7, when the size of sherds increased noticeably, especially in the south-western corner of the pit. The only soil anomalies were frequent lenses of very fine yellowish sand, which were scattered randomly throughout levels 7-10. They were always shallow (0.5 cms.) and appeared to form no regular pattern. The dense lens of sherds begun in level 7 continued into level 9. They presumably formed part of a cache as fragments from the same vessel, that in fig. 36,b, appeared to have been deliberately placed on top of each other. In level 10, the number of sherds dropped drastically in the northern half of the pit though they continued in the southern half. By level 13 the
soil had turned glutinous and gley-like, and sherds became very scarce. The pit was continued, in the south-western corner only, to a depth of 1.80 ms. The water table was reached at 1.70 ms. Preliminary analysis of the pottery recovered from pit B indicated that there might be a correlation between soil and cultural horizons in the deposit. Accordingly, pit B was extended 3 x 1 ms. westwards, by a control pit, D, laid down in arbitrary levels of 10 cms., 2 ms. west of pit B, and by a third pit, C, excavated between B and D, according to the differences in soil colouration visible in the dry profiles. Unfortunately, excavation by these natural levels proved to be almost impossible and it is doubtful whether the method is useful or practical on occupation sites which have brown soils of recent alluvial origin. The pottery record indicates that chronological differences cut across the soil horizons.

For the record, the natural stratigraphy observed while digging pit D was:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I: 0-10 cms.</td>
<td>Sterile backfill from canal</td>
</tr>
<tr>
<td>II: 10-25 cms.</td>
<td>Grey-brown humus</td>
</tr>
<tr>
<td>III: 25-70 cms.</td>
<td>Yellowish-brown soil, more clayey towards the surface; occasional lenses of fine yellow sand. The level was divided into four approximately equal units of 0.10 cms. each.</td>
</tr>
<tr>
<td>IV: 70-100 cms.</td>
<td>Yellowish-brown clayey soil, becoming rapidly greyer</td>
</tr>
<tr>
<td>V: 100-130 cms.</td>
<td>Yellowish, sandy soil, with grey streaks, becoming increasingly heavily gleyised.</td>
</tr>
</tbody>
</table>

Pits C and D were taken down to 130 cms., to the base of the heavily gleyised soil.

Pit E

When the site was first revealed, a few sherds were found eroding from
the banks of the canal on the other side of the rivulet which crosses the site and enters the ox-bow. Stretching for c.100 ms. along the canal from the ox-bow, a fossil river bar was visible, consisting of heavy pebbles and boulders. Backed up against the bar was a block of homogeneous sandy fill, presumably formed while the Rio Grande followed the course of the ox-bow (see Map 9). The sherds seemed to be eroding from above the sterile fill, for a distance of about 80 ms., and Pit H was laid down at the apex of the humic material above the sand, as a 1 x 1 m. cut, three metres from the northern edge of the canal. Cultural material was present in the first 50 cms. of the humic soil, but disappeared abruptly at the transition between the humus and the sand. The pit was carried down to a depth of 1.60 cms. when the fossil bed of a stream was reached and the soil became too wet to continue digging. No sherds were recovered after 50 cms. Two other cuts were laid down in early March, 1970: F, situated 60 ms. from the Old Highway and 3.5 ms. from the northern wall of the canal, was a 1 x 2 ms. cut (long axis west-east), taken down in arbitrary levels to a depth of one metre. Sherds were far less dense in this pit than in any of the others on the site. Pit G began as a 1 x 1 m. out 9 ms. north of the north-eastern corner of pit B-D-C, just inside the then boundary fence between the Project-owned land and the Fernández finca. The initial 1 x 1 ms. was taken down in 10 cms. arbitrary levels to 1.0 m., and extensions were made 2 x 1 ms. to the north, and 2 x 1 ms. to the east. The whole L-shaped unit was continued in 10 cms. levels to a depth of 1.25 cms. Sherds vanished by the end of level 11 (c. 1.05 ms.) Both pits F and G had very homogeneous profiles, the only difference in soil colouration being the twenty cms. humic band across the top.
CHAPTER 4

ANALYSIS OF THE CULTURAL REMAINS: POLYCHROME POTTERY

The term "polychrome" has been used rather loosely throughout this study. Included under its general heading are all those wares which utilise geometric or representational designs painted in black, or black and one, two or three other colours, on a slipped or unslipped ground. Wares which utilise a simple red-painted design on a buff- or white-slipped or unslipped ground, as well as miscellaneous red-slipped, smoked and plain wares, are included under Non-Polychrome pottery in the following chapter. A discussion of the relevance of the terms "bichrome", "three-colour ware" and "polychrome" is included in the Introduction to the Aristide Group.

The polychromes have been divided into four major Groups, which are each considered to be representative of the final four phases of the prehistoric occupation of the surveyed area: Mendoza Polychrome (Phase VII); Macaracas Polychrome (Phase VI); Conte Polychrome (Phase V); and Aristide Polychrome (Phase IV). Another Group - Tonosí Polychrome - has recently been defined by Ichon for the environs of the Tonosí Valley, Azuero Peninsula, and its presence in western Coolé is probably - though not certainly - due to trade.

In addition to the Groups, four independent Types have been created which are all minimally represented in the sample and have not been isolated chronologically: Becerra Painted Lip; Corotú Polychrome; Talingo Interior Banded; and White-and-Black-on-Red Ware. Analysis of the entire pottery sample from western Coolé, both Polychrome and Non-Polychrome categories, has shown that in only a very few cases - notably the Conte, Corotú and Tonosí Polychromes - are paste colour and texture useful descriptive criteria for a Group or Type. Accordingly, most emphasis has been made in the classifications on the vessel shapes and the nature of the painted design,
as it is considered that these two criteria are the most important taxonomic
guide-lines. Indications of the manufacturing technique are sometimes
present, more frequently in the Non-Polychrome wares. Coiling seems to
have been the only method used, but other methods are not easy to detect in
a sherd sample without a ceramicist's report. Comments on manufacturing
techniques have been included only when they are obvious.

Abbreviations have been used to signify the various collections which
house examples of the described pottery:

AU: University of Arkansas Museum, Fayetteville.
SI: Smithsonian Institution, Washington, D.C.

MAJOR POLYCHROME GROUPS

PHASE VII

MENDEZA POLYCHROME

Introduction

Analysis of the initial sherd sample of 1969-70 indicated that the
most ubiquitous polychrome throughout the surveyed area was a ware characterised
by geometric designs utilising one or two colours (black, or black and red) on
a light background (white or buff slip). At first, three design varieties
singled themselves out: Variety A, a stylised saurian similar to the
dominant motif of Ladd's El Hatillo Polychrome; Variety B, a design in-
corporating truncated triangles and parallel lines, similar to the Girón
Banded Lip Type, Radial Banded Variety; and Variety C, comprising single or
double rows of black dots, sometimes delineated at the sides by double
parallel lines. These three design varieties occurred on bowls or dishes
with the same gently curving s-shaped profile and, in some examples, were
arranged on the vessel in an identical manner: as a concentric panel, bordered above and below by a thick black line, running around the interior, immediately below the lip (c.f. figs. 1, a-f; 4, a-c and e-g; 11 & 12; 14, a-f).

In the subsequent season, more sherds of this geometric polychrome were recovered from excavations and surface collections. It also proved to be common in unpublished sherd lots from PN-5 (Sitio Conte), Verrill's sites, and McGimsey's excavations in 1955-56. The enlarged sample included, in addition to the three basic design varieties listed above, sherds with motifs similar to those of Ladd's Parita Polychrome, which had been present in only small numbers the year before.

In classifying the sherds, it was originally intended to follow as closely as possible Ladd's bipartite division of 1964 — into El Hatillo and Parita Polychromes — but the idea was discarded in favour of a wider category, owing to the fragmentary nature of the material, the scattered distribution of the sample, and lack of complete vessels from western Coelé for direct comparison. "El Hatillo-like" and "Parita-like" sherds occurred together at those surface sites which had been stripped to the bare clay, without or with only minimal representation of the Macaracas, Conte or Aristide Group polychromes, and in the superficial levels of the excavations at AG-3, NA-8 and NA-13. They also shared a number of characteristics which isolated them from the earlier Groups: extreme stylisation of somorphic elements; absence or very scant use of purple; concentricity; arrangement of designs into rectangular panels; and the use of double lines or blocks of black to delineate the panels. These similarities made unequivocal assignment of a sherd to one or the other of Ladd's existing Types very difficult: some sherds seemed to be intermediate between them, while design varieties B and C had, to my knowledge, never been described before. Moreover, Ladd had
worked essentially with funerary material, whereas the sample from western Coolé was presumably entirely domestic.

The fact that I have incorporated this geometric polychrome into one broad Group (Mendoza Polychrome), does not mean that I doubt the validity of Ladd’s typology. I have indicated in the text those examples which are assignable to Ladd’s existing Types and Varieties and have given my own alphabetic suffixes to two varieties which combine shapes and design elements already treated by Ladd and other investigators: Variety D, a plate with an uppourving rim and often a flattened lip with nubbins (o.f. Ladd’s Parita Polychrome, Yampí Variety); and Variety E, flaring rims with geometric designs from vast massive jars (o.f. Ladd’s Parita Polychrome, Ortiga Variety). From the purely stylistic point of view, the Parita Polychrome seems to occupy a point midway between the Macaracas and El Hatillo Polychromes; some designs occurring on Parita and El Hatillo vessels are mutually exclusive and it might well prove that there is a chronological difference between them. In western Coolé, however, Phase VII polychromes were virtually undescribed before this study and I feel that, given the type of sample at hand, it would be wiser to acknowledge similarities rather than to emphasise minute differences.

The alphabetical suffixes are the only concession I have made to typing within the Group. All the design elements and vessel shapes recorded from western Coolé are illustrated in figs. 1-30 and 81. To aid subsequent investigations, I have listed in Table 11 the associations of the various varieties and shapes of the Mendoza Polychrome from excavations and surface collections.

As regards expertise of manufacture - colour and compactness of paste, density and composition of temper, degree of firing, fineness of line, accuracy of painting (all acknowledged criteria for categorisation) - the
variations within the Mendoza Polychrome exceed those of the Well Tempered Klavier. Identical designs may be painted quite atrociously, on a paste fired to a buffy colour, with a thick, jet fire-core and dense quartz-sand temper of varying particle size, or be exquisitely executed on a fully oxidised, compact paste of bright orange colour, with minimal mineral inclusions. Sherds with these extremes may occur on the same site. The usefulness of other criteria such as degree of polish and hardness has been jeopardised by the inclemencies of the weather and the nature of disturbance at a lot of the sites where the Mendoza Polychrome is found. A large part of the sample was recovered either from the surface or from the uppermost levels of excavations, and this has resulted in the dulling of polish and erosion of painted surfaces. "Chalkiness" of slip has been given as a criterion for one of Ladd's Types (El Hatillo Polychrome, Jobo Variety) (Ladd, 1964: 66), but it is the author's experience that other Polychromes which use a highly polished white slip will turn "chalky" when exposed to leaching or other vagaries of the atmosphere. For these reasons, design varieties and shapes have been treated in the description as the most valid criteria for differentiation of the Group. It is probably true that ultimate finish relates to ultimate function. The pastes of most of the El Hatillo and Parita Polychromes from He-4 were very hard and compact and fired to a bright-orange or red, with a crushed rock temper (Dwight: 54-67). An identical paste occurs on most of the western Coclé sites, with all design varieties, and it is quite likely that the better made examples were reserved for ceremonial purposes while the shoddier were left for domestic use.

**Sample**

About 575 sherds and three complete vessels. 456 sherds assignable to the Group were recovered in the field; about 120 were present in unpublished sherd lots from FM-5 (FB), Verrill's sites (AMNH and HF), and McGimsey's
1955–56 campaigns (AU).

**Paste:**

Extremely variable. Colour ranges from a weird pinkish hue through buff to black, where the fire-core has covered the entire thickness of the wall. Fire-cores are very common, running at over 40% for the whole sample. These may be slightly darker than the surface paste or jet black, in which case they contrast vividly with the surface colour. Temper is generally sand, of varying particle size and mineral composition. Pastes which fire to a buffy colour have high percentages of quartzite, a mica (frequently phlogopite - "oro de pendejo"), and feldspar, while those that fire to an orange colour have virtually no quartz, and more frequent magnetite and hematite, which may be present in large lumps up to 3 mm. in diameter.

**Shapes:**

The full gamut of rim and body profiles of the Mendoza Polychrome is recorded in figs. 1–30 and 81. The complete morphology of most of the examples is difficult to determine, but shapes represented in the sample are: bowls and dishes; bottles; spouted barrels; collared vessels; collarless vessels with restricted orifices ("tecomates"); vessels with subglobular bodies and either rounded or sharply angled shoulders; pottery lids and, possibly, effigy vessels.

The commonest, most diagnostic, and, from the chronological point of view, most important shape of the Mendoza Polychrome, is the plate or dish type illustrated in figs. 2, 4, 5 (a, c & d), 11–16 etc. The profile is gently s-shaped, with the rim inclining downwards slightly from a point about three quarters of the way up the vessel wall. The rims are only slightly modified: some are gradually thickened after the "s-bend", with lips that are either rounded, or flattened at varying angles (compare fig. 14, a–o and 14, e–g); others are thinned, sometimes almost to a point (figs. 6,b,11,f and
One example, with Variety C decoration, has a hemispherical lug beneath the lip acting as a support (fig. 17,b). On all examples recovered, the vessel wall curves gradually into the base (c.f. fig. 2), and is never sharply angled in the manner of some Conte Polychrome vessels from PN-5 (c.f. Lothrop, 1942: fig. 159). Diameters range from 18 to 30 cms. and wall thicknesses at the thickest point from 4 to 8 mm. Appendages include a ring-base with everted foot (c.f. fig. 143, c,d,e), a short, red pedestal (figs. 2 and 10), or a long, tall pedestal with thin neck, flaring base and painted decoration (figs. 6, c-f, 7 and 29-30). No examples of the Mendoza Polychrome with Variety A-C decoration have the upourving rims or flattened lip of the Variety D plates of the Macaracas Polychrome, though there are some anomalous rim shapes: fig. 19,c, is thinned just below the lip so that a small shelf is formed; fig. 5,f, has a sharply everted collar, in the manner of the Cortezo Red-Buff, shape A, (figs.90-91), upon which the design panel is painted. The typical "drooping-lip" of the Conte (Phase V) polychromes is absent from the Group except, perhaps, for the example in fig. 19,b, which is included tentatively within the Group on the basis of the Greek Key decoration.

Descriptions of other shapes are included under the respective design varieties.

Design Varieties:

Variety A

The basic component of the design variety is a highly stylised animal head, presumably that of a saurian, which is the last degenerate scion of the dynasty begun in the Conte Polychromes of Phase V (c.f. Lothrop, 1942: fig. 52). The same motif characterises the El Hatillo Polychrome of Ladd, who used fine differences in the arrangement of the design as the criterion for the subdivision of his Type into four Varieties (Ladd, 1964: 51-66).
According to the sherd sample from western Cočlé, the extent of stylisation is somewhat arbitrary: fig. 4 illustrates six sherds of the characteristic s-shaped dish. Only one, g, preserves the eye, teeth and mouth of the beast and one, b, has lost all semblance of zoomorphism, preserving nothing but the basic "Greek Key" pattern, which must be the ultimate stylisation. The sherds in fig. 4 would, according to Ladd's system, be assigned to the El Hatillo, Achiote and Jcbo Varieties of the El Hatillo Polychrome. This makes one doubt the validity of subdividing pottery according to such minute details of design.

Variety A designs occur on a wide range of shapes. On dishes with the s-shaped profile (figs. 4, 5,a,c & d and 6, a & b) the design is generally arranged as a concentric panel, bordered above and below by black lines, running around the inside of the vessel, just below the lip. Each element probably consists of a pair of "heads" counterbalancing each other in zig-zag fashion, as suggested in fig. 1,a. The pairs are probably arranged in groups of four to six around the circumference, separated from each other by thick black lines (fig. 4,e) or by other geometric elements (figs. 1,a & 4, a&c). On some of the examples (fig. 4, a, c, & e-g), the entire interior of the vessel below the panel is covered with a red slip and left undecorated, but on others (fig. 5, c & d, for example), the interior may have additional decoration below the initial panel, in the manner of some examples with Variety C designs (c.f. fig. 15, a - e). There is one sherd from Verrill's MA-20 collection with a Variety A motif, set within black lines, from the interior of a dish (fig. 5, e). Fig. 10 illustrates the decoration on the interior bases of two pedestal dishes, which are presumably from vessels with saurian decoration on the walls. The pedestals have red-slipped exteriors and are probably of the type illustrated in fig. 2. On all examples of this variety, the background for the panels
is a white or buff-coloured slip. On those vessels with white-slipped interiors and a single decorative panel, the white is applied over the red ground slip and then delineated with black; on vessels with decoration carried to the base of the interior, as in Fig. 10, the white slip is applied first. Generally, the surface is well polished. The black lines which outline the "heads" are also applied after the red, in the manner of the Conte and Macaracas Polyorhomes. The degree of fineness and accuracy of painting is very variable, with lines ranging from thin and straight to thick and wobbly. It is not clear from the present sample whether Variety A designs occur on the same vessel in conjunction with other motifs. Fig. 16, c, illustrates a dish interior with Variety C decoration and what seems to be the end of a saurian head. A vessel from PN-5 (PM: C-12599) has a design on the base very similar to those in Fig. 10, which is flanked at the sides by degenerate scroll motifs in red, outlined in black. On some sherds, the saurian head is painted in a more naturalistic, curvilinear fashion.

Fig. 26, b, an exterior, has a motif on the surface above the shoulder which approximates Ladd, 1964: fig. 26, a, (Parita Polyorhome, Ortiga Variety), while below the shoulder there is a curvilinear saurian with the typical teeth of the more geometric examples. A pair of similar saurians adorns the upper shoulder of an angled-shoulder vessel (fig. 28, a). The soruffily drawn degenerate "YU" fill between the two animals occurs also on Ladd's El Hatillo Polyorhome, Jobo Variety (Ladd, 1964: fig. 16, c.)

Design Variety A is also present on pedestals which have tall, thin necks and flaring bases. Diameters range from 16 to 22 cms. (figs. 5, c-f and 7, a-c). Unfortunately, the decorated panels are heavily eroded in parts, so the appreciation of the total design is rather difficult. An example from Verrill's Temple Site (NA-20) collection (HF: 14/5128), has a panel with zig-zag heads in pairs, delineated above and below by black lines,
at the point where the neck begins to flare out. Above the panel are three bands of red, black, and red, below the junction of the pedestal with the dish. Fig. 9, d is probably the neck panel of such a pedestal. The examples illustrated in figs. 7, d and 29, c, which have toothed lines at the sides of blocks of red and black, might accompany Variety A designs. On all sherds of pedestals, the "heads" are arranged on white-slipped panels. The pedestals are always bordered beneath the panel by a red band around the lip, which terminates at approximately the junction with the horizontal plane. The interiors are smoothed, but left plain. The mode presumably accompanies dishes with the interior decoration summarised above, but I have seen no examples with the dish and pedestal intact.

Lothrop mentions fragments from five examples of a "peculiar type of vessel" found in Trench XI at PH-5 - a cylindrical jar with a short neck and flattened base - and illustrates one sherd (1942: 124 & fig. 229). The full shape of this vessel is approximated in fig. 9, a and sherd fragments of another example not illustrated by Lothrop are shown in fig. 9, b. According to Lothrop, the heads on these vessels are always arranged in pairs, in the typical zig-zag pattern, on the shoulders and side walls, as in his illustrated example. Fig. 9, b, however, has a frontally depicted face, with two eyes and a mouth, on the lower panel. The fragment of a jar cover in fig. 8, e, is also mentioned by Lothrop (op. cit.: 124). It has a toothed "Greek Key" on the side wall and is also painted on top, though the details of the decoration are unclear.

The two exteriors in figs. 4, d and 5, b are presumably from jars, though fig. 4, d might be orientated with the head looking up or down and not sideways as depicted (the smoothing striations are irregular), in which case the curvature would indicate a shape reminiscent of the spouted barrel from Veraguas illustrated by Lothrop (1950: fig. I34, a). Fig. 9, c has a
Variety A saurian, on a white-slipped panel, on the upper half of a vessel with rounded shoulder and, presumably, sub-globular body. The lower half is red-slipped and presumably lacks decoration. Fig. 8, d is certainly from a collared vessel and another example, fig. 8, a, from NA-20, has the decoration painted on the exterior of a short flaring collar. There are also a few sherds (from NA-7, NA-8, and FN-5) which have Variety A type decoration on the upper side of rims from restricted vessels, which might be collarless jars ("tecomates") or rims from the type of vessel illustrated by Ladd for the El Hatillo polychrome, which has a restricted orifice, sharply angled shoulder and cylindrical body (1964: fig. 7, p-t, and Plate 3b).

Fig. 9, d & e, illustrate what are either the necks of bottles of tall painted pedestals. Note that the saurian of the panel on the right of 9, e, is probably frontally depicted.

A complete miniature vessel from Cache 29 at FN-5 (PM:0-12564), (5.7 cms. tall), with a cylindrical body, angled shoulder and short everted collar, has a decoration panel running around the vessel just below the red-painted collar and shoulder. It is split into two halves by two vertical blocks of black. One half contains a motif of fragmented and highly stylised claws, while the other may have a Variety A type design, though Lothrop's illustration (1942: fig. 357, e), illustrates only the "claw" panel and the photograph in the catalogue is not clear.

Buried with skeleton C-1 at AG-3 was a strange fragmentary pedestal or drum (fig. 81). It seems to have been hour-glass shaped in its pristine state, with flaring ends, and a bulge at the centre. Running around the centre is a panel consisting of horribly drawn Greek Key patterns. There were probably four keys on the vessel. One of the keys has claw-like ends to the final bend at the centre, while red has been used to fill the centre of the lower halves in a rather slapdash fashion. It looks as though the maker
was in a hurry. The vessel is very crudely made. The thickness of the walls ranges from 1.3 to 1.8 cms., and the interior has been very roughly smoothed with a t shell. The exterior is well polished, but badly fire-clouded. A thick fire-core occupies three quarters of the vessel wall.

DISTRIBUTION OF VARIETY A DESIGNS IN WESTERN COCLE

AG-3; NA-2; NA-5; NA-6; NA-7; NA-8; NA-15; NA-16; NA-20; NA-22; NA-29; FN-5; FN-10; FN-11; FN-13; FN-14; Verrill's unlocated sites, "Espinosa Burial Mound", "Anóon", and "Banks of the Rio Grande".

The stratigraphic position of the examples with Variety A decoration from FN-5 is (all cat. nos. FN)

33-42-20/1038:
Trench V, general digging: 1(fig. 9a)
C-11991:
Pit VI, general digging: 4(fig. 8, c & d; 2 s-shaped dishes)
C-12529:
Trench XI, section 7, 30-55 cms.: 2(figs. 8, e, & 9, b)
C-12533:
Trench XI, section 9, 30-52 cms.: 1(s-shaped dish)
C-12551:
Trench XI, undisturbed area, 0-105 cms.: 1(fig. 7, a)
C-12599:
Trench XI, section 1, 70 cms. deep: 1(probably an s-shaped dish)
C-12628:
Trench XI, section 14, 52-85 cms.: 1(fig. 8, b)
C-12630:
Trench XI, section 16, 30-65 cms.: 2(fig. 7, c; s-shaped dish)
C-12633:
Trench XI, section 17, 45-85 cms.: 1(fig. 7, b)
C-12634:
Trench XI, section 18, 12-45 cms.: 1(s-shaped dish)
C-12636:
Trench XI, section 19, 12-45 cms.: 1(cylindrical jar fragment, Lothrop, 1942: fig. 229)

Catalogue nos. and locations of examples in unpublished sherd lots are:

HF: 14/5128: Temple Site (NA-20): 1(Fragment, pedestal)
14/5342: Rio Grande Village Site: t (Whole vessel, fig. 2)

AMNH: 30.1.789: "Anóon" & (all, exteriors)
30.1.252: Temple Site (NA-20): 5 (figs. 5, 6, and 8, a: two other exteriors)
30.1.1044: "Espinosa Burial Mound": 1 (fig. 5, d)
30.1.1111: Banks of the Rio Grande: 2(figs. 5, a & b)

Another example (fig. 4, e) was in McGimsey's selected collection from NA-7(AU)
Relationships with other types and outside areas:

Variety A designs occur on vessels of the El Hatillo, Espalá, Achiote and Jobo Varieties of Ladd's El Hatillo Polychrome; and on the Ceritó Variety of the Calabasa Polychrome (Ladd, 1964: 51-66 and figs. 8-16 incl. and 50). The shapes recovered from the Parita area are heterogeneous. The typical s-shaped dish of the western Coolé examples is recorded by Ladd in fig. 7 r, with "Espalá" design elements. Sherds housed in the Smithsonian Institution (SI-437711), are almost identical to the examples illustrated in figs. 4-6, being of the type with a single panel just below the lip and red-slipped interiors. Shapes described by Ladd which are so far absent from western Coolé are the effigy bottle (op.cit.: fig. 7,f) the globular bird bowl (op.cit.: fig. 7,n & s) and the angled-shoulder effigy jar (op.cit.: fig.7,l). Some of the exteriors from the Coolé sherd lots are undoubtedly from globular jars or bottles, and the fact that some shapes of the El Hatillo Polychrome are as yet unknown in Coolé does not necessarily mean that they will not occur there. I am convinced that the excavation of Phase VII burial sites would reveal a collection of shapes as varied as that recovered from the Herrera sites. Tall pedestals apparently occur in Herrera, in "Espalá" style, but are not illustrated by Ladd. The light-slipped background of the Coolé examples tends to be of a purer white than the creamy or orange-tinted slip from Herrera, but, even so, the variation is considerable: fig. 5 e, for example, has a brilliantly white background, while in fig. 5 d, it is almost yellow.

Outside the Parita area and western Coolé, vessels with similar designs have been found in Veraguas, at Espalá and Bubí (Lothrop, 1950: fig. 134, a & b). Lothrop refers to a similar vessel from Chiriquí (1942: 124). A pedestal illustrated by Linné from the Pearl Islands (1929: fig. 97 a), has a simple, colour-filled greek-key design on the base, and another vessel, presumably also from the Pearl Islands (Disselhoff and Linné, 1961: 134),
has a crudely drawn geometric saurian occupying the interior. The head has the characteristic square visage, and stylised teeth. A similar vessel from the Tabasará River, Chiriquí, is illustrated by Dockstader (1964: plate 153).

It is interesting to note that, prior to this study, only one vessel showing characteristics of Ladd's El Hatillo Polychrome had been recorded from Coolé: a cylindrical vessel, with a spout, lying horizontally on a ring-base (HF: 22/34.09) which was provenied the Rio Grande, Coolé.

Ladd assigned the vessel to the Jobo Variety (1964: 66). To judge from conversations with Dade's workmen, it is from FN-14. The discovery of sherds with Variety A designs from nineteen living sites in the Santa María, Grande and Chico Valleys, attests to a wide distribution in western Coolé and it is my guess that were some of the shaft-and-chamber tombs in the area opened, a lot of the pottery would be decorated with the Variety A design. The finding of vessels with identical designs from Bubi and Espalá suggests that the style extended well into Veraguas, and I would expect to find it generally throughout the Pacific coast of the Bay of Panamá in the future.

Variety B

The Variety B design is illustrated in figs. 11-13. It consists of pairs of right-angled triangles, with concave hypotenuses, arranged back to back, sometimes with vertical lines between, and joined along the base by a horizontal black line. There might be another black line with toothed projections running between the pairs of facing triangles. The design, on all examples except the exotic sherd in fig. 13,d, which has the design carried down the interior, is arranged as a single panel running around the interior of an s-shaped dish, just below the lip, in the manner of some of
the Variety A examples already described. It is delineated above and
below by black lines of varying thickness. The background to the panels
is always white-slipped, either polished or lacklustre. The interiors and
exteriors are red-slipped, except fig. 12,5, which has an unslipped (buff)
 exterior. The white of the panel is applied over the red slip and
subsequently outlined in black. The pairs of triangles were probably
arranged around the circumference of the vessel in threes or fours (see
reconstructed panel in fig. 1.b).

Even considering the small sample recovered, the variation on the
basic design is considerable, and it is impossible to make a rule about
combination of elements. The toothed line is sometimes present, sometimes
not; and the triangles have varying numbers of vertical lines separating
them. All sherd s with this design variety are rather well painted and are
not nearly as slapdash as a number of Variety A and C examples.

DISTRIBUTION OF THE VARIETY B DESIGN IN WESTERN COCLE

NA-2; NA-5; NA-6; NA-7; NA-8; NA-10; NA-15; NA-16; NA-20; NA-22;
PN-5; PN-11; PN-14; PN-20.

The stratigraphic position of Variety B examples from PN-5 is:

C-11991:
Pit VI, general digging: 3 (probably this design)
C-12630:
Trench XI, section 16, 30-65 cms.: 1 (s-shaped dish)

Catalogue numbers from the other unpublished sherd lots are:

30.1.952 NA-20 (Temple Site)

Three examples were in McGimsey's selected sherd lot from NA-7.

Relationships with other types and outside areas:

I know of no examples in the literature which combine this particular
design variety with the Mendoza s-shaped dish. The basic idea of the
right-angled triangles placed back to back and joined by a single line, is,
of course, the primary motif of the Girón Banded Lip Type, Radial Banded Variety (see figs. 63, e-m & 64-67). Aristide Polychromes are virtually absent from levels and sites where Mendoza Polychromes are dominant and I would assume that the Variety B s-shaped dish is the direct descendant from the Girón Type.

**Variety C**

The third design variety which is commonly represented in the Mendoza Polychrome is illustrated in Plate 14, and figs. 2 and 14-18. The basic design is very simple, consisting of various combinations of black dots, delineated by black lines, arranged on a light-slipped background. The dots are painted in a regular linear fashion and are not randomly spaced filler elements such as occur in figs. 27,d, and on some vessels of Ladd’s El Hatillo Polychrome (1964: figs. 9,d, 10,a and 11,f).

Variety C designs occur on s-shaped dishes and angled-shoulder vessels. Figs. 14, a-f and 16, e-f show examples of the s-shaped dish with a single decorated panel and red-slipped interior, similar to those already described under the preceding design varieties. The dots are arranged concentrically, in one, two or three rows, and are delineated above and beneath by varying numbers of black lines, often one thick and one thin. The rows of dots may be broken by vertical black lines (figs. 15,a and 16,d). Figs. 14, g, 15, a-c, d & e and 16, a presumably have the decoration continued to the bottom of the vessel in the manner of fig. 2. In these examples, the white slip is applied first, and the decoration below the initial panel consists of red lines, bordered by black, alternating with circles of the light background. Figs. 2, 15, d, and 17, a, c & d have additional panels of dots halfway down the vessel wall. The dots are arranged in two rows, divided by a thin black line, and are set in pairs, divided by two vertical lines. Figs. 17, a & d have the black lines separating the groups of dots irregularly thickened.
In the complete example in fig. 2, there are three such panels, arranged concentrically within a red ground. Fig. 16,c combines Variety C dots with the end of what presumably is a Variety A design.

Plate 14, a miniature with a sharply angled shoulder and cylindrical body, has a red-slipped collar with characteristic medial bevel. The decoration is arranged on the shoulder and upper half of the body. The shoulder has two rows of four dots, separated by a horizontal line, alternating with horizontal lines thickened in the manner of figs. 17,a and d. There are three panels of dots. The upper half of the body has three panels of dots set in a red ground. The dots are arranged in two groups of six, three up and three down with a horizontal line between them. Two vertical lines divide the two pairs. The vessel, excavated by Dade from the Rio Grande (PN-14), is 10.2 cms. high (8.8 cms. at the bevel).

Figs. 18 b, c and d and figs. 26,c and d also have angled shoulders. Figs. 18, b, c and d, have a panel of dots on a red ground in an arrangement very similar to the above vessel. Fig. 26,c has a black outlined panel on the lower red-slipped wall, and fig. 26,d a panel of dots in conjunction with "isolated triangle" elements typical of Ladd's Parita Polychrome, Ortiga Variety (1964: fig. 26 a). A sherd from PN-6 (La Loma de les Morteros) - an angled shoulder vessel - has a panel with two rows of dots, set in red, on the lower wall and, on the upper wall, a design incorporating the typical "Parita" black outlined red circle (c.f. Ladd: 1964, fig. 24,1). The only example known to me of a pedestal incorporating Variety C decoration is illustrated in fig. 30,a. This has a single panel of dots on a white-slipped ground.

DISTRIBUTION OF THE VARIETY C DESIGN IN WESTERN COCLE

AG-3; NA-2; NA-3; NA-5; NA-6; NA-7; NA-9; NA-20; NA-22; FN-5; FN-6; FN-7; FN-11; FN-14; FN-19; LP-1; Dade's Rio Grande Site, probably PN-14;
Verrill's unlocated sites: "Espinosa Burial Mound," "Ancón" and "Río Grande Village Site."

The stratigraphic position and catalogue numbers of the PN-5 examples is:

- C-I1992 Pit VI, general digging: 1 (s-shaped dish, single panel)
- C-I2551 Trench I, undisturbed area, O-105 cms.: 1 (s-shaped dish)
- C-I2626 Trench XI, section 14, 52-85 cms.: 1 (s-shaped dish)
- C-I2630 Trench XI, section 16, 30-65 cms.: 2 (s-shaped dishes)

A sherd labelled "Sitio Hector Conte" has a catalogue number C-I2395 (an s-shaped dish). This is probably from PN-6 (see p. 390).

Catalogue numbers of Verrill's unpublished sherd lots are:

- 30.I.788 "Ancón": 3 (s-shaped dishes)
- 30.I.789 "Ancón": I (fig. I6 e)
- 30.I.952 Temple Site (MA-20): 5 (figs. 16, a,c & d; I7,a; I s-shaped dish)
- 30.I.999 "Espinosa Burial Mound": I (s-shaped dish)
- 30.I.1044 "Espinosa Burial Mound": I (s-shaped dish)

Relationships with other types and outside areas:

The only examples known to me which have designs approximating Variety C are illustrated by Ladd for the Parita Polychrome, Anón Variety (1964, fig. 21, m) and for the Calabaza Polychrome, Calabaza Variety (op.cit.: fig. 49, e, a bottle spout with dots arranged around the neck.

**Variety D plates**

Variety D is a catch-all category for plate rims which have profiles differing from those of the s-shaped dishes and geometric designs which approximate those of Ladd's Parita Polychrome, Yampí Variety (op.cit.: figs. 24 & 25). Examples are illustrated in figs. 3 and 22-24.

Basically, Variety D shapes differ from the s-shaped dishes in that the rim curve gradually upwards from the centre and have either rounded, or thickened and flattened lips. Sometimes the flattening is very pronounced (fig. 24, c-e). Some examples have raised bumps on the lip which are arranged around the rim in the manner of eyes, to judge from the whole example in fig. 3.

The characteristic feature of the Variety D plates is the
use of geometric elements - black rhomboids or rectangles, often with finely pointed corners, and black-outlined red circles - spaced at presumably regular intervals around the rim of the vessel. On some examples, the decoration extends over the edge of the lip (fig. 23,d). The whole example from PN-14 (fig. 3) has the lip divided into twenty rectangles, delineated at the sides by two vertical lines. The bumps around the lips are either painted black or outlined in black with plain, red or purple "pupils". The purple "pupil" of fig. 22,e is the only example of the Mendoza Polychrome which uses purple apart from fig. 28,b&c. For direct comparison of the geometric elements, compare figs. 23, a & c and fig. 24, a with Ladd, 1964: figs. 24, a & j.

The interior decoration of vessels with Variety D rims is difficult to ascertain. Fig. 3 has concentric circles - comprising red bands, outlined in black, alternating with the bare white background, and four panels of four red diamonds, interspaced with smaller black triangles, set in a red ground. The manner of decoration recalls the s-shaped dish with Variety C decoration (fig. 2). The diamonds and triangles of the panel recall motifs typical of Ladd's Parita Polychrome, Ortiga Variety (1964: fig. 26). The interiors illustrated in fig. 25 are perhaps from plates with Variety D lips. Fig. 25, a, has black-outlined panels within a red ground framing fragmented geometric elements typical of the Parita Polychrome, and figs. 25,f & g have black-outlined red circles which occur on the Variety D rims. The type of degenerate scroll in fig. 25, d, occurs on Parita Polychrome, Ortiga Variety vessels (Ladd, 1964, fig. 34,b).

Diameters for the Variety D plates range from 20 to 0.32 cms. Wall thickness are greater than for the s-shaped dishes, ranging from 0.4 to 1.0 cms. and the vessels are shallower. The standard of manufacture and finish is extremely variable: some examples, fig. 23,a, for example, are well
polished all over and have the compact, fine-grained paste which fires to an
orange colour, while others have crumbly sand-tempered pastes which are
badly fire-clouded. The exteriors of nearly all examples are red-slipped.

The only appendage definitely assignable to the Variety D plates from
western Coale is that on the whole example in fig. 3, a tall painted pedestal,
with the flaring base and thin neck typical of the Mendoza Polychrome pedestals.
The panelled decoration, arranged on the base below a banded neck, combines
a "Greek-Key" design in black (c.f. fig. 81 and Ladd, 1964: fig. 26, f) and
another element comprising two black-line rectangles enclosing two solid
rectangles which are arranged facing each other.

DISTRIBUTION OF VARIETY D RIMS IN WESTERN COALE:
AG-3; AG-4; NA-2; NA-3; NA-5; NA-6; NA-7; NA-8; NA-I5; NA-I6; NA-22; PN-5;
PN-6; PN-I4; LP-3; Verrill's unlocated site "Espinosa Burial Mound".
The stratigraphic position of Variety D rims at PN-5 is:

  C-I2539: Trench XI, sec. I2, 30-50 cms.

Two examples from PN-6 are catalogued:
  C-I2395
  C-I240X
The only example in Verrill's sherd lots is AMNH: 30.I.1049 ("Espinosa Burial
Mound").

Relationship with other types and outside areas:

  Plates with the Variety D rim and decoration are typical of Ladd's
Parita Polychrome, Yampi Variety (1964: 79-82). All Ladd's examples of the Yampi
Variety combine the geometric elements recorded for Variety D on the lip with
stylised fish (sting-rays or hammer-head sharks) on the interior. No sherds
recovered from western Coolé—apart from a possible eroded sherd from NA-5—showed evidence of such somorphism. Vessels of the Parita Polychrome with the shark or ray interiors have been fairly widely recorded in Panamá: from Chiriquí (Holmes, 1888, fig. 211 and Lothrop, 1942, fig. 485), Veraguas (La Peña, Namey, Piedra del Sol, Santiago and Soná) (Dade, 1961: figs. 2, a, 2 a & d and 4, a; Ladd, 1964: 82), and Herrera (He-4), (Ladd, 1964: 79-82). Lothrop illustrates a vessel from Guaymal, Veraguas, which has the interior filled with typical "Parita" degenerate and fragmented elements: scrolls, black outlined red circles and rhomboids with pointed corners (1950: fig. 133). Both this example and the one illustrated by Holmes have a little frog-type lug on the rim. Sherds assignable to the Yampí Variety were recovered at He-4, He-5 in Herrera and also at AG-2 in Coolé (Ladd, 1964: 82 and 181). In the Tonosí Valley, Ichon recovered several rim sherds with Variety D characteristics—black rhomboids with pointed corners black-outlined red circles (d.f. fig. 23, a)—from the site of Guaniquito which he assigns to the fourth, Bijaguales, Phase (Ichon, personal communication).

Variety E

Figs. 20, d, and 21, a-f are rim sherds from collared vessels with geometric decoration on the upper surface of the rim and also on the lip. Collars with identical profiles are typical of Ladd's Parita Polychrome, Ortiga Variety, and the design elements in the figures can be matched almost exactly to Ladd's illustrations: fig. 21, a and b, to Ladd, 1964, figs. 21, a and 26, b and c; fig. 21, c to Ladd, figs. 26, a & e; and fig. 21, d to Ladd, fig. 26, f. A scroll similar to that in fig. 21, d is illustrated on "atlas" figures (attached below the lip) in Biese (1961, fig. 4, a). No complete examples have been recovered from the Parita area but it seems certain that the pristine shape is similar to that of vessels illustrated by Holmes (1888, figs. 209 and 210), from Chiriquí, which have the wide, flaring collar and pear-shaped bodies. Shoulders are either sharply angled, (Biese, 1961:
fig. 5,a) or rounded (Ladd, 1964: fig. 26,g). One of the examples illustrated by Holmes (1888: fig. 210) has a collar with red-slipped upper surface similar to fig. 21,f of this study.

The Variety E rims from western Cocele have diameters ranging from 16 to 0.24 cms. and seem to be somewhat smaller than published examples from elsewhere. Designs are painted on a white-slipped (pure white to cream) background. The paste of nearly all the examples is fired to a bright orange, but a few sherds have buffy surfaces, a thick fire-core, and dense quartz sand temper.

A small zoomorphic lug, presumably representing a frog, of the type recorded by Ladd (1964: fig. 29) was recovered at AG-3 (Surface), and three more were present in sherd lots from the Temple Site (NA-20), "Ancón" and PN-6. Handles of this type occur on the shoulders of Variety E jars (Biese, 1961: fig. 5; Lothrop, 1942: figs. 482,b and 484), and also on Variety D plates (Lothrop, 1942: fig. 479). The AG-3 and Ancón examples have the anatomical features (striped legs and face) painted in black onto an unslipped (orange) surface and an orange eye motif outlined in black on the back; the others have the details painted in black on a white slip over an orange surface.

**DISTRIBUTION OF VARIETY E RIMS IN WESTERN COCLE:**
AG-3; NA-5; NA-6; NA-7; NA-8; NA-20 (Temple Site); PN-5; PN-14; Verrill's unlocated site "Espinosa Burial Mound".

The stratigraphic position of the collar from PN-5 (fig. 20,d) is given as Trench IV, Grave 32, and the zoomorphic handle from PN-6 is catalogued C-12401. Rims from the Verrill sites are listed as AMNH: 30.1.952 (Temple Site, NA-20) (fig. 21,a) and 30.1.999, "Espinosa Burial Mound", (fig. 21,o) The "frog lugs" bear catalogue numbers HF: 14/6545 and AMNH: 30.1.788 ("Ancón")
Occurrences of Variety B vessels in outside areas:

The examples mentioned above from He-4 and Chiriquí are the only Variety B collared jars known to me. In the Tonosí Valley, Ichon found some frog-effigy lugs which might belong to Variety B vessels (Ichon, personal communication). Another, from Panamá Viejo, is illustrated by Biese (1964a:fig. 10,j).

Miscellaneous designs on s-shaped dishes:

The characteristic s-shaped dishes of the Mendoza Polychrome have been found with designs which do not fall within A-C. Six sherds (figs. 18, f & h, 19, a and 20, a-c) have isolated rectangular panels, framed in black, on white or red-slipped backgrounds, just below the interior lip. Presumably the panels are arranged around the circumference in threes or fours. One example at least (fig. 19,a) has a concentrically banded decoration beneath the panel. Within the panels are contained geometric elements. One has a black rectangle with teeth (fig. 19,a) and another a design which seems to incorporate a black-framed row of dots (fig. 20,b). Other anomalous designs on s-shaped dishes are illustrated in fig. 18, e & g. The former has a zig-zag motif in red and black, presumably arranged as a single panel on a red-slipped interior. The latter also seems to have a zig-zag design. A similar pattern turns up on a pedestal from PN-5 (fig. 7,e).

Fig. 19,c, which has a profile which narrows suddenly, bears a design incorporating a dotted fill; while fig. 19,d, has a stylised claw element, bordered above and below by black lines.

The stratigraphic position at PN-5 of s-shaped dishes with unusual designs, or eroded panels is:

- C-11984: Pit VI, general digging (fig. 20 b)
- C-11985: Pit VI, general digging (fig. 20 c)
- C-12628: Trench XI, sec. 15, 52-85 cms. (eroded)
- C-12638: Trench XI, sec. 20, 8-40 cms. (eroded)
Miscellaneous designs on vessels with angled shoulders:

Figs. 27, a-d and 28,a are fragments of vessels with angled shoulders which have decoration painted on white slip on the upper shoulder, the precise nature of which is impossible to determine. The degenerate T filler element in figs. 27, a and 28, a occurs on Ladd's El Hatillo Polychrome, Jobo Variety (Ladd, 1964: fig. 16,c).

An angled-shoulder fragment from FN-5 (C-I2636) is listed under Trench XI, section I9, I2-45 cm. Examples from FN-6 have catalogue numbers:

C-I2395: Pit L.I.3I (lower panel with Variety C design; upper panel with Parita-like black-outlined red circle)
C-I2401: Pit L.I.3I (three fragments)

Examples in Verrill's unpublished sherd lots have catalogue numbers:

30.I.788: "AnofÁ"  
30.I.789: "AnofÁ" (fig. 28,a)  
30.I.952: Temple Site (MA-20)(figs. 26, c & d; 27,d; 3 miscellaneous)

Miscellaneous sherds with Parita-like decoration:

A number of sherds and one partial vessel with design elements which are typical of Ladd's Parita Polychrome varieties were recovered from the field and unpublished collections. Only those examples which could be matched exactly to Ladd's illustrated design elements for the Parita Type were included within the Mendoza Polychrome sample.

Fig. 28, b & c illustrate two exteriors with rounded profiles. The former has the typical Parita scroll design and fragmented peripheral elements (c.f. Ladd, 1964: fig. 30,a) and the latter approximates the stylised saurian of Ladd's fig. 30,c. An interior of a pedestal vessel (with the pedestal broken)(fig. 28,d) has the fragmented geometric elements, in red, outlined in black, on a white ground, and is somewhat similar to the base of the vessel illustrated by Lothrop from Guaymas, Veraguas, which has the Variety D flattened lip (1950: fig. 133). The exteriors from vessels with rounded shoulders in figs. 26, a & b have the zig-zag and pendant triangle motif (c.f. Ladd, fig. 26,a) which also occurs on one of the panels of the barrel illustrated in Plates I5 and I6. This vessel, excavated by Dade from
the Río Grande, probably from PN-14, has a blunt-ended cylindrical body lying horizontally on a small annular ring-base. It is 26.2 cm wide and 17 cm high at the neck and was presumably accompanied by a long spout. The exterior is slipped red and extremely well polished. Two rectangular panels, outlined in three black lines, are arranged on the side walls, on a white-slipped ground. The panels contain different decorative ideas. One panel utilises four vertically arranged zig-zags and triangles which are the same as those in Ladd, 1964, fig. 26 a. The design on the opposite panel approaches Ladd, op.cit., fig. 28 a.

The sherds which are included in Table 11 under "Parita" interiors or exteriors have design elements recorded in Ladd, 1964, under figs.: 18 a-f, 27 c, 30 a and c, 31 i and s, and 34. Most but not all of the examples from western Coolé were painted on a fine orange paste with minimal mineral inclusions. Ground colour of the slip is variable, ranging from orange to white.

A Parita-like exterior from PN-5 has stratigraphic position Trench XI, Section 9, 55-90 cm.

Parita - like sherds from the Verrill collections have catalogue numbers:

- 30.1.789 "Ancón": i (misc. plate fragment)
- 30.1.952 Temple Site (NA-20): 3 (figs. 25 b, and misc. fragment)
- 30.1.986 "Espinosa Burial Mound": 1 (figs. 28 c)
- 30.1.999 "Espinosa Burial Mound": 1 (figs. 26 d)

Other miscellaneous exteriors of the Mendoza Polychrome have stratigraphic position at PN-5:

- 33-42-40/2184 General digging, 0-5 ft.
- C-11985 General digging, Pit VI
- C-12630 Trench XI, sec. 16, 30-65 cm.

**Miscellaneous zoomorphic vessels:**

Two sherds from NA-13 with modelled zoomorphic features have been included within the Mendoza Polychrome. One is illustrated in Plate 53, b.

The face rim profile (fig. 116 p) approximates that of Ladd's Parita
Polychrome, Ortiga Variety (1964: fig. 27,a), while the other has a snout of indeterminable nature (c.f. Parita Polychrome, Caimito Variety, op.cit.: Plate 4 c-d). The face rim has two shades of reddish pigment, that outlining the facial features being of a pinkish hue, that below, orange.

**Tall painted pedestals:**

Tall pedestals with Variety A and C designs have already been described. These presumably accompanied vessels decorated with the corresponding design varieties. Unusual designs occurring on pedestals with the same flaring base and restricted necks are illustrated in figs. 7,e, 29,a and Plate 46,b. Fig. 7,e presumably has a zig-zag motif approximating that of the dishes in figs. 18,e & g, while fig. 29,a (from NA-13) has a "pendant-t" motif between horizontal black lines. Similar motifs are characteristic of the Girón and Escotá Types, and Ladd's Parita Polychrome, Anón Variety (c.f. fig. 55,q, and Ladd, 1964: fig. 21,d). Plate 46, b is also similar to some of Ladd's Parita Polychrome designs.

The remaining sherds from tall, painted pedestals - most of which are depressingly fragmentary - fall into two major categories: the first has circumferential black bands painted on a white ground, running around the base of the pedestal above a red-slipped zone (figs. 7,f-g and 29,b & d-g), and the second, triangle elements arranged in various combinations around the base (Plate 46, c-f, h & i). The former type presumably carries a decorate panel on the flaring part of the pedestal, below another series of concentric black lines painted on the neck beneath the junction with the vessel above, in the manner of Plate 46,b, and fig. 3. The black lines are often very close together. The sherds with triangle designs, profiles of which are illustrated in fig. 30,b & d-l, and designs in Plates 46, c-f, h & i and 47, a & b, combine "triangle-within-a-triangle" and diamond elements which occur on pedestals accompanying Macarácas Polychromes (Ladd, 1964: fig. 38,b and Plates 6,d and 7,b),
and Parita Polychrome, Nispero and Anón Varieties (Ladd, 1964: fig. 20,b and Plate 3,c). In classifying the pedestal fragments, those with Variety A and C designs, the exotic motifs mentioned in the first paragraph, and terminal fragments with circumferential black lines are included within the Mendoza Polychrome; those which utilise complex designs typical of Ladd's Macaracas Polychrome (such as Plate 46, a & g), colour-filled diamonds on the neck (c.f. op.cit.: Plates 6, d and 7, b) and purple paint in the basal triangle motifs (Plate 47, a & b) are classified as Macaracas Polychrome; and those fragments which have triangle motifs which - according to Ladd's classification - could accompany either Mendoza or Macaracas Polychromes (Plate 46, c-e, h & i) have been left unclassified as "Triangle Pedestals" (see Table II).

A meaningful classification of pedestals is extremely difficult until a sample of the surmounting vessels has been obtained. Nevertheless, no examples of Macaracas vessels known to me have pedestals with more than one circumferential black line around the base, while Ladd's El Hatillo and Parita Polychrome pedestals always lack purple paint and red-or purple-filled diamond motifs on the neck. No pedestal fragments with purple paint were recovered from the surface collections over the surveyed region, and it would surprise me if Mendoza Polychrome vessels ever have pedestals typical of the Macaracas Polychrome.

The Mendoza pedestals (other than Varieties A and C) illustrated in this study from PN-5 have catalogue numbers and stratigraphic positions: C-I2610, Trench XI, section 6, 55-77 cms. (fig. 7,e) and C-I2528, Trench XI, section 7, 0 - 30 cms. (fig. 7,f). Sherds from the Verrill collections are listed "Ancón" (AMNH: 30.I.788/9) and "Espinosa Burial Mound" (30.I.996/9). Pedestals with triangle designs from PN-5 are listed:
C-11985:
Pit V, general digging: 1
C-11992:
Pit VI, general digging: 3
C-12520:
Trench XI, section 1, 8-52 cms.: 1
C-12535
Trench XI, section 10, 30-50 cms.: 1
C-12606:
Trench XI, section 2, 52-77 cms.: 1
C-12612:
Trench XI, section 3, 52-77 cms.: 1
C-12613:
Trench XI, section 7, 77-105 cms.: 2
C-12616:
Trench XI, section 9, 55-92 cms.: 1
C-12861:
Trench XI, Grave 58, general digging: 1;
and from Verrill's sites:

"Banks of the Río Grande" (30.1.1111/2)
"Espinosa Burial Mound" (30.1.1043)

**CHRONOLOGY OF THE MENDOZA POLYCHROME GROUP:**

Sherds of the Mendoza Polychrome Group occurred in the top 20 cms. only of PN-11 (0.6% in pit B, level 1, 0.6% in pit G, level 1, and 0.8% in pit G, level 2). In trench A at NA-8, they were most frequent in the second, yellow clay layer, where they comprised 2.17% of the total as opposed to 0.22% in level I and 1.15% in level III. At NA-13, the only polychrome sherds unequivocally identified belonged to this Group (1.17% in pit A and 0.47% in pit B), but a few rounded lip plates had traces of Macaracas decoration. At NA-31, the only polychromes identified (3 out of 100 sherds) were likewise Mendoza. McGimsey's selected sample from the four pits at NA-7 consisted of the following categories alone: Mendoza Polychrome (16 or 17 sherds), Becerra Painted lip (2 sherds), a "triangle" pedestal sherd (either Mendoza or Macaracas), Mendoza Red and Cortesó Red-Buff. At AG-3, Mendoza Polychrome sherds did not occur below 50 cms. in pit A, 40 cms. in pit C and 30 cms. in pit B. 16 out of the 17 Variety A-C sherds were from above 30 cms.
At PN-5, Mendoza Polychrome sherds in the selected samples from Trench XI and other excavated units are without exception from above 105 oms. - that is, from the top third of the deposit - which attained an average depth of about 3 ms. (Lothrop, 1937: 36). In fact, all the Variety A-C examples are from above 85 oms. As the top 25 oms. were considered by Lothrop to have been laid down in modern times, the position of these sherds is very superficial. Mendoza Polychrome vessels were totally absent from the graves and presumably developed after the locality was abandoned as a funerary centre. The only whole examples known to me which I would assign to the Group - C-12599 and C-12564 - were found at 70 oms. in Trench XI and in Cache 29 respectively. The cache was at a depth of 68 oms. and contained a nest of six miniature vessels (op.cit.: 303). Miniature vessels are a Phase VI-VII manifestation all along the Pacific littoral east of Chiriquí. The red-on-buff jar with loop handles mentioned by Lothrop as occurring in the cache is presumably similar to those found with skeletons A-3 and C-2 at AG-3.

The terminal stratigraphic position for the Group suggested in the excavated samples is corroborated by the predominance of Mendoza Polychrome sherds over the other polychrome Groups in surface collections throughout the surveyed region. At NA-8, which had only 65 oms. of deposit in Trench A and a noticeable increase of Conte Polychromes in the lowest level (III)(see Table 4), Mendoza Polychromes represented 5.1% of the total sample from the six collection squares, while Conte Polychrome mustered only 0.2% and Macaracas, 0.07%. On four collected sites which had been stripped to the base clay, NA-2, NA-6, NA-7 and NA-16, Conte and Macaracas Polychromes were minimally represented, while Mendoza Polychromes represented 2.5%, 4.3%, 6.5% and 7.0%. At NA-5 and NA-15, whose depth of occupation was not visible from the surface indications, Mendoza Polychrome sherds represented 4.6% and 6.8% respectively, with Conte Polychrome absent at both sites, and Macaracas
Polychromes again very scarce. Conversely, NA-21 had noticeably higher percentages of both Macaraca Polychromes and Conte Polychromes than Mendoza, while NA-30 showed 2.3% Conte Polychrome and no Mendoza sherds (see Table 5).

Turning now the excavations across the river in Herrera which gave Ladd his initial sample for the differentiation of the El Hatillo and Parita Polychromes, we find the following associations in the excavated units:

Mound I, Trench 1: All finds, except a few sherds of uncertain association (in caches) were Macaraca Polychrome. Ladd suggests that the mound was built up in two stages, the earlier covering the burials with the Macaraca Polychromes, the later covering the caches with El Hatillo and Parita vessels.

Mound II: The only whole vessels were El Hatillo Polychrome, Jobo and El Hatillo Varieties.

Mound III: Caches included El Hatillo Polychrome, El Hatillo, Anón and Níspero Varieties; Parita Polychrome; and Calabaza Polychrome (complete vessels). No Macaraca Polychrome vessels were found complete, though sherds were present in the fill.

Mound VI: A meagre stratigraphic record from the sherd count: Macaraca sherds declined noticeably relative to El Hatillo and Parita in the uppermost of two levels of one metre apiece.

Mound VII: All whole finds were Macaraca Polychrome (all varieties) except for one Parita Polychrome vessel of doubtful association. No El Hatillo vessels were found.

Trench 8: Probably the safest stratigraphic record at the site. Four out of six 25 cms. levels had sherds. Parita and Calabaza sherds increased noticeably from bottom to top, while Macaraca declined in the uppermost level. El Hatillo sherds were present in very small quantities only in the top level.

Trench 10: The stratigraphic record reverses that given for other cuts, with El Hatillo apparently earlier than either Coolé or Parita. The only whole vessels, however, buried in the trench were Macaraca Polychromes. (Ladd, 1964: 34-47 and Charts 3-7).

Two other polychrome collections excavated from the same site by members of the Archaeological Society of Panamá have been published (Mitchell and Acker, 1961, and Bull, 1965). The former contains good illustrations of the
recovered pottery - which consists of El Hatillo, Parita and Macaracas Polychromes - but unfortunately no record of burial associations. The latter is more helpful. Burial No. 3 in Mound 2 (Ladd's Mound VI) contained a collared jar which would, I presume, be classified by Ladd as Parita Polychrome, Ortiga Variety, in association with a mass of red-buff pots. Burial 4 in the same mound contained four small jars and seven miniature pedestal vessels, all classifiable as Parita Polychrome, Ortiga and Yampí Varieties, and a somewhat anomalous vessel not unlike Escotá Black-on-Buff is shape and design. Mound 3 (Ladd's Mound 1) had three large urns, each of which contained one polychrome vessel: a Macaracas Pica-Pica pedestal head-effigy; a ? Parita Polychrome zoomorphic effigy; and a Macaracas Polychrome bowl with loop legs and Parita-type frog-effigy lug handles. Burial 4 of Mound 8 (Ladd's Mound X), contained five polychrome vessels which are not illustrated.

The burial associations at He-4 show that a) El Hatillo vessels are never found in direct association with Macaracas vessels; b) Parita vessels and El Hatillo vessels are sometimes found together; and c) Parita vessels are only rarely found with Macaracas vessels and might on occasions possess certain Macaracas elements (e.g. Bull, 1965: Plate V,b). Except for Trench 10, which seems to have a reverse stratigraphy, the meagre quantitative record substantiates what the burial associations suggest, with El Hatillo and Parita sherds coming in after Macaracas sherds begin to decline. In Mounds I and VII, El Hatillo sherds are limited to the uppermost levels, while in Trench 8 they are almost absent and, again, occur in the top level only. A radio carbon date was apparently obtained by Philip Dade from a deep burial as the site, 415±90 BP, but I am ignorant of the pottery it contained (Ladd, 1964: 151).

At other sites in the Santa María region, El Hatillo sherds were totally
absent from He-1 and He-8. He-1 seems, in fact, to have been used as a funerary centre only during Phase V, but Macaracas and Parita Polychrome sherds were present at both sites. Likewise, El Hatillo sherds were absent from Pits 1-3 at AG-2, where Parita Polychrome was represented by only the Yampi Variety, while all varieties of the Macaracas Polychrome were present.

Taking the sum total of the evidence from western Coolé and northern Herrera - burial and cache associations, stratification of mound fill, the stratigraphic record from Coolé habitation sites and the relative frequencies of sherds in the surface collections - the indications are quite definitely that El Hatillo and Parita polychromes in Herrera and Mendoza Polychromes in western Coolé are later than the Macaracas Polychrome. As stated in the introduction, it is quite possible that the Mendoza Polychrome defined herein will revert to Ladd’s original 1964 division and that there is a chronological division between the El Hatillo and Parita Polychromes as defined by Ladd. The association of some Parita and Macaracas designs on the same vessel suggests an evolution from Macaracas into Parita.

Absolute dating for the Mendoza Polychrome will have to await the processing of radiocarbon dates. Datable material was obtained from Trench A at NA-8 (wood carbon), and from pit B at NA-13 (shell). Whatever luxuries the physicists might afford, there can be no doubt that the Mendoza Polychrome Group was extremely widely utilised in western Coolé - it occurs at 24 recorded sites over the region - and the great variation in manufacturing techniques and clay composition indicates a local provenience. The occurrence of a few pristine examples from grave-sites in the region intimates that, were more cemeteries to be opened, there would be a manifold increase in complete vessels of the Group.
Introduction:

The case has already been put forward in Chapter 2 for the simplification of the existing nomenclature of the Phase V and VI polychromes. Conte Polychrome is herein taken to comprise those shapes and designs of the Sitio Conte Polychrome and Panelled Red Wares which were assigned by Lothrop to the "Early" period at PN-5, and also several which were classified as "Late". Within the Macaracas Polychrome is incorporated pottery with shapes and designs characteristic of the funerary material from Herrera which was included by Ladd into a Type of the same name, and also those vessels found in graves at PN-5 which are in the same tradition as, and presumably coeval with, these Herrera finds. The argument in favour of this division is contained in the section on the chronology of the two Groups: suffice it to say before beginning the descriptions of the material found in the field, that the author is of the opinion that Lothrop's 1942 division of the Sitio Conte pottery into "Early" and "Late" is more or less correct from a stylistic point of view, but slightly misplaced, and that a lot of the vessels labelled "Late" - especially those from Graves 5, 24 and 26 - should be considered transitional forms between the Conte and Macaracas Polychromes. There was almost certainly a gradually evolving tradition of pottery making along the eastern Pacific littoral of Panamá from the earliest Escotá Black-on-Red manifestations to the stylised geometric saurians of the Mendoza and El Hatillo Polychromes and, consequently, it is very difficult to state exactly when a Conte vessel becomes Macaracas and a Macaracas, Mendoza. Transitional forms obviously occur - the Corotú Polychrome has already been suggested for the transitional stage between the Aristide and the Conte Polychromes - but transition in any artistic tradition is liable to excessive subjectivity on
the part of the analyst and, until more complete evidence from a variety of contexts is at hand, it is wiser to concentrate on establishing the criteria for differentiating the developed examples in each of the two Groups. To the unacustomed eye, there is a very obvious difference between a fully-fledged Conte and Macaracas vessel, as Lothrop noticed when he isolated the Foreign Style A at PN-5. The ubiquity of Macaracas sherds and vessels all over western Coolé testifies to the Group's widespread manufacture. Macaracas vessels were buried in some numbers at PN-5 - Mason's finds are still unpublished - and a certain "huaquero" once told me he could take me blindfolded to those unopened graves at the site which would contain sumptuous Phase VI burials. He is probably right.

PHASE V: CONTE POLYCHROME

Sample:
592 sherds: 476 from AG-3, 4 from PN-11, 112 from surface collections.

Paste:
It has virtually become a cliché now in Panamanian archaeology that Conte Polychromes are always painted on a light grey paste which separates them unequivocally from the other polychrome Groups, and that if a sherd with Conte type designs and a light grey paste is recovered, irrespective of locality, it must by definition hail from Coolé. While this light grey paste is apparently not reserved for other polychromes - and hence is a useful corroborative criterion for identification of the Group - it is by no means an absolute truth that Conte Polychromes are always painted on pastes with this colouration. An analysis of the entire sample at AG-3 assignable to the Conte Group shows the following percentages of approximate paste colour:

Light grey: 24.9%
Yellowish-buff: 34.0%
Fire-clouded: 25.5%
Orange: 12.2%
Pink: 3.0%

The only Conte Polyohromes from PN-11 were painted upon an orange paste, very similar to the pastes of the other ceramic categories at the site, while the majority of sherds found superficially over the region have buff or light orange pastes. It is probably true that the clay which fires to a light grey colour - occasionally with a light orange core - was reserved for the best Conte Polyochromes, while the clay that is bright orange when fired was reserved for the best Macaracas and Mendoza Polychromes. (I imagine that the light grey clay is tuffaceous and the orange clay lateritic. I have seen quarries of the tuffaceous clay near Cañazas in Veraguas and also on top of Cerro Muela, Coolé). But we have already seen how the Mendoza Polychromes found on habitation sites have extremely variable pastes in both colour and composition and sherds painted with Conte YC designs from Panamá Viejo have red pastes. If we take our generalisations no further than to state that in western Coolé, the light grey clay is never found with polychromes other than the Conte Group, and that the Conte Group can be found with paste colours other than light grey, we will eliminate the tendency to search out that grey paste and obviate a pernickity approach to classification which jeopardises our appreciation of the horizontal development of ceramic art west of the Tabasará.

Shapes:

The following vessel shapes were recorded from A9-3:

Plates and bowls with a drooping-lip:

78 rim sherds have the typical "drooping-lip" of the Group. The apex of the "droop" - i.e. a thin strip of clay affixed to the exterior of the lip - is either pointed (fig. 32, a & b) or rounded (c & f). Rim diameters
range from 22 to 33 cms. Most of the rims from the sample would be classified by Lothrop as bowls; few have the shallowness of plates.

**Bowls with slightly upcurving rims and either "ski-tip" or rounded lips:**
27 sherds have the rim profiles of fig. 32, g,p,s&t. Rim diameters range from 12 to 20 cms.

**Out-sloping bowls:**
A common form at PN-5 is represented at AG-3 by 13 sherds (fig. 32,n,o & r). Diameters range from 18 to 31 cms. One wall sherd shows that the rim joins the base at a square angle, while another has a small bevel at the base on the inside edge (c.f. Lothrop, 1942: figs. 99 & 101). The bases are flat.

**Effigy bowls:**
Two rims sherds are of similar shape to Lothrop's fig. 215, a fish-effigy vessel, though the lips are slightly thicker and more sharply everted.

**Neck rims:**
3 tall neck rims only were recovered; all have remnants of a widish, everted lip, which bends down as it curves out. Similar lips are common at PN-5 and are illustrated by Lothrop from spouted effigy vessels (op.cit.: figs. 214 & 216).

**Exteriors:**
A total of 230 sherds from the exteriors of vessels was recovered from the site. Unfortunately none exhibits characteristics which permit the reconstruction of total shape. Some sherds are very thick-walled - up to 1.8 cms. - and are presumably from massive jars with sub-globular or globular bodies. By making analogies with the designs of complete vessels from PN-5, we can presume the following shapes occurred at AG-3:

- Turtle effigy jars  (Lothrop, fig. 208)
- Carafes  (Lothrop, fig. 182)
- An effigy bowl or carafe  (Lothrop, fig. I26 or I28)
Conspicuous by their absence at the site are:

- Trays (Lothrop, fig. 133)
- In-sloping bowls (Lothrop, fig. 174)
- Cylindrical bowls (Lothrop, fig. 171)
- Bottles (Lothrop, fig. 116)

**Appendages:**

31 Conte sherds have the type A ring-base - annular, shallow, with a depth not exceeding 1.4 cms. and diameters ranging from 6 to 0.12 cms. (fig. 141). Most of the examples of the Conte Polychrome assigned to the "Early" period by Lothrop have this type of support. Tall, narrow necked, flare-based pedestals are essentially a Phase VI-VII manifestation, and the tallish, flat-footed pedestal and the flaring pedestal with cut-out diamonds (op.cit.: figs. 144 & 159) are probably terminal Phase V (though there are at least two examples from Graves 1 and 32 which are surely very early). The distribution of the type A ring-bases at AG-3 is given in Table 9: in pit B they are commonest in level IV (13 examples), while type C is commonest in the uppermost level (also with 13 examples). Level IV has the highest percentage of Conte Polychromes in the pit. No ring-bases of any kind are found below level V in pit B and level I in pit D, and hence the mode postdates Phase IV, A. At PN-11, type A ring-bases occurred throughout the deposit while types B and C were found only in the top 20 cms. (see Table 7). Type A ring-bases are noticeably rare in surface collections with a high percentage of Phase VI/VII wares while NA-30 had as many as 31 type A bases in a sample which was dominated by Conte Polychromes and was lacking Mendoza sherds. Conversely, NA-13, a Phase VI/VII, site was missing the type A base. Though some bases of type A shallowness and diameter do occur with Mendoza vessels in western Coclé - Plate 15 for example - it is probably safe to say that:

a) Plates with a tall, painted pedestal with flaring base are Macaracas or Mendoza Polychrome.
b) Plates with type A ring-bases are Conte Polychrome. (No examples of Mendoza or Macaracas plates with Type A bases have been published).

**Surface:**

A fundamental criterion for the differentiation of the Conte Polychrome is the nature of the surface treatment. The white pigment - whether background or fill-colour - is very often a pure, or slightly greyish white and, though white slip occurs frequently on both Macaracas and Mendoza Polychromes, it is never so dazzling. (The only way to appreciate this difference is to compare the three Groups in the hand in natural light). These subtleties in tinge are probably due to the surface colour of the clay: sherds with orange surfaces have a slightly orange-tinted white while white pigment applied over the grey surfaces absorbs very little discolouration from the surface beneath. The white of the Conte Polychromes is also more thickly applied, and, in pristine examples, extremely well polished.

The fineness of the painted lines and the accuracy of their application are also important factors. The black outlines of the AG-3 examples are often very thick and rather crudely applied, measuring up to 8 mms. across in some sherds. Delineating lines of this thickness are unknown on the Macaracas Polychromes at the site. Mistakes are also more frequent in the Conte than the Macaracas sherds: smudged lines, purple paint peeping out under the black lines, patches left poorly painted etc. On Conte plates and bowls, the white paint often runs over the lip of the vessel, in the case of the drooping-lips, to the apex of the droop (c.f. fig. 32, f). In Macaracas bowls and plates, the lip is always either red or divided into blocks of decoration, either black lines or colour filled zones (the famous "oral snake lip").

There are also differences between the hues of the colours. The purple pigment - so important in the development of ceramic history in Panamá - is
very frequently almost blue in the Conte Polychromes, and often thinly
applied, so the white ground slip shows through. (On the Macaracas Polychromes,
the purple is violet, i.e. redder. Blue does not occur). The reds also
vary enormously, from a rich, blood-red, to a bright orange, and a lighter,
brownish colour. At least two red hues are often used together in the
AG-3 sample.

The exteriors of the drooping-lip plates at AG-3 are often left plain,
beneath the white or red-painted lip, and only roughly smoothed with a flat
instrument (probably a gourd). Only one Macaracas plate exterior is left
plain. Only two of the drooping-lip exteriors at AG-3 have the red slip
extending below the apex of the droop. One of these has pendant designs on
the exterior lip in the manner of Lothrop, 1942: fig. 142, and a number of
Ichon's Joaquín Polychrome plates from Tonosi. This absence of red exteriors
on drooping lip vessels is not in accordance with PN-5 where exteriors are
often red-slipped (op.cit.: 14). Most of the rounded lip and outsloping
bowls have red-slipped exteriors. The interiors of the very large
subglobular bodied vessels are only very roughly smoothed – again probably
with a gourd or piece of wood – and the smoothing leaves a characteristically
pitted surface.

Designs:

Designs are not easy to appreciate from sherds alone, for obvious reasons.
The easiest method of description is by direct cross reference with similar
published designs from PN-5 (Lothrop, 1942).

PN-11

The three drooping-lip rims found all bear designs approximating the colour-
filled stylised claw or feather of Lothrop, fig. 155, 155, and 158, which
belong to some exotic beast curled around the centre of the vessel.
By far the commonest fragmentary design element on plates and bowls is that mentioned above (Plate 43, a-h). The feathered element in Plate 43, is also common (Lothrop, fig. 70). Sherds with fragments of more obviously zoomorphic designs may be compared thus:

Bird-which-looks-back: Lothrop, figs. 43 & 44 (Plate 44,e)
Bird-which-looks-forward: fig. 47 (Plate 45,c)
Crab pattern: fig. 168, a
"Alacran de mar" pattern: fig. 168, b
Isolated stylised claw: fig. 135 (Plate 44,k)

The typical YC scroll (Plate 44,1) is common. The clover-leaf pattern in the centre of the vessel (Plate 45, a) is never colour-filled in the PN-5 sample. This particular example has an interesting order of the application of the pigments: the red-slipped ground was applied first, then the black outline of the clover-leaf, and lastly the white. The three colours were then polished. The difference in hue between the unpolished and the polished red is considerable, the polished being orange as opposed to the pinkish of the unpolished.

Designs of vessel exteriors - other than the ubiquitous YC scrolls - can be compared directly thus:

Turtle effigy (imitations of carapace): Lothrop, fig. 208,d (Plate 45,d)
Stylised crab pattern: fig. 210 (Plate 45,e)
Heavy-clawed standing crocodile: fig. 182 (Plate 45,g)

DISTRIBUTION OF THE CONTE POLYCHROMES IN WESTERN COCLE:

AG-2; AG-3; NA-3; NA-7; NA-8; NA-12; NA-19; NA-20; NA-21; NA-23; NA-27; NA-28; NA-30; FN-3; FN-4; FN-5; FN-6; FN-7; FN-17; LP-1;

Verrill's unlocated sites: "Ancón", (AMNH: 30.1.784/8); "Banks of the Rio Grande" (Lothrop, 1942; 216-217); "Espinosa Burial Mound" (AMNH: 30.1.999/1017/1047 etc.) Lothrop's unlocated site, Coclé Village (in vicinity of PN-17)(op.cit.: 207-210)

* Corrigendum: for NA-3, read NA-17.
PHASE VI: MACARACAS POLYCHROME

Sample:
187 sherds definitely assignable to the Group from AG-3; 33 recovered from surface collections. A large number of sherds (285 from AG-3 and several from surface collections), were too fragmentary or eroded to be differentiated safely from Conte or Mendoza Polychromes.

Paste:
At AG-3, generally an orange or orange-brown colour, though buff and fire-clouded sherds are present. A statistical analysis of the approximate colours of the paste shows:

<table>
<thead>
<tr>
<th>Colour</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange</td>
<td>70.7%</td>
</tr>
<tr>
<td>Fire-clouded</td>
<td>17.7%</td>
</tr>
<tr>
<td>Yellowish-buff</td>
<td>11.2%</td>
</tr>
<tr>
<td>Pink</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

No examples of Macaracas Polychrome have the light grey paste of the Conte Polychromes. To reiterate what was said as regards the Conte Polychromes, we can safely state that a multi-coloured polychrome sherd with a grey paste (and concomitant pure or greyish-white slip) is Conte, which one with an orange paste (and orange-tinted white slip) is generally, though not always, Macaracas.

Shapes and surface:
The following shapes were recorded from AG-3:

Plates and bowls with rounded lips:
By far the most commonly represented shape with 75 sherds (though most of the exterior sherds were too fragmentary for their total shapes to be appreciated). The rim curves gradually upwards from the centre, sometimes thinning and then thickening again, and there is often extra thickening — both in and out — at the lip, which is generally well rounded (Plate 31, a-j).
All but seven of the plate and bowl rims from AG-3 have this profile, which is a good diagnostic for the separation of a Macaracas sherd. Some Variety D plates of the Mendoza Polychrome have similar profiles, but the thickening is always on the interior only. The flat-lipped Variety D profile, the Mendoza s-shape, and the Conte drooping-lip with the pointed apex do not occur on Macaracas vessels. However, seven rim sherds which I have included within this Group on the basis of aspects of the decoration and the "coral-snake" lip have "ski-tip" or rounded, slightly drooping lips (Plate 31, k-p). These rims - interiors of which are illustrated in Plate 48, d-i - are probably an indication of transition between Conte and Macaracas Polychromes. Wall thicknesses of Macaracas plates and bowls range from 4 mms. to 11 mms., but there is often a great range in thickness along the vessel wall. Some sherds seem to have definite circumferential hollows which might indicate coil junctions, but the sherds very rarely break along horizontal straight lines. Only one of the plate sherds - rim and interior - does not have a polished red or polychrome painted exterior. Eight sherds have painted designs on the exterior matching those on the interiors (e.g. Plates 47, d, f & g and 48, b & c). Plate 48, a, has decoration only on the exterior and a red interior.

Small bowls with gradually restricted rims:

One rim sherd was recovered from a deep bowl of 20 cms. diameter, with unmodified rim and rounded lip. The decoration consists of undulating arcs painted in black, and arranged in a cream-slipped band running around the exterior of the vessel. The wall is 8 mms. thick and the interior and exterior below the banded panel a polished orange-red. Sherds from vessels with this shape and decoration are very commonly encountered at the destroyed site of Paso del Rey across the river in Herrera.

Vessels with thick walls and restricted orifices:
Two rim sherds have profiles identical to Olivo Red-Buff vessels (fig. 101, d & f) and are probably from massive vessels with high shoulders and pear-shaped body, such as that illustrated in Ladd, 1964: fig. 35, c. Decoration is painted on the exterior only, but the design is obscure. Diameters of both examples are over 45 cms.

**Miscellaneous exteriors:**

The exterior sherds of Macaracas polychrome are noticeably thinner than those of the Conte Polychromes, ranging from as little as 4 mms. to never more than 1 cm. (Conte examples are often between 1 and 1.7 cms. thick). The three rims above were the only exterior sherds recovered for the Group with shape characteristics still attached, but all the other exterior sherds are rounded in profile and are probably from vessels with subglobular bodies. Some exterior sherds have curvatures suggesting a very small body volume and are probably miniatures. Miniatures do not occur in Conte Polychrome.

**Tall painted pedestals:**

30 pedestal sherds were recovered with definite Macaracas characteristics. Rim profiles are illustrated in fig. 30, b, g, h, k & l and designs in Plates 46, a, f & g and 47, a & b. As stated in the section on the Mendoza Polychromes, only those pedestals which exhibit decorative motifs which occur with Macaracas vessels as defined by Ladd are included within the Group. All pedestal fragments large enough to enable reconstruction have flaring bases and rapidly restricting, tall, thin necks. Diameters at the base vary from 15 to 22 cms.

**Designs:**

Ladd divided the Macaracas Polychrome in Herrera into three Types: Pica-Pica, Higo and Cuipo. Designs which can be attributed to all three Types occurred at AG-3: 22 Pica-Pica, 30 Pica-Pica or Higo, 13 Higo and 25 Cuipo. Direct comparisons can be made with illustrated material in Ladd
(1964):

**Pica-Pica:**

Ladd, fig. 37, b  Plate 48, 1
fig. 37, d
fig. 37, g  Plate 47, i
fig. 39  Plate 47, c-e

**Pica-Pica and Higo:**

Ladd, fig. 38, a
fig. 38, b (pedestal)  Plate 46, f
fig. 40, f
fig. 40, e & g
fig. 40, k  Plate 48, j
fig. 40, l and Plate 7, a  Plate 47, f & 48, c

**Higo:**

Ladd, fig. 42, c:  Plate 48, g

**Cuipo:**

Ladd, fig. 43, a
fig. 43, b  Plate 46, a
fig. 43, d-h
fig. 43, j
fig. 44, b
fig. 44, g  Reverse of Plate 47, d

Virtually the whole gamut of designs described by Ladd is represented at AG-3. Of the plate rims, 24 have the lips divided between two or three colours - the famous coral snake lip; three have diamond patterns, similar to those in Ladd, fig. 40, g.; and the Cuipo examples nearly always have a simple division into areas of black and parallel vertical lines (op.cit.: fig. 43, a).

The AG-3 sherd sample has corroborated more or less Ladd's divisions: the Higo and Pica-Pica Varieties - which are very close - and the Cuipo Varieties seem to have mutually exclusive designs for the most part, except for Plate 47, d, the interior of which Ladd would have classified Pica-Pica, has a Cuipo pea-pod scroll on the reverse. Still, Ladd lists a number of "variants" from outside Herrera and it is probably not wise to exaggerate these divisions.
In the surface collections from east of the Santa Maria river, the following of Ladd's (1964) illustrated designs were found:

\begin{itemize}
  \item AG-5: fig. 38, b
  \item MA-2: fig. 43, a
  \item MA-5: fig. 39
  \item MA-7: fig. 43, f
  \item MA-8: Plate 7, a,b; fig. 39
  \item MA-15: fig. 43, a
  \item MA-20: Plate 7, a; fig. 41, b; fig. 43, a
  \item MA-21: Plate 7, a; fig. 42, c
  \item MA-23: fig. 44, a
  \item MA-30: fig. 37, a
  \item LP-4: fig. 43 (rim division only visible)
\end{itemize}

**Distribution of the Macaracas Polychrome in Western Cocle:**

AG-2; AG-3; AG-4; AG-5; MA-2; MA-5; NA-7; NA-8; NA-I5; NA-20; NA-21;
NA-23; NA-27; NA-30; PN-4; PN-5; PN-II; PN-16; PN-20 (sherd material in
the possession of Gladys de Brizuela); LP-4; Verrill's unlocated sites:
"Ancón" (AMNH: 30.I.788/9), "Lieson Grave" (30.I.II43), "Espinosa Burial
Mound" and "Banks of the Río Grande" ("Foreign Style A" sherds, Lothrop,
1942; II9). Rim sherds with the characteristic shape of the Macaracas
Polychrome (fig. 31, a,c & d), but with eroded decoration, were recovered at
MA-I3 and MA-I6. Comments on the Macaracas Polychrome vessels illustrated
by Lothrop are contained in the following section.

The relationship between the Conte and Macaracas Polychromes, their
chronologies, and occurrences in areas outside western Cocle:

Lothrop's analysis of the polychrome vessels found in the graves at
PN-5 divided them into two major chronological divisions - Early and Late -
according to their position in the stratified grave sequence and a stylistic
seriation which concentrated primarily on shape and secondarily on design.
Within these two divisions, an attempt was made to isolate the styles of
the individual graves and of individual potters and potters' families and
to relate them to those of other graves, thereby establishing more precise
temporal links between the various interments. Polychrome vessels with
designs and shapes alien to the typical polychromes were grouped together under the headings "foreign" and "exotic".

This discussion of the Conte and Macaracas Polychromes does not intend to be vituperative about Lothrop's conception of "style" nor of his somewhat vague calculations of the longevity of "coplesano" potters, but rather to re-assess the polychrome pottery of Phases V and VI in the light of newly acquired evidence from within the confines of the surveyed region and without. The argument will be limited to generalised points that the author considers important to our understanding both of the vertical development of the polychrome styles in western Coqué and of their horizontal development over the entire Pacific littoral east of Chiriquí. For the most part, Lothrop's appreciation of the stylistic evolution of the Conte Polychrome from the "early" manifestations into the "late" is sound - at least in the limited context of PH-5 itself - but his primary division is best left in abeyance until the precise nature of the development of the four major Polychrome Groups and whatever transitional forms that link them has been ascertained over their entire geographical range. The assignation of polychrome sherds with Conte or Macaracas characteristics to one or other of the two Groups is not difficult when they are representative of the apogee of their respective "styles", according to the material already described from sites on both sides of the Santa Maríá river. Our criterion for differentiation must remain the totality of traits as defined by Ladd for the Macaracas Polychrome and by Lothrop for the Conte Polychrome; isolated traits are still dangerous criteria, rendering the recognition of transitional designs and shapes extremely difficult. What must be borne in mind is that PH-5 and He-4 are only two sites amongst scores which must once have dotted the region under our scrutiny. To reiterate a point, the excavation of many more burial sites in conjunction
with associated middens is required before an objectively critical or revolutionary reappraisal of Lothrop's initial work can be undertaken or even made relevant. In this section, a few suggestions are made concerning the evolutionary position and relative chronology of the vessels illustrated by Lothrop; suggestions, because since the sojourns of Lothrop and Mason only one funerary site — FN-I7, on the Coclé river — has been excavated and published, albeit rudimentarily, and any observations on "style" must remain subjective pending the recovery of more material.

Let us begin with more tangible problems and examine those graves which contain pottery which is anomalous from the major sample, re-assess them according to the new facts, and attempt some extrapolations from them to other graves.

Starting at the bottom of the stratified grave sequence, we find that Lothrop's "Foreign Style B" is well represented in Grave 31, with other examples occurring in graves 4 and 48 (1942: fig. 226). Two vessels identical to that in fig. 226,g were found in Burial 18 at FN-I7 and have been assigned, along with five other polychromes from the same site, to the Corotú Polychrome, a provisionally defined Type which stands mid-way between the Aristide and Conde Groups, and is very similar to a far better defined Type from the Tonosí region, the Montevideo Polychrome, considered by Ichon to be transitional between the Tonosí (Phase IV) and Joaquín (Phase V) polychromes (personal information). (A description of the Corotú Polychrome and of its relationships with outside areas is contained in a later section of this Chapter and also in Chapter 8.) Characteristic of the Foreign Style B and some vessels of the Corotú Polychrome is an angular scroll which Lothrop has called the "snail-shell scroll" (1942: 74 & fig. 132). This occurs on the vessels in op.cit.: fig. 226, a, b, c, d, f & g from Grave 31 and also those in Dade, 1960: figs. I9,c and 20, a, and on sherds assignable to the Corotú Polychrome in Lothrop,
Scroll motifs are an extremely important feature of polychrome pottery in Panamá. Basically, they are metamorphic variations on a combination of two elements: a motif which Lothrop calls the "V-motif" and an appended curly tail. Now this "V-motif", which I prefer to call the "squared-I" or "haemal arch" motif because it is my exotic belief that a lacertilian haemal arch provided the potter with the basic idea, occurs commonly on both the Ceroptí and the Montevideo Polychromes, both in black (Plate 24, middle row, second from left) and colour-filled (Plate 29, bottom row, centre). In my opinion, the "haemal arch" motif and an isolated s-scroll, consisting of a series of diminishing turns, merged together to form the "snail-shell" scroll, which later evolved into the famous and diagnostic IC scroll. The idea for the s-scroll may have been given by the twirls in a beast's tail (such as that in Plates 17 and 18) or by isolated circular elements such as that in Plate 25, top row, far right, or, perhaps, Plate 33,1.

The "snail-shell" scroll occurs on the following Conte Polychrome vessels at PN-5:

<table>
<thead>
<tr>
<th>Grave</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>I09,f</td>
</tr>
<tr>
<td>13</td>
<td>41; I00, a &amp; a’</td>
</tr>
<tr>
<td>15</td>
<td>58,b</td>
</tr>
<tr>
<td>17</td>
<td>70, a &amp; b; I06, c &amp; e</td>
</tr>
<tr>
<td>32</td>
<td>I; 33; 53, b; 58,a; I06,a; I09,a,d&amp;c; 299,c; 311, a,b,f&amp;i; 382,a</td>
</tr>
</tbody>
</table>

Of the snail-shell scroll, Lothrop has this to say:

"A fourth class of filling pattern embraces what we shall call the snail-shell scroll, which has not been found as a major pattern. The snail-shell scroll existed during the entire early period, running from grave I to grave 6, which we estimate covers a century (Table VI) but it is rarely seen in the latter half of this epoch. The fully developed type which has a definite spiral never appears in the Late period and hence is an admirable diagnostic of epoch...The snail-shell scroll, while found in many early graves, is particularly associated with grave 32" (1942:74).

Grave 32 certainly has a disproportionate number of snail-shell scrolls: 14 illustrated examples, while Grave 31 has at least six examples of either Ceroptí Polychrome or Foreign Style B vessels with snail-shell scrolls.
Stratigraphically, Graves 31 and 32 are very similar, being deep graves isolated from the major zone of burial activity. Grave 31 was beneath the second of two occupation levels in the trench (Lethrop, 1937: 281-283 & figs. 249 & 250). Grave 32 is also anomalous in the great number of carved bone artifacts it contained, many of them unique at the site (see Chapter 6). These two graves are almost certainly the oldest excavated at PM-5 and it would not surprise me if Grave 31 did not precede Grave 32 by a few years, representing the gradual transition from the Corotú/Montevideo tradition into the Conte. The other graves which have the snail-shell scroll - 4, 13, 15, 17 and 39 - are, with the exception of the last, placed by Lothrop low-down in his stratified sequence: Grave I he considered to be the most ancient at the site, more or less contemporary with Graves 3 and 4 (1942: 191 and Table VI).

Taking the snail-shell scroll as the link element with the Corotú Polychrome it is likely that the following zoomorphic elements, which all occur in conjunction with the snail-shell, are the earliest iconographic manifestations of the Conte Polychrome: the curled-up feathered serpent with the protruding scroll tongue (which local informants assure me is the "alacran de mar") (figs. 1, 70 etc.); the "double-headed bird-crocodile" or "crocodile-headed bird" (figs. 52 & 53); and the turtle god (fig. 58 etc.) A curled motif with feathers is depicted on the Foreign Style B vessel from Grave 48 and "bird-headed crocodiles" on examples from Graves 4 and 32 (op.cit.: figs. 226, d & f and 227, etc.). As a broad generalisation, the trend in painting seems to move away from naturalistically represented, recognisable animals - such as the parrots and bats in Lothrop’s figs. 226, b,e & d and the animal in Plates 17 and 18 - towards more conventionalised and ethereal creatures: compare, for example, the parrots of fig. 226, b & e, with the typical Conte avians of fig. 43.

Shapes which occur with the snail-shell scroll are: the "drooping-lip" plate and bowl (the majority), out-sloping bowls, in-sloping bowls and carafes.
The only shapes recorded so far for the Cerotó Polychrome are spouted jars, vessels with sub-globular bodies and everted collars, vessels with restricted orifices ("tecomates"), and only one plate rim, with a rounded lip. "Drooping-lips" are not known from Phase IV,A and seem to appear gradually in Phase IV,B, on Conte Red and Guácimo Red-on-White-Slip vessels, being a natural evolution out of certain Girón Banded Lip and Escotta Red-Buff bowl shapes. The shapes of Ichón's Montevideo Polychrome are, however, much more varied and, given time, we ought to be able to approximate very closely the exclusiveness of shapes and designs during the transitional Phase IV/V period. Open-mouthed bowls with zoomorphic elements turn up at Venado Beach and I would expect examples of the type in Lothrop, 1966: figs. 18, b & d, to fill the gap between Aristide and Conte bowls in western Cochlé. The "isosceles triangle" motif of op.cit.: fig. 18,d is very commonly found at Venado Beach, on Ichón's Montevideo Polychrome and on the Corotó Polychrome (Plates 19, 20 & 25) and it occurs also on two Conte vessels from PN-5: Lothrop, 1942: fig. 100,a (Grave 13) and fig. 107 (Grave 4). This motif should be looked for in future as I believe it will be an important time-marker.

Jumping forward to the other end of the time-scale, we find that Lothrop's "Foreign Style A" is represented at PN-5 by five vessels found in Grave 5, I942: figs. 149 and 225, and two found in Cache 5, fig. 188. These "Foreign Style A" vessels were included by Ladd into his Maceracas Polychrome, which was defined from the funerary material from He-4, in Herrera. In addition to these "foreign" vessels, Ladd includes the following "local" vessels into his Maceracas Polychrome:

<table>
<thead>
<tr>
<th>Grave</th>
<th>Fig. (Lothrop, 1942):</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>152, a &amp; b; 172</td>
</tr>
<tr>
<td>24</td>
<td>179, a &amp; b</td>
</tr>
<tr>
<td>26</td>
<td>Plate II,f &amp; fig. 192, c</td>
</tr>
<tr>
<td>Trenches V &amp; XI</td>
<td>Sherd material, 228, b</td>
</tr>
</tbody>
</table>
Macaracas Polychrome vessels were also found in Mason's graves, but they have never been published. Ladd included them into his Pica-Pica and Pico Varieties; there were at least sixteen of the former and nine of the latter. Adding together the two lots, we find that at least thirty-six Macaracas Polychrome vessels were found in ten graves, three of Lothrop's (5, 24 & 26) and seven of Mason's (Burials 10, 11, 14, 16, 17, 18 and 23).

In spite of Ladd's inclusion of these vessels into the Macaracas Polychromes, the design on Lothrop, 1942: fig. 225, b is described as a "variant bird motif;" figs. 152, a & b and 172 are "atypical variants;" figs. 179, a & b are "Cocolé variants of the rectangular claw scroll, diamond-in-a-ribbon and split closed arc;" and figs. 225, a, c & d and 149 are "done in Cocolé style" (Ladd, 1964: 108 and 112). The question is, what are these vessels "variants" or "atypical" from? Presumably from some "norm." But Ladd's sample - the only Macaracas Polychromes ever to have been analysed and properly published - come from a small area of Herrera, fifteen miles wide by ten miles long. There are so many variants among the vessels from outside Herrera, with which Ladd makes comparisons, that the He-4 examples could be taken to be "abnormal" themselves. A bird which is very similar in total conception - but a heron or wood-stork as opposed to a tinamou - to Lothrop's fig. 225, b is depicted on a vessel of identical shape, with identical scroll designs on the neck, with identical circumferential lines above the bird, with the same manner of showing the entrails (though the ends of the clawed scroll are slightly different), and with the same feet, from La Peña, in central Veraguas (Mahler, 1961: fig. 3, d).

Lothrop's fig. 172 - also "atypical" - is indeed noticeably simpler in design and execution than other creatures which have down-turned mouths, but its total conception is very similar to other faces on vessels from FM-5 (Lothrop, fig. 225, c), Herrera (Ladd, 1964: fig. 37, e), La Arena de Quebro (Biese, 1962:
fig. 4, and "Veraguas" (Dade, 1961a: top row, far left), and it could be considered the antecedent of all four. Lothrop's fig. 225, c happens, according to Ladd, to be "done in the Coclé style". If this is so, then Biese's vessel is done in the "south-western corner of the Azuero Peninsula style". Lothrop's fig. 149 is also "done in the Coclé style". Then is Biese, 1964b: fig. 2 done in the "Río de Jesús style", Mahler's fig. 2, b done in the "La Peña" style and Lothrop's fig. 454, b done in the "Los Santos style?"

The above examples merely serve to illustrate that it is extremely risky to think in terms of isolated regional developments in the Phase V - VII polychromes without sufficient material to support such ideas. If we find Corotú/Montevideo, Conte, Macaracas and El Hatillo/Mendoza polychromes both east and west of the Santa María river, we should expect to find the transitional stage between the Conte and Macaracas polychromes as well. This means that a separation of a regional "Late Coclé" style from a regional "Macaracas" style is, if not totally invalid, certainly premature. There is not nearly enough evidence at our disposal to enable a sophisticated seriation of polychromes in the traditional Peruvian manner. The Type-Variety system works for the Aristide Polychrome because the decorative concepts are simple and the variations limited. But after the appearance of the Corotú and Montevideo Polychromes, the iconography of the Panamanian pottery becomes exceedingly complex and when we come to the Macaracas Polychrome, which is the epitome of fussiness, iconographic heterogeneity and extreme brilliance of design, an enormous statistical sample is required from all over its range before we can attempt to determine minute geographical variations or intricate stylistic progressions.

Although there are a number of similarities between the developed Conte and Macaracas styles, the differentiation of a whole piece from, say, Graves I-4, 13, 15, 17 and 31 from a Macaracas piece from Graves 5, 24 and 26 at PM-5, or from Ha-4 in Herrera, is not difficult. Some of the differences between
the two Groups have been noted in the descriptions of the material recovered in the field. A lot of twaddle is talked about instinct in archaeology, but the sum total of the colour and texture of the ground slip, the hue of the reds and purples, the thickness of the black lines, the degree of lustre and the colour and consistency of the paste, do make a Conte sherd "feel" different from a Macaracas sherd when it has just been excavated.

The following traits I consider to be the most important diagnostics of the Conte and Macaracas Polychrome Groups (C = Cooke, L = Lothrop):

**CONTE POLYCHROME**

**Paste:** Light grey, of tuffaceous origin, compact, minimal mineral inclusions (possible)

**Shapes:** Drooping-lip plates and bowls when the "droop" is well pronounced (C: fig. 32, a-d & h-m). Profiles such as C: fig. 31, n&h, which are only lightly thickened at the lip and rounded, are either Macaracas or transitional between Conte and Macaracas; if they have the lip divided into blocks of colour (the "coral snake") they are Macaracas.

Rectangular trays (L: fig. 7 etc.) Miniature trays found in Grave 5 are probably transitional

**Designs:** Snail-shell scroll (L: fig. 132) (early Phase 5)

YC scrolls when the tail of the scroll consists of a single strand and does not have "claws" as in L: fig. 153, and is rounded and not squared. Squared scrolls and claw elements as in L: figs. 151,a; 165, a&b etc. are Macaracas. Conte scrolls are more thickly drawn.

Feathered beasts with scroll tongues (L: figs. 70; 71; 94; 95) Feathered beasts of various types without scroll tongues (L: figs. 36; 42; 52; 53 etc.)

Beasts with colour-filled feathers (L: fig. 158, C: Plate 43)

The following iconographic entities:

Birds-which-look-back (L: fig. 43 etc.)

Birds-which-look-ahead (L: fig. 44 etc.)

Crocodile-headed birds (L: figs. 51 & 52 etc.)

Turtles and turtle-gods (L: figs. 25; 50; 90; 91)

Parrots (L: figs. 49, 86)

All beasts with central zones split into alternating and/or continuous vertical and/or horizontal lines (L: figs. 70; 82; 84; 91; 94)

Animals isolated in the centres of bowls and plates without fringe adornments (L: figs. 83; 84; 86,a; 87 etc.) or with very simple fringe adornments (L: fig. 86,b etc.)

The isolated claw or footprint motif (L: figs. 22, 38 etc.)

The clover-leaf motif (L: figs. 31; 42; 44 etc.) (in middle of plate)
MACARAGAS POLYCHROME

Shapes:
Plates and bowls with rounded lips and decoration on the lip split into blocks of colour (Ls figs. 144; 145; 147; 149)
Plates and bowls with tall flare-based painted pedestals (Ls figs. 223; C Plate 46, f&g). Plates with drooping-lips are never found with painted pedestals.
Plates and bowls with red pedestals which have cut-out diamonds (Ls figs. 144&149)
Large jars with everted and flattened lips to the collars which are broken into various colours (Ls figs. 189&192,a) or have a series of Vs notched along a line (Ls fig. 192, a,b,c)
Polychrome miniatures (Ls fig. 357, d&f)

Designs:
Full-faced crocodile gods (Ls figs. 138;172;193,a; 224/225,e)
S-scrolls which have a division of colour (Ls fig. 139; C Plate 48, f&h)
Sideways-on crocodiles (Ls figs. 139;I48;I49;223)
S-scrolls that end in sideways-on crocodiles (Ls figs. 145&146).
Fish designs (Ls fig. 144)
Bird motif (Ls fig. 194).
Running crocodiles (Ls fig. 193,b)
Rectangular clawed frets (Ls figs. 144;149;165,a,h;179,a,b;192,e;209)
Isolated clawed motif (Ls fig. 144; 146, centre of plates)
S-scroll containing a clawed element (Ls figs. 153;184;189;190 (neck of jar);192,o;194 (centre of bird);198,b&c;199)

All Ladd's design elements of the Pica-Pica, Higo and Cuipo Varieties that did not occur at PN-5. No Cuipo Variety vessels were found at PN-5.

According to these criteria, I would assign the following of Lothrop's "Late" illustrated pieces to the Conte Polychrome (Phase V):
figs. 134; 135; 136; 137; 154; 155; 156(?); 157; 158; 169; 170; 171; 174; 175; 176; 177,a,b,d&h; 178,a; 181; 182; 210; 211; 212; 214; 215; 216; 220(?).

At AG-3, the colour-filled feathered element (Cooke, Plate 43, Lothrop, figs. 137, 158 etc.) was very common and in all cases it was executed with Conte as opposed to Macaracas manufacturing style and standards; with a pure, thick white ground slip; crudely drawn, very thick black lines; and carelessly applied colours. There are a number of holes in the system I have suggested above and it is frankly very difficult to assign sherds one way or the other: Lothrop's fig. I41, for example, has a rounded lip with divisions into blocks of colour and colour-filled feathers. Sherds with the turtle carapace depicted with colour-filled circles were found at AG-3 (Cooke, Plate 45, d&h) and assigned to the Conte Polychrome, whereas whole vessels with this type of decoration from PN-5 include rectangular clawed frets (Lothrop, fig. 208, d
and Plate II,h).

The vast majority of vessels with Macaracas characteristics were found in Lothrop's Graves 5, 24 and 26. Both 5 and 26 had been dug through the floors of other graves whose contents had been looted (Lothrop, 1937: 227 & 262). Grave 5, with its pedestal plates and jars which are unarguably developed Macaracas, probably postdates Grave 26, and Grave 26 certainly postdates Grave 24 (op.cit.: 269). Graves 5 and 26 are also anomalous in their non-polychrome contents: the former contained a little Olivo-shaped plate with loop-handles sprouting from the lip (c.f. Plate 13, bottom row, left), a tall pedestal with cut-out diamonds (Lothrop, 1942: fig. 337,c), and vessels with Cortezo-type fillet appliqué, and the latter no less than eighteen vessels with loop-legs and zoomorphic handles (op.cit.: fig. 336,a), several red-buff vessels with Cortezo shapes, strap handles with coffee-bean eyes (op.cit.: fig. 336,a), zoomorphic lugs (op.cit.: fig. 337,b) and, probably, a tall flaring pedestal (on the same vessel).

At the excavated sites in western Cocle (1969-71), Conte Polychrome sherds occurred at PN-II in level 3 of pit B (0.6%), in level 2 (top quarter) of pit D (0.07%) and in level 2 of pit C (Table I). At NA-8 they represented 0.044% in level I of Trench A, 0.14% in level II and 2.58% in level III (Table 4). At AG-3 they first appeared in level 6 of pit B and level 2 of pit D. In pit B they were most popular in levels 5 and 4 (0.8% and 1.2%), declining noticeably from levels 3 to 1. They were also most popular in the middle levels of pit A and pit A, extension A, in spite of later burial interference, reaching 3.6% in level 5 of pit A and 3.1% in level 4 of extension A. Their abundance in levels 4 and 5 in pit B coincided with a rise in the number of type A ring-bases (Tables 2 and 9).

Conte Polychrome sherds were dominant at two surface-collected sites,
HA-21 - 3.4% of the total sample, with either Macaracas or Conte 4.6% - and at
HA-59 - 2.2% of the total sample. At the first site, Mendoza Polychrome
sherds were limited to only 0.6% and were absent at the second. (Table 5).

Macaracas Polychrome sherds were not present in the excavated units
at FN-II, but one sherd was present in the surface sample (Table 5). At
HA-8 they represented 0.14% in level II of Trench A and 0.26% in level III.
(McGimsey refers in his field notes to "El Hatillo" sherds which are either
Macaracas or Mendoza, in the 60-100 cms. level of his pit II). At HA-I3,
three eroded plate rims which are probably Macaracas refer no doubt to a light
occupation before the major occupation in Phase VII. (Tables 4 & 5). At AG-3
they occurred only above level 5 in pit B, representing 0.4% in level 4, 0.7%
in level 3, 0.4% in level 2 and 0.3% in level 1, a total of 87 sherds. They
were also common in levels 4 to 2 of pit A (Table 2). (A large number of
polychrome sherds could not be assigned specifically to the Macaracas or
Mendoza Groups and were left as "Macaracas or Mendoza" in the statistical
count). At FN-5 (Sitio Conte), "El Hatillo" sherds, the majority of which
seem, from the samples in the drawers, to be Macaracas, were absent below
205 cms. in Trench XI, and commonest in the second level, 50 - 100 cms.,
where they totalled 5.9% of the selected sample. They were much commoner
than "Coclé" sherds in the top level, 0 - 50 cms., 4.2% as opposed to 1.9%
(Ladd, 1957: Table III). The burial associations of Macaracas and Mendoza/
El Hatillo polychromes from He-4 have already been given.

The following is a provenience list of all the illustrated examples of
polychrome vessels from Panamá which have Conte (Phase V) and Macaracas (Phase
VI) characteristics:--

**CONTE POLYCHROME:**

**VERAGUAS:**

BAUDEZ, 1970: Plates III2/III3 (same vessel) Santiago
BIESE, 1964b: fig. 8 Río de Jesús

DOCKSTADER, 1964: Plate 178 "Veraguas"

LOTHROP, 1942: figs. 474,a,b,e Bubí
figs. 476,a&b Zapatille

LOTHROP, 1950: fig. 125 Río Arenas

MAHLER, 1961: fig. 3,c Cocuyal, Soná
fig. 4,b Potrero Rojas, Soná

CHIRIQUI

LINARES DE SAPIR, 1968: Plate 14,b,c&e Gulf of Chiriquí midden sites
(possibly also d&f)

LOTHROP, 1942: fig. 481 Remedios

LOS SANTOS

LOTHROP, 1942: fig. 460,a Los Santos

HERRERA

LOTHROP, 1942: fig. 445 "Parita" (sherds)

STIRLING, 1949a: fig. p. 278 Mojara, Ocú

PANAMA

BIESE, 1964a: Plate 21 Panamá Viejo

MACARACAS POLYCHROME

VERAGUAS

BIESE, 1962: fig. 6,c,?d La Arena de Quebró

BIESE, 1964b: figs. I,2,3,a, 3,b,4,6,7,9&10 Río de Jesús

BIESE, 1966: fig. I,a Río Cativé


DADE, 1961b: fig.I,e;2,c;3,d; 4,a-d "Veraguas"

DADE, 1962: fig.I, right "Veraguas"

DADE, 1968: fig.4 Río de Jesús
DOCKSTADER, 1964:
Pls. 168, 171, 175-8, 185 & 186
Santiago/"Veraguas"

LOTHROP, 1942:
fig. 477
Cerro La Vigía, Casería Culantra, Soná
fig. 478
Cerro Birolí (?Wurulí?), Zapatillo

MAHLER, 1961:
fig. 2, b-e
fig. 3, a, b-d
La Peña

TORRES DE ARAUZ, 1966:
Opp. p. 9
Rio Cativé, Soná (same vessel as Dockstader, 171)

WASSEN, 1960:
figs. 2, 8, a-a', 9-14
La Peña

CHIRIGUI

HOLMES, 1888:
figs. 214 & 215
"Chiriquí"

LINARES DE SAPIR, 1968:
Plate I4, g, h, i&j
Gulf of Chiriquí midden sites (trade sherds)

MACCOURDY, 1931:
Plate XLIV, figs. 255, 257
and 258
"Chiriquí"

LOS SANTOS:

LOTHROP, 1942:
figs. 453, 454, 455 and 460, b
Los Santos
figs. 466, b-d & 467
Rio Estibana, Macaracas
figs. 461 - 464, a, b-d and 465
Macaracas

SANDER, 1965:
figs. I (II&8), 2 (10, II & 15?)
Paso Espavé, Guararé, pottery disks

HERRERA

BULL, 1965:
Pl. v (?-trans. from Macaracas to Parita)
Pl. VI, A&B
fig. E, upp. two, left lower two, left; fig F, left
Parita (Ladd's He-4)

DADE, 1961a:
fig. I, c-d; fig. 2, a left & b; fig. 3, e
He-4

DADE, 1961b:
fig. I, c-d; fig. 2, a left & b; fig. 3, e
He-4

DADE, 1972:
Bottle collection
He-4

MITCHELL & ACKER, 1961:
Pls. I, b-e; IV, d-i; V, b, d-d'; VI, a-d'; VII, a-i; VIII, a-g
He-4
Ladd refers to two other localities in Veraguas from where Macaracas polychrome vessels have been recovered: Catíné, Las Palmas (close to the frontier with Chiriquí) and Piedra del Sol, Montijo (1964: 108 & 112). Dade refers to "Coclé style plates" from his site Las Filipinas, Veraguas, which are either Conte or Macaracas (1959: 27). Sherd lots from both Panamá Viejo and Venado Beach housed in the Smithsonian Institution and the Peabody Museum have several polychrome sherds that are either Phase V or VI but it is impossible to attribute them one way or the other. Two vessels excavated by the Swedish Expedition on the Pearl Islands (Linné, 1929 and Lothrop, 1942: fig. 442, a & b), were labelled "Coclé style" by Lothrop, but stylistically they are unusual and I would not like to give an estimate of their relative age. Lothrop mentions that sherds of "Coclé style" were found in a shell heap at Chepo, Panama Province (op.cit.: 221). Torres de Arauz has recently published a human effigy polychrome (in three colours) from Isla Chepillo, but it could be anything from Phase V to VII in age (1971: opp. p. 23).

West of Coclé, Ichon has recently defined a "Coclé-like" (Phase V) polychrome from the environs of Tonosí, the Joaquín Polychrome. As stated in Chapter II, Ichon's sample was probably large enough and his study of sufficient intensity to warrant the typological isolation of the Joaquín Polychrome. Iconographically, it is somewhat idiosyncratic, although all the typical Conte traits are present. For environmental reasons, a localised style of Phase V age in the Tonosí region is a reasonable possibility but only time will tell exactly how the Joaquín vessels differ from those on the western side of the Azuero Peninsula or in coastal Veraguas. de Brizuela has recently excavated sites with both Conte and Macaracas polychromes in the region of Las Huacas, Veraguas (personal information). Conte sherds from the Panamá site are - to judge from the transparencies - identical to examples from Coclé. Recent excavations on the island of Coiba have revealed that both Conte and Macaracas
Multicolored sherds occur there in quantity. Exactly where the frontier lies between the cultures of Chiriquí and the area east of the Tabasará is anybody's guess. Conte and Macaracas sherds found at Linares' and Ranere's Gulf of Chiriquí and Punta Burica sites and in the Diquís Delta of Costa Rica (Linares de Sapir, 1968: Tables I, 3 & 4; Ranere, 1968: Tables I & 2; Lothrop, 1963: figs. 53, 67 & 69, a and pp. 76, 88–90 and App. I p. 121) and whole vessels illustrated by Holmes, MacCurdy and Lothrop are surely trade, but it would be worthwhile excavating intensively along the coast from Remedios to the village of Tabasará and in the region of Las Palmas and Bubí where several Conte, Macaracas and Phase VII vessels have been found.
Introduction:

The pottery Types which are representative of Phase IV in western Coclé and grouped herein under the general heading of Aristide Polychrome (figs. 33 to 73), were first described comprehensively by Willey and Stoddard from AG-2 (Cerro Girón), and incorporated into a Santa María Complex, which they isolated both stylistically and chronologically from two other Complexes at the site - the Coclé and the El Hatillo - and placed within the Santa María Phase (1954:334.) The term Santa María was retained by Ladd in his 1957 analysis of the selected samples from Trench XI at PN-5 (Sitio Conte), but later abandoned by him when he deemed it confusing to continue to refer to a chronological phase and a pottery complex of the same name, when certain categories of pottery had a distribution beyond the Phase limits (1964:161). Accordingly, he split the Santa María Complex into two polychrome Types - Girón Polychrome and Escotá Polychrome - and included them within a ceramic Group, the Aristide (op.cit.:163).

The Aristide was the predominant polychrome Group at both PN-II and AG-5 and, though Ladd's typology and nomenclature are still basically viable, the results of the new excavations have necessitated a minor taxonomic change. Ladd divided his two Types - Girón and Escotá - into two and four Varieties respectively: the Girón Polychrome into the Banded Lip and Interior Banded Varieties, and the Escotá Polychrome into the Black-on-Buff, Black-on-Red, Chevron and Crosshatched Varieties. The Girón Banded Lip Variety he further subdivided into six subvarieties: Chevron Lip, Circumbanded, Crosshatched, Radial Banded, Scalloped and Black Banded, a residual category (op.cit.: I63-I76). The only modification proposed to this division is the
vision of the status of the Girón Polychrome, Interior Banded Variety, whose inclusion as a mere Variety within a Type does not do justice to its relevance as a time-marker. There seem, in fact, to be two categories of pottery which utilise decoration painted in black on the interior of a bowl, and two independent Types have been created out of Ladd's Interior Banded Variety: Cocobó Interior Banded and Talingo Interior Banded. The former has been included within the Aristide Polychrome, on equal status with a Girón banded Lip Type and an Escotá Type, while the Talingo Interior Banded has been lifted out of the Group and made an isolated Type beyond the limits of Phase I. Each of the three recreated Types of the Aristide Polychrome, though occurring together in Phase IV deposits at two sites, AG-2 and AG-3, seems to have an independent chronological significance both within the Phase limits and without: the Girón Banded Lip Type, for example, enjoys the greatest longevity, being found in Phase V and perhaps Phase VI burials, while the Escotá Type is much rarer in Phase V contexts. The Cocobó Interior Banded Type is well represented in the Phase IV levels at both AG-2 and AG-3, but present in minute amounts in those of FN-II, and then probably always in conjunction with Girón shapes and designs.

The Aristide Group has been referred to throughout this study as polychrome, a usage more convenient than proper, and not strictly in accordance with etymological preciseness. It has long been a moot point exactly when vessel becomes "polychrome" and ceases to be either "three-colour ware" or dichrome." To Lothrop, a vessel became polychrome only when it employed more than two colours and only when the pattern was painted in two or more colours on another. Sitio Conte Panelled Red Ware was, for example, three-colour ware and not polychrome, as the patterns were painted in only one colour (I942: II and footnote.) Lothrop would have called vessels of the Aristide Polychrome either bichrome - black patterns on a red-slipped ground -
or three-colour ware — black patterns on a light-coloured panel bounded by black and/or red lines. The evidence intimates a gradual evolution within the Aristide Group from bichromy to trichromy, which ends with the adoption of true polychromy — colour outlining in black on a light-slipped background — in the transitional Corotó Polychrome. This evolution is most clearly represented in taxonomic terms by the separation of the Escotá Black-on-Red (bichrome) from the Escotá Black-on-Buff (trichrome.) At this stage, however, it seems premature to subdivide the Girón Banded Lip Type, Crosshatched Variety into, say, Crosshatched "Bichrome" and Crosshatched "Trichrome" Subvarieties, when the relevance of such a division is not very clear according to the ceramic stratigraphies of the sites excavated to date. If the term "polychrome" were used precisely in the classification of the Mendoza Polychrome, the s-shaped dishes with Variety B and C designs would be classified as three-colour ware, while those with Variety A designs would become polychromes. A separation of this nature would jeopardise the overriding importance of the vessel shape and the arrangement of the design on the vessel in classification. Design and shape together must remain the major criteria for the classification of the four major polychrome Groups in western Coclé until a far larger sample of pristine examples warrants a more intricate approach. Nevertheless, where the Aristide sample is concerned, classificatory simplicity should not be allowed completely to overshadow the importance to the history of pottery making in the region of the adoption of a pure white slip as ground colour, or of the first appearence of black-outlined designs. In the descriptions of the Types and Varieties of the Group, the existence of the various "bichrome" and "trichrome" categories has been acknowledged, in the expectancy that, given deeper deposits of Phase IV date in the region, the Group will afford a meaningful re-classification according to subtleties in the application of colours.
The three Types of the Aristide Polychrome are linked by the common usage of certain design elements - subtriangular patterns with concave hypoteneuses, pendant claws, crosshatched zones and geometric organisation of elements - and intermediate examples occasionally occur which cut across the Types: Girón Banded Lip vessels, for example, sometimes couple a Circumbanded decoration on the lip with a Cocobó-type design on the interior.

Paste has been completely ignored as a classificatory criterion for the Group. It varies considerably both within each site, and from site to site. At PN-II, a friable, orange-buff to orange paste is preferred, generally fully oxidised, though occasionally with a slightly lighter core occupying half the vessel wall. Temper is sand, of varying particle size, but with frequent quartz and phlogopite concentrations. At AG-3, the paste is considerably more variable, ranging from a light buff, the commonest colour, through orange, to red, and even pink. Dark fire cores are frequent. Temper includes more hematite and magnetite nodules than at PN-II. The surface treatment of the sherds differs considerably between the two sites - most AG-3 sherds having a very lustrous polish and a hard surface, while the PN-II sherds are lacklustre, chalky to the touch, and very soft. These differences are probably due to the varying rates of moisture absorption of both the sherds and the deposits as a whole. Conte and Mendoza Polychromes were likewise much more friable at PN-II than at AG-3. A number of Aristide Group sherds are at present under analysis by a ceramicist, M. Picon, in Lyons, but studies already undertaken by the laboratory on other wares have not been very instructive.

Cocobo Interior Banded

Sample:
551 sherds: 647 from AG-3 and four from PN-II. Eight sherds from AG-3,
and one fragmentary vessel and three other sherds from PN-II have a Girón Banded Lip, Circumbanded-type decoration on the lip, and Cocobó designs on the interior.

**Shapes:**

Diagnostic rim profiles are recorded in fig. 37. All examples are bowls, ranging from shallow to very deep. Rim profiles are more homogeneous for this Type than for the Girón Banded Lip, and have only slightly modified lips: rounded (fig. 37, j-l;) flattened (fig. 37, a,d,g & h;) very slightly thickened on both exterior and interior (fig. 37,e;) or rounded on the exterior and brought to a point to form what Ladd aptly calls a "ski-tip" lip (1964:194)(fig. 37,f,i,m & n.) There are no examples of the drooping-lip, that particular shape being limited to the Talingo Interior Banded. Rims are often very poorly finished, leaving an irregular and undulating surface to the lip. Thickness ranges from 0.4 to 1.5 cms., depending upon the size of the vessel, and there are frequently large variations in the thickness of a single vessel. Bases are often noticeably thickened. Diameters range from 7 to 31 cms. No appendages are recorded for the Type.

**Surface:**

Exteriors are generally red-slipped all over or have a thick red band beneath the lip, with red daubs below, arranged haphazardly around the vessel. Sometimes the exterior slip is very thin, leaving patches of the base colour showing through. One or two sherds have finger-painted streaks leading from the lip down the exterior. Interiors are either left plain, or red-slipped. 88 sherds out of the 647 at AG-3 and the four at PN-II have buff (unslipped) interiors. Four interiors at AG-3 have intentional finger-painting, in smears, and one sherd, also AG-3, has the design on a buff ground while the surrounding area is red. The red-slipped exteriors are often
well polished and the polishing instrument - almost certainly a pebble - leaves very deep marks. Interiors are always polished; the slip is thicker than on most exteriors and the finish smoother. Construction was almost certainly by coiling and on some examples coil junctions have left noticeable grooves. Only one example (AG-3, Pit D, Level I,) has a white-slipped exterior, with a design on buff on the interior. Fire clouds are common, running at nearly 19%. These may be very extensive, especially on exteriors.

**Designs:**

The designs utilised by this Type are more constant than for either the Girón Banded Lip or Escotá Types. I use Ladd's words to describe the basic motif, as one could not possibly be more succinct: "a series of parallel lines running across the vessel interior from lip to lip and bordered on each side by a somewhat broader line which widens at the tip to make a triangular motif with a concave hypotenuse" (1964: 169.)

Very few vessel bases were recovered but the different arrangements of the design are illustrated in figs. 33-36. The basic motif has either two, three or four apices at the vessel rim. The most common variation is with two apices facing each other, in the manner of fig. 33, a. Where there are three apices, the parallel lines within the triangles do not cross at the centre, but meet as a triple chevron design (fig. 33, b.)

There are three variations with four apices: one arranges the parallel lines at right-angles to form a horizontal reticulate effect at the centre (fig. 35, a;) another has the parallel lines at a narrower angle, so a diamond-shaped reticulate is formed (fig. 36, a;) while the third arranges two groups of lines side by side without joining the centres (fig. 34, a.)

A further variation is achieved by twisting the two apices so that a zigzag effect is achieved in the centre of the vessel, creating a double
pointed triangular design (figs. 35,b and 36,b). An anomalous variation - represented by one sherd only - has four apices, with the lines meeting at the centre to form a group of triangles of diminishing size (fig. 34,b).

**DISTRIBUTION OF THE COCOBO INTERIOR BANDED TYPE IN WESTERN COCLE: AG-2, AG-3, PN-5.**

**Relationships with other types and outside areas:**

The division of what Ladd calls Girón Polychrome, Interior Banded Variety, into two Types, Cocobó Interior Banded and Talingo Interior Banded was based on two factors: firstly, none of the interior decorated sherds recovered from the Phase IV levels (below 60 cms) of AG-3 have circumferential banding beneath the lip and secondly, those that do differ in shape, the hue of the red slip, and the use of a thicker paint, especially the black, which stands out almost in relief. As I have emphasised in the Type description of the Talingo Interior Banded, I am not certain of the validity of creating a homogeneous Type out of the small sample at hand (59 sherds), but that its components are post-Phase IV is corroborated by Ladd's findings at He-1, which I quote:

Although the pottery at He-1 assigned to the Girón type is, I believe, sufficiently similar in paste, shape, surface colour and design to the varieties at the Girón site to be treated as an extension of them, certain peculiarities should be noted. First, the vessels at He-1 are generally thinner walled .... and tend towards the lower size limit of the type ... Those of the Interior Banded are fragments of vessels with estimated diameters of between 12-24 cms. Second, in addition to the usual rim types illustrated for the vessels at the Girón site ... the ski-tip rim is a common type, particularly on bowls with circumferential banding. Thirdly, the shade of red slip falls at the darker pole of the variation for the type at the Girón site. The slip is not only thicker, but normally covers the entire vessel, except for the extreme basal portion of the exterior. Thus the thin, wash-like appearance and the buff-unslipped areas characteristic of many vessel exteriors at the Girón site are seldom present at He-1. Fourth, design elements occur at He-1 and He-2 which were not present at the Girón site. These include a scroll (fig. 60 o), and a serpent motif (fig. 60 e). Circumferential banding below and parallel to the lip, though present at the Girón site, is much more common at He-1 and He-2, often with a row of black dots appended to the lowest band and constituted the only decorative type at He-4 (1964: 194).
The last sentence is the most important as He-4 is a Phase VI and VII site, at least for its duration as a funerary centre. If we transfer Ladd's 49 circumferentially banded sherds to the Talingo Interior Banded, the Aristide Group is eliminated from the site, a fact that corroborates my own findings from late surface sites and NA-8 and NA-I3, where sometimes Talingo and never Cocobó sherds occur, and the other Types are almost absent. He-I and He-2 are Phase V-VI sites, and though Ladd gives no indications of the absolute numbers of the circumferentially banded variety, it is apparently the commonest and the two whole vessels from He-2 have circumferential banding (Ladd, 1964: Plate IO, a & b).

Most sites in Panama have produced examples of bowls with geometric decoration in black on the interior. Unfortunately, a good deal of this material remains unpublished and it is impossible at this moment to determine the precise temporal and spatial relationship between these obviously related ceramics. Both circumferential and lip-to-lip arrangements of design occur and I will consider under this heading types which show a relationship with either the Cocobó Interior Banded or Talingo Interior Banded Types.

The diagnostic Cocobó design element - the lip-to-lip concave-hypotenuse triangle outlining a row of parallel black lines - occurs on examples of Iohn's as yet provisional type from the Valley of Tonosí, Ciruelo Noir-sur-Rouge. This type includes examples with circumferential banding, at times with a row of dots appended beneath the lowest line. Another variety has the Cocobó design pendant below circumferential lines, with the added difference that the triangular zones contain positively painted dots in the ground colour, which give a negative painted effect. Vessels of identical type have been found in Herrera (SI: 437704). Ciruelo Noir-sur-Rouge has been assigned to the ElIndio Phase by Iohn (personal information). At Stirling's Tabogullla-I site is found a bowl or plate
type, sometimes with a slightly "drooping" lip, which has the Cocobó lip-to-lip design on the interior and strange wavy incisions or further painted designs on the exterior. These attractive pieces are anomalous in that the interior "Cocobó" design looks Phase IV while the long pedestal and the painting on the underside of the vessel are characteristics of Phases VI and VII to the west of the island. Taboguilla - 1 was a one-metre deep, one component site representing a "single occupation over a not very long period of time." No suggestions are given by Stirling as to the chronology of the site (1964:b: 312, figs. 49-53 & 55 and Plates 74 & 78.) I have seen similar material from destroyed shell piles on Contadora Island in the Pearl Islands. Unpublished sherd lots from both Venado Beach and Panamá Viejo contain a plethora of sherds with designs identical to those of the Talingo Interior Banded (e.g. fig 79,i.) with circumferential black bands and dots appended below the lowest line, like the Ciruelo Rouge-sur-Noir example quoted above (PM: 51-25-20/20667 and SI: PV-100.) There are also some extant vessels which combine circumferential banding with zoomorphic designs on the centre of a bowl. Linne illustrates one from the Pearl Islands (Viveros, Site 4) (1929: fig. 24,) and Cruxent another from Darien (Gonzalo Vásquez) (1958: lam. 13.) The two examples illustrated by Ladd from He-1 and He-2 are very similar (1964: Plate 10.) On display at the Museum of the American Indian, New York, are two bowls from Venado Beach with zoomorphic figures crouched beneath circumferential black lines (HF: 22/844 & 22/9382.)

The other area which has produced interior banded vessels in large quantities is Mariato. At the Mo-1 and Mo-3 sites - also unpublished, collection housed in the University of Arkansas Museum - both lip-to-lip, circumferentially banded, and combinations of the two modes of arrangement, are common. The "classic" Cocobó motif with the concave hypotenuse occurs, arranged lip to lip, on bowls with buff interiors and a rim form
similar to fig. 37, d. The thick black line is sometimes left with a straight wall, while in other examples it is left out, and the unbordered groups of thin lines tend to run haphazardly across the vessel, making rather irregular patterns where they meet in the centre. Where the arrangement is more orderly, the confrontation ends in a chevron or a group of enlarging triangles, as at AG-3 (fig. 34,b.) An anomaly of a number of the circumferentially banded sherds is the slight bevel just below the interior lip and the small horizontal lug placed just beneath the exterior lip. Such an appendage is unknown from Coclé. Ring-bases and short pedestals, which accompany many of the Mariato examples, are absent from Cocobó vessels in Coclé.

Chronology of the Cocobó Type:

In pits B and D at AG-3, Cocobó Interior Banded Sherds show a steady decline from the bottom levels to the top, representing 2.7% of the sample in pit B, Level 40, and under 0.5% in the top six levels. In pit D, they comprise 5% in the lowest level, and only 0.03% in the uppermost, 0-50 cms., level (Table 2.) The stratigraphic picture of the Girón Polychrome; Interior Banded Type at AG-2 is rather similar, though in Pit 1 the distributional pattern is more irregular. Percentages drop sharply in the 0 - 60 cms. levels, and the Type is absent from the 0 - 50 cms. levels of Pit 3. As the Girón sample at the site presumably includes sherds attributable to the Talingo Type, the percentages of the Cocobó Type may be exaggerated in the upper levels (see Ladd, 1964: Charts 9 and 11.) At PN-11, the Cocobó Type is represented by only four sherds, with designs on a buff ground, all found at approximately the same level (pits B, F and G, Level VIII, and D, level II d.) Two of these probably have the "twisted apex" design - see fig. 36,b, - and have come from vessels with Girón decoration on the lip, of which one fragmentary vessel was found.
Lothrop illustrates no Cocobó examples from PN-5. The only interior banded bowls present in the graves— to judge from the photographic record—are of the Talingo Type. Cocobó sherds are present in the selected samples from Trench XI, but Ladd gives no clue as to their relative popularity. It looks as though the Type had dropped out before the adoption of the locality as a funerary centre. Cocobó sherds are also apparently absent from the Verrill and Mc.Gimsey collections from the region, and none was found in the author's surface collections.

The evidence points to an early date for the Type, and it probably drops out of the Aristide Group halfway through the Phase, concomitantly with the Escotá Black-on-Red & Crosshatched Varieties. Exactly how local it is, only time will tell. The lip-to-lip type decoration occurs at Mariato, in the Tonosi Valley, and on Taboguilla. In western Coclé, the circumferential banded Talingo designs probably post-date Phase IV, but whether this division will hold for other areas along the Pacific littoral, will depend upon the publication of the material from other sites.

**ESCOTA TYPE**

**Introduction:**

Ladd created four varieties out of the original Escotá Polychrome sample from AG-3: Black-on-Red, Crosshatched, Black-on-Buff and Chevron (1964: 171 - 176.) Analysis of the Escotá Type sherds from PN-11 and AG-3 has validated Ladd's original division and indicated that it has a temporal as well as stylistic significance. The only change made herein is the inclusion of the Chevron Variety within the Black-on-Buff variety. Designs incorporating a chevron element are commonly used on vessels of different shape and size, and the isolation of a separate variety based on the combination of the chevron with small collarless vessels, has proved to be statistically irrelevant.
Black-on-Buff Variety:

Sample:
1,807 sherds: 1,489 from AG-3; 318 from PN-II

Shapes:

The commonest shape recorded for this Variety is a large, collared vessel, with a tall, straightish collar, restricted orifice and sub-globular body with either a sharply- or lightly-angled or rounded shoulder. For this Variety, the rounded shoulder is the commonest (fig. 38, e-f). Most of the sherds recovered at AG-3 and PN-II had been broken just beneath the junction of the collar and the body, but the few sherds with rim intact show that the profiles of the rims are essentially the same as those recorded for the Escotá Red-Buff Ware (figs. II7 - II9, a-d). A smaller collared vessel is also popular and likewise has either an angled or rounded shoulder to the body (figs. 40, g; 43, d; II9, e-l; I20, a-d). Vessels which are either collarless or have very short collars are illustrated in figs. 46-50; the degree of restriction of the orifice seems to vary considerably, as does the nature of the lip, which is either pointed or rounded, thickened or thinned. Some vessels are true "tecomates" (fig. 48, a-d), while others have straight walls (fig. 47, b & e). Three examples from AG-3 have an angled shoulder just below the lip (figs. 48, b; 49, b; 50, b). I imagine that the division of the Escotá vessel shapes relates to two primary human occupations — cooking and drinking — while the flat plates and bowls of the Girón Banded Lip and Cocobó Interior Banded Types were reserved for eating. Wall thicknesses of the Escotá Type vary according to the size of the vessel, ranging from 0.4 to 1.5 cms. The large urns generally have the lower half of the body, below the shoulder, considerably thicker than the upper. As bases are totally absent for all
Varieties of the Type, this thickening was the only method of establishing the vessel.

**Surface:**

The differentiating factor between this Variety and the Black-on-Red is the light background to the design area, which is generally the colour of the unslipped surface, but very occasionally carries a white or buffy slip. The large, flare-collared vessels and the smaller collared jars have the exterior and all or three-quarters of the interior of the collar, and the exterior of the body below the shoulder, red-slipped. Dribbles of red paint often fleck the interiors of the body, which are only rudimentarily smoothed with a hard instrument (a gourd fragment or piece of wood).

At AG-3, most examples of all the Escotá Varieties have the entire exterior and also the inside of the collars well polished and very hard; while at FN-11 there are no sherds with such perfection of finish and the surfaces are generally soft and tend to flake away. Escotá Type vessels vary enormously in standards of finish and fire-clouds run at about 17% for the sample at AG-3. Seven sherds of this Variety at AG-3 - two pit B, level 7 and one pit D, level 5 - and three at FN-11 - one pit B, level 6, one pit B, level 7 and the other pit G, level 4 - have white-slipped shoulders.

**Designs:**

On the tall-collared urns and the smaller collared vessels, the design area is usually delineated by one or more black lines which run around the vessel at the junction of the collar and at the shoulder, thus separating the decorated buff area from the undecorated red. The first line beneath the collar is generally the thickest. The red often creeps underneath the black. Total designs are often rather difficult to reconstruct from a fragmentary sample. The two commonest arrangements are:

a.) Pendant black triangles arranged beneath horizontal black lines, with

* The remainder from the post-Phase IV levels.
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... apices pointing downwards. These may occur in a single row (fig. 39, a.) or be arranged in two rows, with the triangles alternating between the rows (figs. 38, f and 39, b.) Frequently, the triangles contain a series of black lines in the shape of a chevron, which run in zig-zags around the vessel (figs. 40, j-m and 41, a-e and g.) The apices of the triangles may have a substantially elongated point which extends over the vessel shoulder into the red (figs. 38, f and 39, b.)

b.) A simple arrangement of horizontal black lines running around the vessel, generally without extra adornment, but sometimes with "fillers" of checkerboard type (fig. 39, e-g,) or with "claws" pendant beneath the lines in various subtleties of arrangement (figs. 43, i & j and 44, c-e, g & i.) These claw motifs may also accompany the chevron design (fig. 44, a & b,) or be enclosed within a rectangular panel delineated at the top and sides by black lines (fig. 44, f.) Sometimes the upper and lower levels of the "claws" are drawn very close together and give a cunning Jove's thunderbolt effect (fig. 44, e & g.)

The characteristic "triangle-with-concave-hypoteneuse" enclosing parallel black lines - which is a common motif on both the Girón Banded Lip and Jocotz Interior Banded Types - is frequently employed on both the Black-on-Buff and Black-on-Red Varieties of this Type. The triangles are probably arranged back-to-back, with the apices alternately pointing up and down, so the hypoteneuses form a leaf-shaped design ("en negatif") like the example of Black-on-Red in fig. 51,a. On two examples, fig. 41, f & i, the hypoteneuses of the triangles have little black "blobs" affixed to give them a serrated edge. Fig. 42 illustrates fragments of this type of decoration on vessels with sharply bevelled shoulders. A complete leaf-shape design, enclosed in a rectangular panel, occurs on only two sherds from large collared vessels in this Variety, one each from PN-II and AC-3 (fig. 44, h.) Sometimes, a large black area between enclosing rectangular lines may have diamond motifs arranged "en negatif" (fig. 43, a-h.) Designs such as figs. 40,e
and 44, j & k, are probably arranged around the vessel in fours, in the
manner of the examples illustrated by Lothrop from PN-5 (1942: figs. 238 &
239,b.) Note that the strange motif resembling stylised smoke in fig. 45,d,
which occurs also on the Lothrop examples mentioned above, recalls an element
of one of the petroglyphs incised on the rocks at the base of PN-6 (Loma de los
Muertos.) It takes a wide stretch of imagination to link the two, but the
association is worth mention in passing as it is the only possible link
between the designs of petroglyphs and ceramics that I can find. The "blob-
and-line" motif, which is common on the Black-on-Red Variety, occurs only
on those sherds illustrated (figs. 40, g & i and 45, j, m & p.) Other strange
designs, all from AG-3, are illustrated in figs. 39,d, and 45, a-c, f-h, k & m.)

Designs on the vessels with either a very short collar or no collar
(figs. 46-50) are varied and comprise horizontal lines in rectangular frames
(fig. 46, c,f & g;) chevron designs (figs. 46, d & 49, e-f;) "blob-and-line"
(figs. 46,e and 50, h;) simple circumferential horizontal lines (figs. 46,b,
47, b-e, 48, a-b & e-g, 49, a-c and 50, a-d;) and the "triangle-with-concave-
hypoteneuse" (figs. 46,a and, perhaps, 50, e.) The leaf-shaped design also
occurs (fig. 48,d.)

Appendages:

No bases of any kind are recorded for the entire Escotá Type. Appendages
are limited to this Variety and are illustrated in fig. 46, f - a small oval
lug; fig. 46, g - a small round nubbin; figs. 47, a and 49, d - small lug
handles, one vertical, the other horizontal; and fig. 48, a & b - widish
horizontal lugs, with notches incised with the edge of a shell. All are
from collarless vessels.

DISTRIBUTION OF THE BLACK-ON-BUFF VARIETY IN WESTERN COCLE:

AG-2, AG-3, AG-4, NA-18, NA-20, NA-23, PN-1, PN-5, PN-7, PN-II, LP-I;
Verrill's unlocated sites, Río Grande Village (HF: I4/5234 and AMNH:30.I.110.)
and "Ancón" (AMNH: 30.I.788;) Lothrop's unlocated site Río Olá or Churubé
(1942; 204 and fig. 405,) and McGimsey's unlocated sites, Co-22 and Co-35.

**Black-on-Red Variety:**

**Sample:**

974 Sherds (all from AG-3)

**Shapes:**

Similar to those of the Escotá Black-on-Buff, but there are no collarless vessels. Angled-shoulders are less common with this variety than with the other two, contrary to Ladd's findings for AG-2 (1964: 171.). Wall thickness never exceeds 1.0 cms.

**Surface:**

Escotá Black-on-Red is differentiated from Black-on-Buff on the basis of its use of a red slip over the entire vessel exterior, including the decorated panel. The red may be extremely well polished or dull, and the polish is more pronounced on the painted surfaces than the unpainted. The marks of the polishing instrument - probably a pebble - are clearly visible. Fire clouds are less common for this variety than for the Black-on-Buff.

**Designs:**

Two design combinations are very commonly used on this variety which are either absent or very rare on the Black-on-Buff Variety:

a.) The use of blobs or pendant T-shaped elements beneath or above encircling black lines (fig. 38, b, 54 and 55.) These appendages vary enormously in size and shape and are arranged either facing each other, pointing up or down, with a large expanse of red in between (figs. 38,b, 54, e and 55, h;) or as "filler" elements closely fitted in between the lines (e.g. fig. 54, a, h & i.) The painting of these designs is often execrable, but their haphazard and heterogeneous arrangement is pleasing to
the eye. In one or two cases, additional vertical lines with appended blobs link with the horizontal lines to outline a rectangular space of red within.

b.) Broken line designs, as in fig. 38, c and 53. Again, the arrangement and numerical order of the lines is quite irregular; sometimes they come directly on top of each other, sometimes they are arranged alternately, in twos, three or fours etc. Some examples (fig. 53, a-c,) have tooth-like projections beneath or above the thick boundary lines. This design variety and the former are probably generally embellished beneath with the typical pendant triangle of the Type (see figs. 38, b and 53, k.) Other design elements, which occur on the Black-on-Buff Variety also, are the leaf-shape "en-negatif" (fig. 51,) delineated above and below by parallel black lines, and the "triangle - with-concave-hypoteneuse" element (fig. 52, a,c,d, e and j.) In some of these last examples the area delineated by the triangles has a combination of vertical and horizontal lines (fig. 52, d & i.) and one sherd seems to have a triangle pendant between a median row of encircling black lines (fig. 52, j.)

DISTRIBUTION OF THE BLACK-ON-RED VARIETY IN WESTERN COCLE:

AG-2, AG-3, FN-5. One design element illustrated by Ladd (1964: fig. 60,i,) which was apparently arranged just beneath the collar, did not occur at AG-3.

Crosshatched Variety:

Sample:

393 sherds (all from AG-3.)

Shapes:

The commonest shape by far is the large tall-collared urn, with the sharply angled shoulder (fig. 38,a,) though rounded bodies do occur (fig. 56,b, for example.) A few sherds are from the small collared jar shape (fig. 57,a,) and there are three vessels with miniscule or no collar (fig.57 b-d.)
Surface:

All the sherds of this Variety have light backgrounds of the colour of the natural polished surfaces, a logical choice, as the hatching would be obscured by a red ground. The bodies below the design area and, as far as could be determined, the collars, are always red-slipped. Standards of painting vary considerably, as in the other Varieties: some sherds have the lines of the crosshatch immaculately, others very poorly drawn. Fire clouds are quite common, in which case the black of the ground shows through the lighter black of the lines, and causes a "negative" effect, like small black squares on a lighter ground.

Designs:

As its name implies, the Crosshatched Variety is characterised by a criss-cross design in black. The reticulations are generally drawn diagonally, and arranged around the vessel in hour-glass shapes, with the apices of the design units elongated to join up with each other along the shoulder or at the collar (fig. 38,a). The hour-glasses are certainly arranged in twos, probably also in fours on the large flare-collared urns. Between one and three circumferential black lines define the hatched areas above and below. On the smaller collared jars, the reticulations are generally horizontal, and the units are always arranged in fours around the vessels, as truncated triangles (fig. 57,a). Variations on the basic theme are not common on this Variety, the only decorative anomalies being the checker-board filler (fig. 56,f), and the toothed appendages of fig. 56,g. Sometimes, blobs of red paint are arranged in haphazard fashion at the sides of the hour-glasses and truncated triangles.

DISTRIBUTION OF THE CROSSHATCHED VARIETY IN WESTERN COCLE

AG-2; AG-3; FN-4 (Lothrop, 1942, fig. 437); FN-5 (op.cit.: fig. 237 and Ladd, 1957: fig. 1, a).
Relationships of the Escotá Type with other Types and outside areas:

The tradition of painting on the upper body of collared vessels has a long history in western Panamá. Some of the typical Escotá design elements are utilised continuously through Phases IV to VII, obvious examples being the T-shaped pendant (c.f. figs. 55, k & q and fig. 29,a, and also Ladd's Parita Polychrome, Anón Variety, 1964: fig. 21,d,) and blobs-and-lines (c.f. fig. 54, e & g and op.cit.: fig. 21, a.) The typical large-collared shape of the Type is unique, no other Polychrome vessels combining the voluminous body with such a tall, straight-walled collar, and relatively restricted orifice. The nearest equivalent to an Escotá collared urn from PN-5 would be Lothrop 1942: fig. 186. The closest parallel in both design and, presumably, shape to the Escotá Type is the Corotú Polychrome, which is a direct development from the Escotá and utilises some identical design elements in slightly more sophisticated arrangements.

Outside western Coclé, little pottery has been recorded with close similarities to the Escotá Type. Ladd records sherds of the Black-on-Red and Crosshatched Varieties from He-1, and I presume the Type occurs frequently down the eastern side of the Azuero Peninsula. Venado Beach has disgorged a number of large-bodied urns with exterior decoration combining red and black on a light slip. The leaf-shaped element (c.f. figs. 44,h & 51) is common, as is the idea of extending a pendant triangle with a thin line (c.f. fig. 38, b & f.) Ladd gives PM: cat.nos. for two examples with "leaf-shaped" designs as 51-25-20/20373 and 51-25-20/10370 (1964: 173.) Further west, similarities between the Escotá Type and Ichon's Tonosí Polychrome are not obvious - apart, perhaps, from the similarity in shape and mode of decoration between Escotá and Tonosí collarless bowls with gradually recurving rims. Relevant comment concerning the Tonosí and Escotá potteries will have to await the publication of Ichon's material. As far as I know, the
typical tall collared shape of the Escotä Type was not found at Tonosi.

At Mariato (Mo-I and Mo-3), typical Escotä design elements and shapes are likewise absent. In Chiriquí, the relationship between Linares' Cangrejal Red Line, Centeno Red-Banded, Linarte Zoned Red Line and Pan de Azúcar Red Line Types and the Escotä Type is more obvious. All four Chiriquí Types — representative of the San Lorenzo Phase — are characterised by the use of geometric decoration, often rather crudely applied, drawn on the exteriors of large urns (with collars not as tall as and more raked back than the Escotä), and also on the exteriors of restricted collarless vessels, which sometimes have strap legs (Linares de Sapir, 1968: 23-37 and figs. I4-23.) Design elements common to both the Chiriquí and Escotä material are crosshatching (op.cit.: fig. 22,f;) chevron patterns (op.cit.: figs. 15,e & 18;) "blobs-and-lines" (op.cit.: fig. 16,a;) and the definition of the design area with black lines running circumferentially around the middle of the vessel (op.cit.: fig. 22,f.)

**Chronology of the Escotä Type:**

At PN-II, the Black-on-Red and Crosshatched Varieties are absent. Of the Black-on-Buff Variety, the following shapes and design elements are recorded: figs. 39, a-c & g; 40, j-m; 41, a-e; 42; 43,h; 44, h & i; 46; 47. The Variety has a staggered distribution, ranging from 8.5% of the sample in pit B, level 10, to 0.5% in level 2, but it declines noticeably after 30 cms. in all pits, concomitantly with the appearance of the Co nte Polychrome. At AG-3, the Black-on-Buff and Black-on-Red Varieties have a somewhat parallel distribution, both declining noticeably after 30 cms. in pit B and in level 1 (6-50 cms.) in pit D. The Crosshatched Variety seems to decline earlier than the other two (see Table 3.) The Black-on-Buff is the most popular of the three Varieties in pit B, representing 51% of the sample while Black-on-Red represents 37% and Crosshatched 12%. At AG-2, the three Escotä Varieties likewise decline
suddenly above 30 cms. in pit I, but the distribution below 30 cms., as represented in Ladd, 1964, Chart 9, is rather irregular. However, all three Varieties are still vigorous at the bottom of the pit I at 1.70 cms. In this pit the Crosshatched Variety is more popular than the Black-on-Red. At FN-5, a complete Escotá Black-on-Red vessel was buried in Grave 37 (Lothrop, 1942, fig. 290,a,) and Lothrop mentions the occurrence of a complete Black-line Geometric (Escotá Black-on-Buff) vessel from Grave 19. Sherds of several other Escotá vessels had apparently been broken on the grave floors "before the introduction of bodies and other funeral furnishings (op.cit: 126.) Illustrated examples are from Cache 31 (fig. 236 a & c;) Grave 26, (fig. 236,b;) Cache 7 (fig.237 & 239;) and the shaft of grave 32 (fig. 238,) All except one of the Cache 7 examples—which is Crosshatched—is Black-on-Buff. In surface collections from western Coclé, the Escotá Type is rare, occurring only at those sites with mixed ceramic assemblages. It was totally absent from the stripped sites whose collections contained mostly Mendoza Polychromes. Two sherds (Black-on-Buff) from Trench A at NA-8 were from the third (red clay) level.

Girón Banded Lip

Introduction:

Ladd created four Subvarieties out of the Girón Banded Lip Variety of the Girón Type: Circumbanded, Chevron Lip, Crosshatched, Radial Banded and Scalloped, plus a residual Subvariety - Black Banded - to cover fragmentary sherds of either the Crosshatched or Radial Banded Subvarieties (1964: 163-168.) The sherd material recovered from AG-3 and FN-11 concords very exactly with Ladd's findings, and his original Subvarieties have been retained in name, being upgraded to Varieties within the Girón Banded Lip Type. At FN-11, the Crosshatched Variety was represented by only five sherds, and consequently the Black Banded Variety was discarded, all those sherds with
Fragmentary designs being assigned to the Radial Banded Variety in the statistical analysis. The Girón Banded Lip shares common design elements with both the Cocóbó and Escotá Types: concave-hypoteneused triangular zones enclosing parallel lines; simple circumferential black lines; cross-hatched zones; chevron designs; negatively expressed leaf-shaped elements; pendant "blobs" and lines; simple claw-like elements.

Circumbanded Variety:

Sample: 235 sherds: 212 from AG-3 and 23 from PN-III.

Shapes:

Rim profiles of this Variety are illustrated in figs. 59 and 60, a-i. They comprise the gamut of shapes recorded for the entire Type, except the wide-mouthed open bowl, with downward-pointing, sharply everted lip (fig. 51, e-k,) which seems to be reserved primarily for vessels with decoration painted on a red lip. At PN-III, there is considerably less variation in shape than at AG-3, the only profiles recorded being figs. 59, 1 & m and 60, c & e. As the former is the most commonly represented shape in the Radial Banded Variety at the site, one would presume that the variation in vessel shape diminished concomitantly with decorative heterogeneity at PN-III.

Surface:

The decoration of all the Varieties of the Girón Banded Lip Type is painted on the lip of the vessel, either on a light (natural buff surface or light-slipped,) or a red-slipped ground. It seems probable that the painting of designs on a red-slipped lip dropped out during Phase IV, as PN-III is virtually lacking in designs on red lips. Of the Circumbanded Variety, only nine sherds at AG-3 - and none at PN-III - have designs on a red ground. Unrestricted vessels always have the interior red-slipped, except when there is a Cocóbó-type design on the interior, when it remains unslipped. Eight sherds from AG-3 and one fragmentary vessel from PN-III - fig. 36,b -
have Cocobó designs on the interior. Some restricted vessels probably have the interior red-slipped all over (figs. 59, s & t and 60, c & e,) while others have a broad red band painted just beneath the interior lip (figs. 59, o and 60, b, d & f - i.) Exteriors of both restricted and unrestricted vessels may be either red-slipped, red-daubed or left the natural colour of the surface. Vessels with plain exteriors generally have a red band running around the tip of the lip (figs. 59, l and 60, a, b & d.) The red-daub is either achieved by dabbing paint so it leaves a mark like an ink-blot, with frayed edges, or by smearing with the fingers from the top of the lip downwards over the exterior. The red of both interior and exterior often creeps over onto the flat part of the lip.

Design:

As its name indicates, the design on the Circumbanded Variety consists solely of between two and five parallel black lines running around the lip. The lines may be all of the same width, or have one or more lines thicker than the others; they may be straight as a die or very wobbly. A handful of sherds from AG-3 have circumbanded decoration linked with scalloped elements (fig. 70, i & j,) while a few others have pendant-motifs and blobs suspended from circumferential lines (fig. 70, a - g.) To simplify the statistical analysis, these sherds with a combination of design elements were included within the Radial Banded Variety. Some sherds (small unrestricted bowls, with only slightly everted lip) have notches cut along the exterior edge of the lip with the edge of a Scapharca shell (fig. 59, a & h.) This idea occurs at both AG-3 and PN-11.

DISTRIBUTION OF THE CIRCUMBANDED VARIETY IN WESTERN COCLE:

AG-2; AG-3; NA-16; NA-21; NA-23; NA-30; PN-1; PN-5; PN-11; Lothrop's Rio Olá site (1942: fig. 406, c,;) Verrill's unlocated sites, "Espinosa Burial Mound" (AMNH: 30.1.1045,) and "Ancón" (30.1.788.)
Chevron Lip Variety:

Sample: 21 sherds, 18 from AG-3, 1 from PN-I and 1 from PN-II.

Shapes:

Limited to restricted vessels with everted collars: profiles identical or similar to figs. 59, o, q, r & t and 60, a, b & d.

Surface:

All examples but one of this Variety have buff (unslipped) lips; exteriors are red-slipped, red-daubed, or unslipped, as for the preceding Variety. One sherd from PN-II (fig. 59, t,) has a white-slipped lip and exterior.

Design:

The only difference between this Variety and the former is that the circumferential lines are arranged in chevrons around the lip, forming semicircular and triangular patches of black above and beneath the groups of lines (see fig. 58, e.) It is probably better to incorporate this Variety with the former, as it is very rare (both at AG-2 and AG-3,) and the lines of the Circumbanded vessels are so often badly painted that they tend to work themselves into a zig-zag pattern.

Distribution of the Chevron Lip Variety in Western Coele:

AG-2, AG-3, PN-I, PN-5, PN-II

Crosshatched Variety:

Sample: 280 sherds: 275 from AG-3 and 5 from PN-II.

Shapes and surface:

For this Variety, and also the Radial Banded, there seems to be a partially exclusive division of shape and surface treatment according to the mode of painting on the lip. Panelled lip sherds - that is, where the design is painted on the natural or a light-slipped surface, with a red band often running around the tip and inside edge of the lip - always have an unrestricted
slightly restricted body shape, with a sharply everted lip and generally a straight wall leading down from the lip (fig. 62, g - k.) Shapes as open as fig. 63, d are a rarity. Those sherds with red-painted lips are much more varied in shape, but the majority have the inward-and-outward thickened lip and the rather shallow form of fig. 61, e-k. At AG-3, 24 lips have designs painted on a light ground and 168 on red. The panelled lip variety is relatively more frequent above 50 cms. (that is, in the Phase V - VII) levels than below 50 cms., there being 21% panelled as opposed to 79% red from 0 - 50 cms., while in the 50 - 120 cms. levels, 91% of the lips have designs on red, and only 9% on a light ground. The Crosshatched sherds at PN-11 all have designs on a light ground; three on white slip and two on buff (unslipped). Two sherds at AG-3 have white-slipped panels, both of them from pit B, level 7 (fig. 63, d.) This distinction is probably chronological, representing the general shift from bichromy (black-on-red) to trichromy (black-on-light ground, delineated by red,) in the Aristide Polychrome Group. Some Crosshatched sherds from Verrill's collection and PN-5 which have white-slipped lips and interiors, have an additional black line drawn beneath a thick red band on the interior wall, and also above the red on the interior edge of the lip. We have here, then, true colour-filling (Lothrop's criterion for polychromy) in conjunction with a Girón design.

The restricted, collared vessel, which occurs quite commonly, in the Circumbanded, Chevron Lip and Radial Banded Varieties (c.f. fig. 59, n - r,) is almost absent in this Variety. The large flaring rim in fig. 62,f, which is from level 2 of Pit A, is very badly executed and looks like a late anomaly. It is the only example of the Variety which has the apices of the triangle pointing towards the interior. The five Crosshatched sherds at PN-11 have stratigraphic positions: pit B, level 7, pit H, levels 8 & 9,
pit C, levels 6 & 12. Their shapes are limited to: fig. 62, k (3) and fig. 63, c (2).

Five Crosshatched rims from AG-3 have tail-or wing-like projections protruding from the lip, four of them with a double apex (figs. 72, c & d and 73, a & c.) These were probably arranged as two opposing pairs. Diameters of the vessels vary from c. 10 cms. (open mouthed, shallow bowls,) to over 48 cms., (a flare-collared vessel).

Design:

The basic design element consists of subtriangular zones, with concave hypoteneuses, arranged back-to-back, enclosing an area of crosshatchure (see fig. 58, b, for a reconstruction of the total design, taken from a complete vessel from PN-4.) The truncated apices of the triangles always point outwards, except in the anomalous collared vessel mentioned above. The vertical sides of the triangles and outermost vertical lines of the crosshatchure are either at right-angles to the rim or slanted at varying angles so that the vertical lines diminish in size as they approach the centre of the painted zone (c.f. figs. 61, j & k and 62, g - j.) The crosshatchure is either separated from the walls of the triangles or joined directly to them (c.f. figs. 61, f & g.) The crossing lines are nearly always drawn vertically, though there are at least two examples which have the lines drawn diagonally (fig. 61, e, & 62, c.) The complete design units are probably arranged around the vessel in threes or fours, but some of the smaller vessels with only slightly modified lips (as figs. 60, l & 53, c) might have the entire circumference of the lip crosshatchured without subtriangular zones. The standard of line varies enormously, as it does for the other Varieties. One sherd (fig. 71,b,) combines crosshatchure with leaf-shaped elements arranged "en-negatif." This is the only example of a combination of elements involving this design.
ISTRIBUTION OF THE CROSSHATCHED VARIETY IN WESTERN COCLE:

G-2; AG-3; NA-20; NA-22; NA-23; PN-1; PN-4; PN-5; PN-11; PN-17 (Dade, 960: 73;)
Lothrop's nameless site on the Río Grande (1942: fig. 406,d;)
Errill's unlocated sites: "Ancón" (AMNH: 30.1.788;)
Espinosa Burial Mound AMNH: 30.1.999 & 30.1.1045.)

Radial Banded Variety:
Sample: 563 sherds: 389 from AG-3 and 174 from PN-11 (though the PN-11 sample includes the residual Variety, Black Banded.)

Shapes and surface:

As with Crosshatched Variety, there is a partially exclusive division of shape and surface treatment depending upon the mode of painting on the lip. Panelled lip sherds - with the lip left plain, or, very occasionally, light-slipped - are confined to the shapes in figs. 66, c - l and 67; sherds with red-slipped lips have the shapes recorded in figs. 64, 65 and 66, a & b. Vessels with restricted orifices and upsloping collars are unknown for the red-slipped variety. The profile of the panelled lip variety generally combines a straight wall leading down from the inner lip with a sharply everted lip which either juts out horizontally or is inclined upwards at about 45 degrees, and is never thickened and rounded on interior and exterior, nor has the outward and downward sloping lip of the red-painted examples. Again, this division may well be chronological: at PN-11, only two Radial Banded sherds were recovered with red lips, the shallow open bowl shape and downward pointing lips (fig. 65, n & o.) At AG-3, more sherds have red-painted than panelled lips;in pits B and D, 201 sherds have red lips and 60 panelled lips. In statistical terms, in the 50 - 120 cms. levels 81% have red and 19% panelled lips, in the 0 - 50 cms. levels, 66% have red and 34% panelled lips. At PN-11, by far the commonest profile is that in figs. 66, k & l and 67, a - e, though restricted vessels (fig. 67, h-k) and
smaller bowls with lightly modified lips (fig. 66, a-g, ) also occur. The inward-and-outward thickened lip does not occur. These differences might, of course, be regional, but designs painted on red-slipped lips, and both the inward-and-outward thickened and the downward-pointing lips occur commonly at PN-I on the slopes of Cerro Zuela, and also in the sherd lots from PN-5. A few sherds at both AG-3 and PN-5 have extensions protruding from the lip, with two rounded apices, which are probably stylised "tails" or "feet" and were arranged around the vessel in opposing pairs. One such appendage from AG-3 definitely has the form of a tail (fig. 73,d.) Diameters of the vessels range from 8 cms. (small bowls with obliquely flattened lips,) to over 40 cms. Eight sherds at PN-II and two at AG-3 have the decoration on a white-slipped panel and white-slipped exteriors.

Design:

The basic motif is identical to that of the preceding Variety, with the crosshatchured zone being replaced by parallel vertical lines. The apices of the triangles generally point outwards and the design units are probably arranged in fours around the vessel circumference in the manner of fig. 58,d, though one rim at least has more than four (fig. 66,b.) The enclosed parallel lines may be vertical (fig. 67,a,) diagonal (fig. 67,g,) or be arranged with diminishing angles of verticality (figs. 64,i and 65,i.) The lines may be very well or very badly drawn, as with the other Types and Varieties of the Group. Sometimes the polishing pebble has smudged the design, and left the lines jagged (fig. 65,k.) Some sherds at both sites have the apices of the triangles pointing toward the interior of the vessel, as in fig. 67, d & f, often with a line of "scallops" along the interior edge (fig. 70,l-r.) Other variations on the radial banded theme are illustrated in figs. 70 and 71. They comprise a.) the enclosure of a scalloped design within parallel lines (Fig. 70, h & n);
blobs appended to the hypotenuses of the triangles (fig. 70, k); the
arrangement of two triangles back-to-back on the outer and inner edge,
so the area in between forms a leaf-shaped area "en negatif" (fig. 71, a & c);
the addition of concave lines along the hypotenuses of the triangles (fig. 71,
g & h); and the division of the field between two back-to-back triangles
with vertical and horizontal lines (fig. 71, d-f). Of these combinations,
the following occurred at PN-II: fig. 70, 1 & n and fig. 71, d & e. At
PN-II, one sherd has back-to-back triangles without parallel lines between
(fig. 65, n). This design is on a red-slipped lip.

**Distribution of the Radial Banded Variety in Western CocoL:**
AG-2, AG-3, AG-4, NA-8, NA-10, NA-11, NA-17, NA-19, NA-20, NA-21, NA-22,
NA-26, NA-27, NA-29(a), NA-30, PN-1, PN-4, PN-5, PN-7, PN-11, PN-12,
PN-15; Verrill's unlocated sites "Ancón" (30.I.788), "Espinosa Burial
Mound" (30.I.999); McGimsey's unlocated sites Co-22 and Co-26.

**Scalloped Variety:**

*Sample:* 443 sherds: 344 from AG-3; 99 from PN-II

*Shapes:*

The commonest shape recorded for this Variety is a deep, open bowl.
Lips are usually flattened horizontally on top and thickened slightly on the
interior or exterior (fig. 69, a-i), but they may be rounded (fig. 69, j-n),
flattened on the exterior at an oblique angle (fig. 69, o & p), sometimes
thickened noticeably (fig. 69, q-s), or have the exterior considerably
heightened and the interior lip sloping downwards at 45 degrees and flattened
(fig. 69, t-y). A few vessels from both sites have the typical shape of
the "panelled lip" examples of the preceding Varieties, with the lip everted
horizontally (fig. 68, 1-s) though the flat part is never so wide. Restricted
vessels never have pronounced collars as in other Varieties; but are
rather stubby, with flattened or rounded lips (fig. 68, a-k). Sizes are
smaller than for the other Varieties, some vessels being as little as 6 cms. across. Few diameters exceed 25 cms., and none is wider than 32 cms.

**Surface:**

As with the other Varieties, interiors are generally, though not always, red-slipped; some sherds are plain (unslipped buff) all over. Exteriors may be red-slipped, left plain, or red-daubed.

**Designs:**

The basic design of this Variety consists of a black band running around the interior of the lip, with pointed elements projecting outwards, to give a "scalloped" pattern (fig. 58, c.). The scallops are either brought sharply to a point (fig. 69, e-c); inclined slightly diagonally, to give a wave-like effect (fig. 69, f); have rounded edges and are clustered closely together (fig. 69, j-l); or are thin and upright (fig. 69, r & s.). Some sherds have the scallops arranged facing each other on the inner and outer edges of the lip, so that they form a negative pattern in the buff background (fig. 68, k, m & p.). This idea occurs at both sites. Only one sherd, from AC-3, has the scallops pointing inwards only (fig. 69, u.). Some lips have scallops in combination with other elements: in between Radial Banded triangular zones and parallel lines (fig. 70, h & n;) on the edge of circumferential black lines (fig. 70, i, j & s); on the concave hypoteneuse of a black triangular zone (fig. 70, k); and along the base of lines running beneath a black triangle with inward-pointing apex (fig. 70, l-r.). Only eight sherds at AG-3 and one at FN-II have the designs painted on a red lip. All the other sherds have designs on the natural polished colour of the surface. White slip is absent for this Variety. Vessels with buff exteriors sometimes have a red band running along the apex of the lip (fig. 68, f, m & s,) and the red of the completely painted exteriors and interiors frequently creeps over onto the lip to give a panelled effect.
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**DISTRIBUTION OF THE SCALLOPED VARIETY IN WESTERN COCLE:**

G-2; AG-3; NA-23; PN-5; PN-11.

**Relationship of the Girón Banded Lip Type with other Types and outside areas:**

Vessels with geometric decoration drawn on a flattened or otherwise modified lip are frequent in Panamá. To the east of Coclé, vessels with sharply everted lips and designs similar to those of the Radial Banded variety occur commonly at Panamá Viejo (Biese, 1964, Plate and fig. 1.) apparently used as urn covers, they all have the decoration on a white slip. Unpublished collections from Venado Beach abound with Radial Banded-type sherds, though a larger percentage have designs on white slip than at the Coclé sites. At Stirling’s Taboga-4 site, sherds with shapes and designs similar to the Circumbanded and Radial Banded Varieties occur (Stirling, 1964, b: Plate 53, h, and SI:406695.) Ladd lists Girón Banded Lip sherds and vessels from He-1, He-2 and He-4 in Herrera, and examples housed in the Smithsonian Institution from that Province are almost identical to Coclé examples (Ladd, 1964: 166 & 244.) Moving down the Azuero Peninsula to the Tonosi Valley, the picture becomes more complex and interesting. It can be seen from the illustrations in this study that the Girón Banded Lip Type and Ichon’s La Bernardina à Bord Décoré Type of the Tonosi Polychrome are close in their shape and mode of application of the design (c.f. figs. 59 - 71 and 76.) However, the La Bernardina examples are always white-slipped on the lip, and the decoration is far more complex and much more varied. Rarely do you find two La Bernardina sherds with identical decoration. Ichon also finds a small number of sherds which have Radial Banded-type designs painted on the flat lips of restricted vessels with general shape similar to figs. 59, s and 60, c & d, but with the addition of a broad lug placed horizontally on the exterior, just below the collar, the likes of which do not occur in Coclé at least until Phases VI and VII.
This lug may also be decorated with horizontal black lines, or broken lines similar to the Escotá motif in fig. 53, a & d-k, but much better drawn. The lip designs on all the examples seen by the author have the double triangular zone— that is, with two concave-hypoteneused triangles enclosing parallel lines, arranged back-to-back, one with the apex pointing out, the other pointing in, so that a leaf-shaped area is formed "en negatif" between the two hypoteneuses (the Girón sherd in fig. 67, f may have the design arranged in this way; sherds with the leaf-shaped elements intentionally drawn are illustrated in fig. 71, a-c). It is interesting that Ichon thinks that these sherds—which occurred at the El Indio, El Cafetal and Búcaro sites—are transitional between the El Indio and Cañazas Phases. Girón-type sherds occur also at Mariato, north-west of Tonosí: McGimsey's sites Mo-I and Mo-3, which are dominated by the Tonosi Polychrome Group, include in their samples sherds with Crosshatched designs arranged on bowls with everted lips (c.f. fig. 62, g-k) and simple Circumbanded decoration, though in the latter case the shape of the vessels differs slightly from that of the Coclé examples. Girón Banded Lip vessels have also been reported from graves near Santiago, Veraguas, by Mahler (1961: 222). Though the radio-carbon date of 310±90 A.D. obtained for the top of the Phase IV deposit at AG-3 would appear almost unequivocally to establish the contemporaneity of the Phase IV A variations of the Girón Banded Lip and the Tonosí Polychrome, nineteen sherds of which occurred below the dated level and are almost certainly trade, the transitional IV/V position of the Giron-like sherds at Tonosí, which are surely locally made, and our lack of precise information concerning the frontier between these two seemingly contemporary traditions, ought to ward off any dogmatic conclusions as to the nature of their relationship, until more carbon dates and excavated information are acquired. Two possibilities, however remote, should still be borne in mind: a) that the Girón Banded Lip Type, or Varieties thereof, extended its range westwards during or after the decline of the Tonosí Polychrome tradition; b) that the Tonosí Polychrome sherds found in several localities east of the Santa María are the representatives of a broader Tonosí horizon and the Aristide Group represents the decline of the Tonosí tradition. Further comments on the relationship between the two Groups are contained in
The chronology of the Girión Banded Lip Type:

The stratigraphic distribution of the Girón Banded Lip Type at both AG-2 and AG-3 is very similar. In pit I at AG-2, the Type is well represented below 30 cms., comprising between 3 and 7% of the total sherd sample, and it declines rapidly above level 3 (Ladd, 1964: Chart 9), while in pit B at AG-3, he decline is noticeable from 50 cms. to the top of the pit, with percentages running between 4.3 and 2.2% below 50 cms. and diminishing from 1.7 to 0.7% from level 5 up to level I (Table 2). At PN-II, the Type is best represented in the middle levels of pit B, from 60 to 100 cms., and it declines rapidly in the top two levels. The stratigraphic picture in pit G is less clear, with the highest percentages in levels 3 and 10 and rather low representations in the middle levels (Table I). If we compare the distributional patterns of the four varieties, we notice that the Crosshatched Variety is almost absent from PN-II (only five sherds which all occur from 60 to 100 cms.), while it is common at AG-3 (134 sherds in pit B alone). The Scalloped Variety is relatively commoner at PN-II than at AG-3, whereas the Radial Banded Variety is equally represented at both sites. The Circumbanded Variety is rare at both sites (Table 3).

Shapes also differ at the two sites. We have already seen how examples of all varieties with "panelled" lips - that is, with the design painted on a buff or silt-slipped ground, bordered by red - tend to have rather stereotyped shapes (open bowls or restricted vessels with sharply everted lips), while those which have the design painted on a red-slipped ground have much more heterogeneous shapes. At PN-II, only two sherds have red-painted lips and these two are the only vessels (apart from one Circumbanded sherd with a shape equal to fig. 63, d) to have a noticeably shallow body and downward-inclining lip. The paucity of other design varieties and shapes at PN-II indicates that the Aristide tradition is dying at the site: Escotá Black-on-Red and Escotá Crosshatched sherds are missing too; the Cocó Interior Banded is very minimally represented; and some shapes and categories typical of Phase V - Conte and Guácomo Red-on-White-Slip
drooping-lip plates and Corotú Polychrome already occur throughout the deposit while they are all but absent from the Phase IV levels of AG-3. These differences do not seem to be purely local: the Crosshatched Variety of the Giron Type is widely distributed in western Coole, occurring at thirteen sites, and is very common in the refuse of PN-5 (Lothrop, 1942: I25). The Crosshatched Variety of the Escotá Type, while it has not been found at as many sites, is also common in the refuse of PN-5, as are the Giron bowls with decoration on a red lip and the shallow shape with downward-pointing lip.

Only eight Giron Banded Lip vessels were buried in graves or caches at PN-5. One anomaly that argues against the above thesis is the occurrence of two Giron Crosshatched bowls in Grave 26 and one in Grave 5, both of which are late graves according to the ceramic contents (Phase VI or at least Phase V/VI). These examples and another from Cache I7 all have type-A ring-bases which never occur unequivocally with Giron vessels at either AG-3 or PN-II. (The mode, in fact, absent below 60 cms. in pits B and D at AG-3). Another Crosshatched sherd is illustrated from Cache 7. Grave 26 contained articles which had been removed from other burials and it might be that the inclusion of the Crosshatched vessels is the result of grave-looting: Cache 7 was perhaps removed while Grave 26 was being dug and the Crosshatched vessels taken out and deposited in the later grave (Lothrop, 1937: 269 & 279). Cache I7 contained only Giron Type vessels, one Crosshatched and the other Radial Banded. Another Radial Banded illustrated by Lothrop is from Grave 31 which I consider to be one of, if not the earliest at the site (1942: fig. 303b).

Mention has just been made of the commonness of the Giron Crosshatched Variety in the refuse and, though Ladd does not break his Santa María (Aristide) polychrome down into Types, the stratigraphic position of the Aristide Group as a whole in Trench XI indicates an early date at PN-5:

<table>
<thead>
<tr>
<th>Level</th>
<th>0-50 cms.</th>
<th>50-100 cms.</th>
<th>100-150 cms.</th>
<th>150-205 cms.</th>
<th>205-235 cms.</th>
<th>205-290 cms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>0.5%</td>
<td>1.6%</td>
<td>6.8%</td>
<td>25.1%</td>
<td>25.4%</td>
<td>18.4%</td>
</tr>
<tr>
<td>II</td>
<td>0.5%</td>
<td>1.6%</td>
<td>6.8%</td>
<td>25.1%</td>
<td>25.4%</td>
<td>18.4%</td>
</tr>
<tr>
<td>III</td>
<td>0.5%</td>
<td>1.6%</td>
<td>6.8%</td>
<td>25.1%</td>
<td>25.4%</td>
<td>18.4%</td>
</tr>
<tr>
<td>IV</td>
<td>0.5%</td>
<td>1.6%</td>
<td>6.8%</td>
<td>25.1%</td>
<td>25.4%</td>
<td>18.4%</td>
</tr>
<tr>
<td>V</td>
<td>0.5%</td>
<td>1.6%</td>
<td>6.8%</td>
<td>25.1%</td>
<td>25.4%</td>
<td>18.4%</td>
</tr>
<tr>
<td>VI</td>
<td>0.5%</td>
<td>1.6%</td>
<td>6.8%</td>
<td>25.1%</td>
<td>25.4%</td>
<td>18.4%</td>
</tr>
</tbody>
</table>

(Ladd, 1957: Table 3).
since the Girón Type is very rare in graves it would seem likely that it had declined in popularity by the time the site was used as a funerary centre. Nevertheless, more Girón vessels are known from PN-5 than either E cota and Cocобо, a Girón Crosshatched vessel was apparently recovered from a medium grave at PN-17 (Phase V) (Dade, 1960:73), another was found in a grave at PN-4, also with Conte Polychrome vessels and Mahler reports the occurrence of Girón vessels in graves in Veraguas. Two Girón sherds occurred in level III at NA-8. The suggestion is, then, that the Type has a distribution slightly beyond the limits of Phase IV into Phase V. The Becerra Painted Lip Type and Variety B dishes of the Mendoza Polychrome are its successors in Phases VI and VII.

The obvious discrepancies between the Phase IV deposits at PN-11 and AG-3 in the presence and absence and frequency of the various Types and Varieties of the Aristide Group Polychromes, and also of certain shapes and modes of applying the design, suggest that Phase IV ought to be split into two halves, the deposit below 30 cms. at PN-11 being labelled Phase IV,B, and that below 55 cms. at AG-3 becoming Phase IV,A. This division would be based upon:

1) The absence at PN-11 of the Crosshatched and Black-on-Red Varieties of the Escota Type;
2) The rarity of the Crosshatched Variety of the Girón Type at PN-11 and its relative frequency at AG-3;
3) The presence of only two Girón lips with red ground to the designs at PN-11;
4) The rarity at PN-11 of vessels with the shallow shape and downward pointing lip and the predominance of vessels with the walls that run straight down from the interior lip and have the lip sharply everted;
5) The almost complete absence of the Cocobо Interior Banded Type at PN-11 (all Cocobо sherds have designs on buff and are probably associated with Girón vessels);
6) The absence of Tonosa Polychrome sherds at PN-11 and their not infrequent occurrence below 55 cms. at AG-3;
7) The presence of Conte Red and Guácimo Red-on-White-Slip drooping-lip plates at PN-11 and their absence at AG-3;
8) The relative frequency of the Guácimo Red-on-White-Slip ware at PN-11 and its rarity at AG-3.

Whatever the ultimate preciseness of such a division, there seems to be no
doubt that the deposit at AG-3 was laid down when the Aristide Group was in full vigour, while the absence of so many shapes and design varieties at PN-II suggests that it was already in decline, with new forms and new categories heralding a new tradition. The Phase IV, B occupation at AG-3 seems to be limited to a thin deposit between 50 and 60 cms. (level 6 in pit B and level 2 in pit D) and I would calculate that the Phase IV deposit of PN-II dates from about 350 to 500 A.D.

MISCELLANEOUS POLYCHROME CATEGORIES

TONOSI POLYCHROME

Sample:
47 sherds, all from AG-3. I am indebted to Dr. Alain Ichon of the Musée de l’Homme, Paris, for personally identifying the material.

Tonosí Polychrome is the diagnostic pottery Group of the El Indio Phase, recently isolated in the Tonosí Valley and its immediate environs by Ichon. The typology of Ichon's artifacts is not yet final, but the sherds excavated at AG-3 can be assigned to the three major provisional Types within the Group: "La Bernardina & Bord Decorée (fig. 76, a-g); "Bol Zoomorphe" (fig. 76,h) and "Vase Double" (fig. 77, a-j). The Tonosí Polychrome has only been published in preliminary form. Complete examples of "Vases Doubles" are illustrated in Mitchell and Heidenreich (1965: Plates 2, a & b and 3, a & b) and Ichon (1970: figs. 3-6 and 8). For direct similarities between design motifs compare fig. 77, a & h of this study with Mitchell and Heidenreich, Plate 5. The sherds of La Bernardina & Bord Decorée from AG-3 can be duplicated almost exactly with material seen by the author in Ichon's possession. When first excavated, sherds of the Tonosí Polychrome stick out like a sore thumb. The paste and the unslipped surfaces are of a chocolate-brown
Colour and the well polished slip has a characteristic pinkish or greyish hue and is very often finely cracked. For some reason, some of the Tonosí Polychrome sherds from AG-3 turned pinkish when exposed to the atmosphere, a useful criterion for differentiation from white-slipped examples of the Corotú and Aristide Polychromes.

**Chronology of the Tonosí Polychrome**

A discussion of the temporal and spatial relationships between this group and the Aristide and Corotú Polychromes is contained in Chapter IO. At AG-3, 22 of the 47 sherds were from the Phase IV levels of pits B, D and E; 6 were from the developed polychrome (V-VII) levels of pits B and D; and the remainder were from the disturbed levels of pits A and I. The precise chronological variations within the Group have not yet been worked out, but Ichon considers that the sherd illustrated in fig. 7, f, is typical of the transitional period between the El Indio and Cañazas Phases. The full stratigraphic record of the Tonosí sherds from AG-3 is contained below:

**Pit A**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>I - Exterior, Vase Double (fig. 77,h)</td>
</tr>
<tr>
<td>4</td>
<td>I - Rim, Vase Double (fig. 77,0)</td>
</tr>
<tr>
<td>7</td>
<td>I - Exterior, Vase Double (fig. 77,j)</td>
</tr>
<tr>
<td>8</td>
<td>3 - Misc. exteriors</td>
</tr>
<tr>
<td>10</td>
<td>I - Exterior, Vase Double (fig. 77,d)</td>
</tr>
</tbody>
</table>

**Pit A, Extension A**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2 - One rim and one exterior, Vases Doubles (Rim: fig. 77,a)</td>
</tr>
<tr>
<td>7</td>
<td>I - La Bernardina à Bord Decorée (fig. 76, a)</td>
</tr>
<tr>
<td>8</td>
<td>I - Exterior, Vase Double (fig. 77,e)</td>
</tr>
<tr>
<td>9</td>
<td>2 - Misc. exteriors</td>
</tr>
</tbody>
</table>

**Pit A, Extension C**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2 - Exterior, Vase Double (fig. 77,g); misc. exterior</td>
</tr>
<tr>
<td>4</td>
<td>2 - Exterior, Vase Double; misc. exterior</td>
</tr>
</tbody>
</table>

**Pit B**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>I - Exterior, Transitional El Indio/Cañazas (fig. 77,f)</td>
</tr>
</tbody>
</table>
3: 1 - Rim, Vase Double.
4: 2 - Rim, Vase Double (fig. 77, b.;) misc. exterior.
5: 1 - La Bernardina à Bord Décorée (fig. 76, f.)
8: 4 - Bol Zoomorphe (fig. 76, h;) exterior, Vase Double; 2 misc. exteriors.
9: 5 - Rim, Vase Double; 4 misc. exteriors.
10: 3 - La Bernardina à Bord Décorée (fig. 76, c;) exterior, Vase Double (fig. 77, i;) misc. exterior.

*It C:*

Level 4: 1 - La Bernardina à Bord Décorée (fig. 76, b.)
7: 1 - Misc. exterior
8: 1 - Rim, Vase Double

*It D:*

Level 1: 1 - Misc. exterior
2: 1 - Misc. exterior
4: 2 - La Bernardina à Bord Décorée (fig. 76, a;) misc. exterior.
6: 3 - La Bernardina à Bord Décorée (fig. 76, g;) 2 misc. exteriors.
7: 1 - La Bernardina à Bord Décorée (fig. 76, d.)

*It E:*

30-110 cms.: 2 - Rim, Vase Double; misc. exterior.

**DISTRIBUTION OF THE TONOSI POLYCHROME IN WESTERN COCLE:**

AG-2; AG-3; PN-5; Verrill’s unlocated site "Espinosa Burial Mound".

Jothrop illustrates a sherd of Tonosi Polychrome (exterior, Vase Double) from PN-5 (1942: fig. 245.) This has the typical chocolate paste of the group. It is listed PM: 33-42-20/962, from Grave 44, though the publication has Grave 45. Two other sherds, exteriors, Vases Doubles, are listed under PM: 33-42-20/2154 and C-12822, from Trench XI, Grave 29 and Trench XI, section 1, 175-205 cms. respectively. In the collection of sherds from the Willey-Mc.Gimsey dig at AG-2, there is one Tonosi Polychrome sherd, a rim from a Vase Double, with four horizontal black lines on the lip (PM: 52-44-21220.) It was found in Pit 1 at a depth of 1.23 ms. Another rim sherd from a Vase Double is in the Verrill collection from the "Espinosa Burial mound." This has the characteristic "feathered serpent motif" on the lip (c.f. fig. 77, a.) (AMNH: 30-1-1049.)
BECERRA PAINTED LIP

Introduction:

The Becerra Painted Lip Type has been created to include sherds from open and shallow bowls with a design painted in a panel on the lip, which are similar to both the Girón Banded Lip Type and the Variety B dishes of the Mendoza Polychrome, and probably stand mid-way between the two categories. Examples of the Type have formerly been described by Lothrop (1942: fig. 235, i & b.).

Sample:

61 sherds: 49 recovered in the field; 12 assignable to the Type from collections (PM and AMNH.)

Shapes:

Open bowls or plates. Diameters range from 16 to 30 cms. Two basic types of profile are evident: the first has a thinned or rounded lip (figs. 74, a - e and 75, i-k & m&q;) the second is thickened, sometimes considerably, on the interior, and flattened, either horizontally or obliquely, forming a "shelf" upon which the design is placed (figs. 74, f-k and 75, i-h, l & n.) Closer correlation between the two basic rim forms and the various design varieties will probably be possible when a larger sample has been acquired. Some shapes and designs are mutually exclusive: variety "b", for example, ("lines and dashes") does not occur on the modified lip; and, conversely, design "a" ("arcs and lines") does not occur on the thinned or rounded lip.

Appendages:

No sherds were found with appendages attached. Lothrop's examples appear to have type A ring-bases.

Surface:

All sherds have red-slipped interiors (blood-red) which on pristine
examples are well polished. Exteriors are either red-slipped, or unslipped and polished. Red slip on exteriors is thinner, with patches of the ground colour showing through. The design is painted in black on a panel running around the lip of the vessel. The background colour of the panel is either a buff or a white slip or is left unslipped. The panel is sometimes delineated with a black line on the inner or outer edges or both. The order of the application of colours is: red slip, light-slipped ground, black design. The standard of painting is generally good. On examples with slipped panels, the black paint is often very thickly applied and stands out in "bas-relief".

**Design:**

Varied. Total designs are difficult to appreciate from the sample. Three basic varieties are evident: a) (fig. 74, g, h & k and 75, a-g;) a series of symmetrical arcs enclosing parallel vertical lines; b) (fig. 74, b-d;) truncated triangular zones arranged back-to-back, enclosing parallel vertical lines; c) (fig. 74, 1 and 75, m & o:) a series of broadly undulating lines, one pair of which has dashes drawn between the lines.

Designs of variety "a" are either arranged alternately on the outer and inner edge of the panel (fig. 74, g & h), sometimes with an additional line running between them, or on one edge alone (fig. 75, g.) Designs of variety "b" are probably arranged in threes or fours around the circumference with the apices of the triangles pointing outwards, in the manner of the Girón Banded Lip Type. Designs of variety "c" are difficult to appreciate in toto. A combination of design varieties "a" and "b" is illustrated in fig. 75, n. One sherd (fig. 75, e,) has panels of the ground red slip, delineated by black, alternating with panels of white. Fig. 74, j, seems to have a clawed element on the lip. It is the only example from AG-3.
DISTRIBUTION OF THE BECERRA PAINTED LIP TYPE IN WESTERN COCLE:

-MA-3; NA-2; NA-5; NA-7; NA-8; NA-13; NA-16; NA-19; NA-20 (Verrill's collections, 30.I.952, figs. 74, 75 a, 75 b); NA-21; NA-23; FN-5; FN-11; FN-14; LF-1; Verrill's unlocated sites, "Ancón" (AMNH: 30.I.788, figs. 74, 75 a, 75 b) and "Espinosa Burial Mound" (AMNH: 30.I.999).

Stratigraphic position of the FN-5 examples:

-1-II985:
  - Pit VI, general digging
  -12064:
  - French XI, section 2, 75-105 cms.
  -12534:
  - French XI, section 10, 0-30 cms.
  -12612:
  - French XI, section 7, 55-77 cms. (2) (fig. 75 a).
  -12639:
  - French XI, section 18, 12-55 cms.
  -12639:
  - French XI, section 20, 40-75 cms.

Relationships with outside areas:

Ladd created a miscellaneous Type ("Black-on-White Lip") at He-4 for "small open bowls (unmodified rims) with white-slipped lips on which a series of black dashes are arranged radially around the bowl in the fashion of the Girón Type Radial Banded Subvariety" (1964: 128-9). In his distribution chart, Ladd lists this Type only for He-4, a Phase VI-VII site (op.cit.: 242). A complete bowl with a short pedestal - rather similar to the Becerra Painted Lip - from He-I (Find 16 a) is labelled "Coclé Panelled Red Ware;" the lines on the lip are arranged obliquely and are not interrupted by triangular zones. At Panamá Viejo, there is a pottery very similar to Becerra Painted Lip, which also has geometric decoration in black on a white-slipped panel, arranged around the interior of a shallow bowl, just beneath the lip (SI: PW-42 and Biese, 1964: as 33).

Chronology of the Becerra Painted Lip Type:
Probably Phases VI-VII. The examples illustrated by Lothrop are from Grave 26, which I consider to be Phase VI on the basis of both polychrome and non-polychrome wares. The relatively late stratigraphic position indicated by the refuse samples at PN-5 (all from above 105 cms.) is corroborated by the occurrence of the Type at NA-13 and in surface collections from the "stripped sites" which have only Mendoza Polychromes or minimal representations of earlier polychromes: NA-2, NA-5, NA-6, NA-16, PN-14. Mc.Gimsey's selected sherd lots from the four pits at NA-7, which likewise have only Mendoza Polychromes, include two sherds of this Type. Two Becerra sherds were found in Trench A at NA-8 in levels I and II. The sample is small, however, and there may be chronological differences between the various design varieties and rim profiles. All examples from NA-21, for example, where there was a high percentage of Conte and Macaracas Polychromes, are of the "arc-and-line" design with the heavily modified lip. From the stylistic point of view, examples with the truncated triangular motif, diagnostic of the Girón Banded Lip Radial Banded Variety, seem to stand halfway between that Variety and the Variety B dishes of the Mendoza Polychrome (figs. 11-13,) by which time the decoration has slipped down onto the interior of the vessel. The profiles illustrated in figs. 74,g and 75, n, occur in the Girón Banded Lip Type, and fig. 74, f, is virtually classic Girón, being included within the type on the basis of the thick white slip and the shallowness of the bowl.

COROTU POLYCHROME

Introduction:

At AG-3 and FN-11, a number of polychrome sherds were recovered whose combined characteristics separate them from the four major polychrome Groups already described and warrant their inclusion into a broadly defined
Type, the Corotú Polychrome. Unfortunately, the absolute sample is small and most of the sherds, because of the thinness of the pottery, are extremely fragmentary so appreciation of the total design and even the basic shapes of the Type is very difficult. However, direct comparisons with a large unpublished lot of sherds from Verrill's "Banks of the Rio Grande site (AMNH: 30.1.1108,) with six complete vessels excavated by Dade at FN-17, with anomalous pottery from PN-5, especially from Grave 31, and with unpublished material from the Tonosí Valley, substantiate the rather tenuous evidence from the excavated sites that the Corotú Polychrome described below is a stylistic and perhaps also a chronological entity, probably transitional between Phases IV and V (Aristide and Conte Polychromes.)

Sample:

171 sherds, 143 from AG-3 and 28 from FN-11. One large sherd collection from the "Banks of the Rio Grande," (AMNH: 30.1.1108,) together with several sherds from other sites of Verrill, as well as whole vessels from PN-5 and FN-17 are assignable to this Type.

Paste:

Paste colour of the excavated samples and also those from FN-17 and the Verrill collections, is more homogeneous than for any other category of pottery in western Cloché except the Guácomo Red-on-White slip, being nearly always of a rusty brown colour and always fully oxidised. The particle size of the mineral inclusions - be they intentional temper or natural inclusions in the clay - is always small, and the large lumps of iron minerals which occur frequently in the pastes of other pottery are rare. The structure of the fired paste is decidedly lamellar. These characteristics are probably due to the thinness of the pottery.
Shapes:

Nearly all the sherds are from vessels with subglobular bodies and, presumably, restricted necks and everted collars. Only one sherd actually has the collar junction attached. All examples are from rather thin-walled vessels, with thicknesses ranging from 0.4 to 0.8 cms. Vessels from PN-17 which I would include with the Type are illustrated in Plates 17 - 20. Two are squat jars with subglobular bodies and everted collars which are rounded at the junction with the neck and have flattened and everted lips, rather like the Girga Banded Lip rim type in fig., 60, g, while the other is a spouted vessel with tall collar, strange medial bevel on the neck, and everted lip. The vertical spout is joined to the lip by means of a small bridge and is about the same height as the collar lip. All three vessels stand on shallow type A ring-bases. Vessels of both these shapes from PN-5 which I would include within the Type, are illustrated by Lothrop (1942: fig. 226,g, 247,b.) At AG-3, the only other shapes attributable to the Type are small vessels with restricted orifices, "tecomates;" a bowl with a rounded lip (Plate 34,h;) and a vessel with a restricted orifice and short pointed collar, not unlike fig. 48,g, in shape.

Surface:

The paste colour gives a very characteristic pinkish hue to the unpolished interior surface. The exterior surface is coated with a light-coloured slip, which is always highly polished. The slip colour of some examples, especially those which have designs including red dots, is of a distinctive ochraceous hue (see Plate 32.) Pure white is rare. The light slip of the Corotú Polychrome differs from that of the Conte Polychrome at AG-3 in that it does not crack (Plate 34, i is an exception,) is not as grey, and is considerably thinner.
Designs:

Designs are varied, difficult to reconstruct "in toto" and will be subject to more rigorous classification in the future. Two basic modes of painting are evident: geometric designs utilising black and red lines; and designs incorporating "colour-fill" — that is, blocks of colour enclosed by thin black lines. The latter have either representational or geometric designs.

Black and red line designs:

A characteristic idea is the employment of red dots in between areas of black which are generally arranged like the typical Ñsotí Òpendant trianglesÓ (see Plates 22 and 32, and compare fig. 39 a-c). In some of the examples, the triangular zones are probably arranged alternately, one up and one down, to leave a "leaf-shaped" zone in the slipped area. The dots may either be used simply as a random filler element, or adorn the edges of the triangles. Sometimes these edges may be outlined by a thin white line. Other sherds have red lines arranged within black in a chevron design (Plate 32,m). The triangles and chevrons run round the vessel in an identical manner to the Ñsotí Type, i.e. below the collar and above the shoulder of the vessel, but the circumferential lines of the Corotú Type often have thin red lines in between thicker black lines, both above and beneath the design element (c.f. Plates 22 and 23). Another frequently employed idea is that of a series of much smaller and taller pendant (isoceles) triangles arranged in double or single rows within panels delineated at the sides by vertical lines and/or blocks of red outlined with black (Plates 19, 20 and 25). The vertical lines frequently have notches painted on the inner and outer line. The two whole vessels from PN-17 (Plates 19 & 20) illustrate how these designs were arranged round the vessel. Note that Plate 19 has a black dot fill in between the red lines above the major design in the
anner of some sherds from AC-3 (Plate 32,1). Sometimes notched lines are arranged as a chevron which might contain a "haemal arch" or "squared-y" motif (Plate 24, middle row, second from left). This "haemal arch" - as we have seen on p. 115 - is probably the germ of the famed 7C scroll of the Monte Polychrome. One sherd with the isosceles triangle motif has a rosette-like scroll which might well be the antecedent of a frequent design at FN-5 (compare Plate 25, top row, far right, with Lothrop, 1942: fig. 161). A few sherds have t-shaped elements, common on the Escotá Black-on-Red Variety, pendant beneath black lines. The scroll designs in black and red in Plate 33, and Lothrop's fig. 247,b are probably the type of scroll which was first used in the genesis of the "snail shell scroll". Two sherds identical to Lothrop's fig. 248,b, with black dots enclosed within a black and red rectangle, occurred at FN-II. Another common motif, which occurs beneath black-outlined red lines, is a double parabola, placed on its side, with a line in the centre, and lanked by black dots (Plate 28, bottom row, centre). This motif and the notched chevron are commonly found on Ichon's Montevideo Polychrome and in sherds material recently excavated in central Veraguas by de Brizuela.

Colour-filled designs:

A number of sherds from the Verrill collection have designs in red, outlined with black, which probably represent stylised animals. Two sherds (Plate 26, upper row, centre and bottom row, far left) are surely the hind legs of a frog (the face is presumably at the other end of the vessel.) Another hind leg motif has a criss-cross fill (Plate 27, bottom row, far left). An identical sherd was found at AC-3 (Plate 34,k). Other colour-filled designs which are probably representational are illustrated in Plates 26 and 27.
Previous nomenclature:

Two pottery categories described by Lothrop I would include within this type: Coclé Polychrome Foreign Style B (I942, fig. 226) and Black-and-Red Line Ware (op.cit.; figs. 247 - 249). A vessel similar to op.cit.; fig. 226,g was found in Burial 18 at PN-I7 in conjunction with the vessels in Plates I7-20 of this study. The sherds illustrated by Lothrop under Black-and-Red Line Ware can be duplicated very closely at AG-3 and PN-II.

Other vessels and sherds found at PN-5 which have designs that are anomalous from the typical Conte Polychromes and are probably "Corotú-orientated" (both chronologically and stylistically) are: figs. 243, 244, 361 and 362.

DISTRIBUTION OF THE COROTU POLYCHROME IN WESTERN COCLE:

AG-2 (a sherd in McGimsey's unpublished selected sample from a depth of 40 - 70 cms. in pit 7); AG-3; NA-20 (AMNH: 30.I,952); NA-23; PN-4 (? - a sherd in op.cit.; fig. 457, f, is probably of this Type); PN-5; PN-II; PN-I7; Verrill's unlocated sites: "Espinosa Burial Mound" (AMNH: 30.I,986, 999 and IO49); "Banks of the Rio Grande" (AMNH: 30.I,II08). A spouted vessel from Lothrop's Cocle Village Site (op.cit.; fig. 4149b, is assignable to this Type.) (This site might be PN-I7).

Chronology and relationships with other types and outside areas:

The stratigraphic position of the Corotu Polychrome sherds at PN-II is:-

<table>
<thead>
<tr>
<th>Pit</th>
<th>Level</th>
<th>Sherd %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pit B, level V</td>
<td>1 (0.1%)</td>
<td>Pit F, level VII</td>
</tr>
<tr>
<td>level VII</td>
<td>4 (0.4%)</td>
<td>level VII</td>
</tr>
<tr>
<td>level VIII</td>
<td>3 (0.2%)</td>
<td>level VII</td>
</tr>
<tr>
<td>level VIII</td>
<td>1 (0.1%)</td>
<td>level VIII</td>
</tr>
<tr>
<td>Pit D, level II</td>
<td>8 (0.3%)</td>
<td>level IX</td>
</tr>
<tr>
<td>Pit C, level VII</td>
<td>1 (0.2%)</td>
<td></td>
</tr>
</tbody>
</table>

At AG-3, in pits B and D, sherds cluster in the levels immediately above the Phase IV "floor", which occurred at about 55 cms. Stratigraphic position of Corotú sherds in these pits is:-
Though one or two sherds are found almost to the bottom of pit D, that is, during Phase IV, A (those in Plate 33, a-d) the Type reaches its apogee after the major Phase IV occupation at the site. Its presence at PN-II suggests that the tradition was materialising concomitantly with the Guácimo Red-on-White-Slip Ware during the second half of Phase IV. I would imagine that fully developed Corotí Polychromes occupy a well defined temporal position (at a guess, somewhere between 450 and 550 A.D.) and that more burials of the type from PN-I7 described below will one day be found.

The strange deep burial 18 at PN-I7, which was excavated by Dade, was found completely isolated from and much deeper than the other graves at the sites (1960: 85-86 and Plates I9 and 20). Its contents comprised:

The three vessels illustrated in Plates I7-20
Another Corotí Polychrome vessel with geometric patterns and regular dotted fill (Dade, Plate 20,B, left-hand side)
2 vessels very similar to Lothrop, 1942: fig. 226, left-hand side like) (Dade, Plate 19,B, left)
A turtle effigy vessel similar to Lothrop's fig. 413,a
A strange vessel with a tall collar, a full-faced ghost-like figure and a "greek-key" pattern on the exterior of the collar (Dade, Plate 20,A)
A Smoked Ware vessel with a medial bevel and strange raised mubbins with crosses incised across the face (Dade, Plate 20,B, right)
A loop-handled vessel with tall flaring collar and everted lip (D:P1.19,B,1)
A stone armadillo (Dade, Plate I9,A)
Three "tumbaga" chisels (Dade, Plate I9,A)
Two necklaces of crystal beads (Dade, Plate I9,A)
Eight grains of corn
A "half-a-bushel basket of buff ware sherds with a fantastic raised design, apparently portions of a pair of large pottery drums".
A Guácimo Red-on-White-Slip collared vessel (Dade, Plate I9,C, right)

Unknown to me are the design incorporating the "ghost" (though it does include snail-shell scrolls); the incised Smoked Ware vessel with mubbins; and the stone armadillo. Unfortunately, Dade does not illustrate the sherds with the "fantastic raised design" (see pp. 274 and 474). The vessel in Dade: Plate I9,c, which is identical in shape to those in Plates I9 & 20 of this study and also has Girón-type banding on the lip, is very similar to another
illustrated by Lothrop from Grave 31 and called "Coclé Polychrome, Foreign Style B" (1942: fig. 226, g). Grave 31 is a very anomalous grave at PN-5 and it looks as though it was more or less contemporary with Burial 18 at PN-I7. (Both graves 31 and 32 were isolated burials and placed by Lothrop low down in the stratified sequence (1942: 199 and Table VI). Grave 32 was located in Trench III underneath the second of two occupation levels (Lothrop, 1937: figs. 249 & 250)). Lothrop himself remarks that the shapes in this grave are the only examples from the site and acknowledges the stylistic rareness of the pottery by grouping it together under the heading "foreign":

"We believe that vessels of this type were made elsewhere because they are few in number, and also on account of the pigments, quality of line and the nature of the decoration" (1942: 122).

Further comments on the transitional nature of Burial 18 at PN-I7 and the Corotí Polychrome are contained on pp. 399 - 402.

Moving away from Coclé, a most interesting revelation has been the similarity between the Corotí Polychrome and Ichon's Montevideo Polychrome which he places in a transitional El Indio - Cañazas position (IV - V) in the Tonosí region. Design motifs which occur on both categories are:

a) A series of chevron lines the outermost and innermost of which have appended notches (Plates 24, middle row and 29, bottom row, centre)
b) A red-filled geometric 'y' motif (the "haemal arch") (Plate 24, middle row, far right)
c) Red-filled geometricised animal back legs (Plate 26, upper row, centre and lower row, far left)
d) The "double parabola" motif (Plate 28, lower row, centre two)

The ground colour of the slip and the pigments utilised on the painted designs in both the Corotí and Montevideo Polychromes are very similar indeed. Shapes of the latter are, however, much more varied, including a number of plates and owls as well as vessels with sub-globular bodies (Ichon, personal information).

A sherd almost identical to the plate rim in Plate 34, h was found recently at Ponuga, Veraguas (de Brizuela, personal information) and a large collection of sherds from the same region which are strikingly similar to the Corotí and Montevideo Polychromes was being studied in the Museo Nacional de Panamá on the author's last visit (July, 1972) to the Isthmus.
The rather dull, brownish colour of the red of a number of sherds at AG-3 Plate 33, a & b) occurs also on sherds from Mo-I and Mo-3. Sherds of the linear type of black and white on red decoration occur at He-I (Ladd, 964: Plate 16, d). At Venado Beach, the motif consisting of pendant socles triangles (Plates I, 20 & 25) is common; a little human effigy vessel, with a buff-coloured ground, has panels of three rows of two black triangles, crude scrolls and black "square y" or "haemal arch" motifs together on the same vessel (HF: 22/9449).

As a peroration, let us list a few observations about the styles of the Ristide, Conte and Corotú Polychromes. It is obvious that the Corotú polychrome links with the Escotá Type in:

a) The concept of decorating the upper shoulder of a subglobular-bodied vessel
b) The use of pendant black triangular elements beneath horizontal lines running around the vessel just beneath the collar
c) The combination of one or two thick, and other thinner lines at the collar junction and in the middle of the vessel;

with the Girón Type in:

a) Circumferential banding on a flattened and everted lip;

with the Conte Polychrome in:

a) The "square y" or "haemal arch" motif
b) The outlining of colours with black
c) Scroll motifs
d) The spouted shape (c.f. Plate I and fig. I27,a of Lothrop, 1942)

It is interesting to note that the animals depicted in Plate I and some of the vessels in Lothrop, fig. 226 (Foreign Style B, Grave 31) are much more naturalistic and more relaxed than the conventionalised and exotic beasts of the Conte Polychrome. Lothrop's fig. 226, b, for example, resembles the bird house at Amsterdam Zoo with its happy-go-lucky parrots and ebullient arrangement of the design, while the little animal (perhaps a coati-mundi) on the vessel in Plate I is galloping very contentedly around the vessel. It seems likely that these naturalistic animals are the precursors of the stylised Conte iconography.
Adding to the above-mentioned stylistic links between the three Groups, the medial stratigraphic position of the Corotú sherds at PN-11 and AG-3, the links with the transitional Montevideo Polychrome of the Tonosi region, and the relationship between the isolated Burial 18 at PN-17 and Grave 31 at PN-5 (the two richest burial sites known in the Province), the transitional Phase IV-V position seems likely. How justified is the lumping of so many motifs together will have to await the recovery of more complete vessels.

**TALINGO INTERIOR BANDED**

**Introduction:**

The Talingo Interior Banded Type is a catch-all category, created out of the division of Ladd’s Girón Banded Lip Type, which includes all those sherds with a black decoration on a red ground arranged circumferentially as opposed to vertically on the interior of bowls and plates. The split was made solely because no interior banded sherds with circumferential decoration were found in the Phase IV levels of pits B and D (i.e. below 60 cms.) at AG-3. Time will tell whether it is a valid chronological division.

**Sample:**

96 sherds; 67 from AG-3, 12 from surface collections and 17 from unpublished sherd lots.

**Surface:**

All of the sherds included in the sample have red-slipped interiors; exteriors are either red-slipped, left plain, or have a very thin red slip which has worn off in patches. Some interiors have a much thicker red slip than that of Cocobó Interior Banded, more accurately drawn lines, and much thicker black paint, which sometimes stands out almost in relief. Interiors of pristine samples are better polished than those of the Cocobó Interior
Banded and the surface finish is generally much smoother.

**Shapes and Designs:**

Shapes found at AG-3 are illustrated in fig. 79, a-h, i, is from FN-4. Lips are either rounded and unmodified (fig. 79, a & e-h,) rounded on the exterior only to form what Ladd calls a "ski-tip" lip (fig. 79, b-d,) or have the typical Conte-type drooping lip (c.f. fig. 114, a-c.). Rounded lip bowls range from thick (1.3 cms.) to very thin (0.4 cms.) in wall thickness. Designs are simple and consist of:

- **a.)** Black lines of approximately the same width drawn circumferentially just beneath the inside lip (fig. 79, a,b,e-h.) There may be from one to five lines.
- **b.)** Two thick black lines containing a number of smaller lines (fig. 79,c.)
- **c.)** Black lines with other designs pendant beneath. No sherds complete enough to appreciate total design were recovered, but the interior designs are probably similar to the typical Cocobó "concave hypoten- suse" motif.
- **d.)** Black lines with a series of blobs pendant beneath the lower line. (fig. 79,i.) No sherds of this last variety were recovered at AG-3.

**Distribution of the Talingo Interior Banded Type in Western Cocle:**

AG-2; AG-3; NA-20; NA-21; NA-23; FN-4; FN-5; Verrill's unlocated sites:

Espinosa Burial Mound (AMNH: 30.1.999,) "Anc6n" (AMNH: 30.1.788.)

A discussion of the chronology of the Type and its relationships with other types and outside areas is contained under the Cocobó Interior Banded Type of the Aristide Polychrome.

**White-and-Black-on-Red Ware**

**Sample:**

16 sherds excavated (all from G-3;) 16 sherds in unpublished collections.

**Surface:**

The diagnostic feature of this ware is the use of white to outline designs in black painted on a red-slipped ground. The white ranges from cream to a bluish-grey colour, the former hue being applied thickly, to give a "bas-relief" effect, the latter much more thinly (barely visible in a lot..."
Shapes and designs:

Spouted vessels:

Two spouts of vessels of indeterminable shapes are included in Verrill's collections, one from the "Espinosa Burial Mound" (AMNH: 30.1.1046) and the other from the Temple Site (NA-20) (HF: 14-6551). One spout, about 7 cms. long, was attached to the vessel by a small bridge near the aperture. Both examples have longitudinal designs running from the aperture to the junction of the spout with the vessel.

Effigy vessels:

Two zoomorphic heads from AG-3, and three others from the Verrill collections, "Ancón," "Espinosa Burial Mound" and the Temple Site (NA-20), (AMNH 11: 30.1.1046 & 30.1.789; HF: 14/6077 & 14/6547) are presumably from effigy bowls (similar to that illustrated in Lothrop, 1942: fig. 287,) as are four "tails" and two "wings." The heads have the features of the face painted in black and outlined in white. Four have painted, and one rounded snouts. Three of the tails extend directly outwards from the vessel wall for about 4 cms. and are thin and pointed, with decoration consisting of circles of black, outlined in white, ringing the tail (like a raccoon.) They are listed under "Espinosa Burial Mound" (AMNH: 30.1.789 (2) 30.1.999, and HF: 14/6551.) Another tail - or foot - is illustrated in fig. 78, g, (from AG-3.) The two "wings", both from the "Espinosa Burial Mound" (AMNH: 30.1.990,) have a triangular design enclosing four groups of three parallel white lines painted within the black outline of the wing (a similar arrangement is illustrated in Lothrop, fig. 288,b.) This is presumably a stylisation of the wing feathers of a bird. All these zoomorphic appendages are from lightly restricted bowls.

Restricted bowls:
Two sherds from AG-3 have slightly restricted rims with geometric signs painted on the exterior, comprising blocks of black, outlined in dite, and a "fill" of white dots on the red ground (fig. 78, a & b.) These may be wall sherds of effigy bowls.

**Bowls with Giron-type everted lips:**

Two sherds - "Espinosa Burial Mound," (AMNH: 30.1.999) - have circumferential black bands painted on the top of a wide everted lip, in identical manner to the Giron Banded Lip, Circumferential Banded Variety, with additional white lines outlining the black. The design is on a red-slipped ground.

**Miscellaneous bowls and plates:**

One sherd from the "Espinosa Burial Mound" (AMNH: 30.1.999) is from a bowl with a Conte-type drooping lip and has a design on the interior consisting of a series of simple concentric circles in black, outlined above and beneath by white, on a red-slipped ground. Another bowl has an unmodified lip, and an indeterminable design pendant beneath black lines, in the manner of fig. 79, d, of the Talingo Interior Banded, but with white painted in between the circumferential lines and also outlining the pendant.

Two interiors from AG-3 have zoomorphic designs on the base of ? bowls (figs. 78, d & f.) Fig. 78,f, was accompanied by a base, probably a type A shallow ring-base.

**Collared jars:**

Fig. 78,e, illustrates the exterior of a collared vessel, presumably with a subglobular body. Two other examples are from the "Espinosa Burial Mound" (AMNH: 30.1.999.)

**Miscellaneous exteriors:**

Four sherds from AG-3 are exteriors from vessels of unknown shape.

Three have designs consisting of concentric circles of black, outlined in
white, in the manner of fig. 78,e, while the other has white crosses on a red ground, in a rectangular field (as in Lothrop, 1942: fig. 288,a.)

Previous Nomenclature:

Lothrop assigns vessels and sherds with a white-outlined design also to a "White-and-Black-Em-Red Ware" (Foreign Style A) (op.cit. 146-147 and figs. 287-9).

DISTRIBUTION OF THE WHITE-AND-BLACK-ON-RED WARE IN WESTERN COCLE:

AG-3; NA-20 (Verrill's Collection;) PN-5; PN-17 (a whole example was recovered by Dade from a "Medium" grave, which he compared to Lothrop, 1942, fig. 287 (1960: 73,) Verrill's unlocated sites: "Anón," "Espinosa Burial Mound."

Chronology and relationships with other types and outside areas:

The stratigraphic position of the few sherds at AG-3 is unclear.

The only examples recovered from the undisturbed pits (B and D) are from the post-phase IV levels (Pit D, level 1, 0-50 cms.) (figs. 78, d & f.)

The precise stratigraphic position of the other sherds is:

Fig. 78,a: Pit A, Level 9
b: Pit A, Level 6
c: Pit A, Level 7
f: Pit A, Extension A, level 4
g: Pit A, Extension A, level 6

Zoomorphic heads:

Pit A, Extension A, level VI
Pit C, level 1

Interiors: Pit A, level 5, with ring-base of Type A
Pit A, level 6

Exteriors: Pit A, level 4
Pit A, extension A, level 6
Pit A, extension A, level 9 (2 exx.)

At FN-5, Lothrop records that the ware was "not uncommon," but for the most part the sample consisted of sherds recovered from the refuse (1942: 146.)

Four complete, or nearly complete vessels are illustrated in op.cit.: figs. 287, 288, b & d and 289. These are from Graves 14 and 18 and the shaft of
Grave 32. That in Grave 14, a very low grave and certainly early, was associated with only a red pottery drum; Grave 18, also assigned to the "Early Period", contained a few red ware vessels and a probable Talingo Interior Banded bowl. Grave 32 is one of the earliest graves in the sequence.

What little evidence there is suggests that this Type is transitional between Phases IV and V, or at least confined to Phase V, in western Coolé. Its absence in the Phase IV levels at AG-3 and FN-11 presumably indicates that it post-dates that Phase, and it does not seem to have occurred in the Phase IV levels at AG-2 either. The grave associations at FN-5 do not help much, but the apparent frequency of the ware in the refuse and its virtual absence in the graves suggests it was popular before the site became a funerary centre. The example from FN-17 is from a "Medium" grave, which contained a large number of vessels which the author considers to be early Phase V manifestations. The ware is totally absent in surface collections from the area. It is relatively common in the "Espinosa Burial Mound" collections which have a large number of Corotú Polychrome sherds. The total sample, however, is rather puny, and it is possible that the ware is traded. But nothing in the paste of the example from AG-3 is anomalous—none has the typical chocolate colour of Tonosí Polychrome—and the ubiquity of the mode of painting all over the Pacific littoral argues for a wide distribution.

Outside of western Coolé, the evidence does not altogether substantiate a limited chronological position. White-and-Black-on-Red wares are very common in Pacific Panamá (though few have ever been published) and occur also in Costa Rica (Lothrop, 1963: fig. 69 b, listed as "trade"; Baudez; 1970, Plate 22). In the Tonosí Valley, pottery with this arrangement of the colours occurs in the El Indio, Cañasas and Bijaguales Phases (i.e. Phases IV, V and VI/VII in western Coolé;) effigy vessels, with heads, and
wings and tails like those described above are common in the El Indio and Cañazas Phases - having only three legs in the former Phase and four in the latter - and occur also in the Bijaguales Phase with the extra leg. The wing in the two examples from the "Espinosa Burial Mound" is identical to a sherd in the possession of M. Jean Canavaggio, which is from Tonosí. The "dotted snout" type motif (fig. 78,c & d,) apparently does not occur there. At Mc.Gimsey's Mariato sites (Mo-1 and Mo-3) the ware is likewise very common. The long, thin tail occurs, as do the Girón-type everted rims, slightly restricted bowls, collared vessels and Tonosí-like "Vases Doubles." A single sherd from Isla Palenque, Chiriquí, which is presumably trade, was found in the bottom (150-160 cms.) level of pit III and assigned to the Burica Phase (Linares de Sapir, 1968: Table 1 and Plate 14, a.) A pointed tail sherd is in the collection from He-1 (SI: 43758,) where a whole vessel was recovered from a grave with Conte Polychromes, and Red-Daub and Red-Line vessels (the last category the equivalent of Guácimo Red-on-White-Slip) (Ladd, 1964: Plate 12,a.) Another example of an effigy vessel is listed for Los Santos (Lothrop, 1942: fig. 458.) The only whole example recorded from Veraguas is one listed for Arenas (Lothrop, 1950: fig. 126.) but a surface collection made recently at Ponuga, on the Gulf of Montijo, contained a sherd of this Type (de Brizuela, personal communication.) To the east of Coclé, Lothrop records a bird-effigy vessel from Chame (1942: 221,) Pottery with this deployment of colours is very common in sherd lots from Panamá Viejo and Venado Beach and some sherds were found by Stirling in his Taboguilla - 1 site ("Black-outlined-with-white-on-orange.") (1964,b: fig. 77, h-j.)

The distribution of pottery with white-outlined black designs certainly aids the argument for cultural homogeneity along the Pacific littoral east of Chiriquí. The only pattern to emerge from so many unpublished sites is that the ware is commonest at those sites which have a pre-Phase V deposit:
Mo-1, Mo-3, the El Indio and Cañazas phase sites of the Tonosí Valley, Panamá Viejo and Venado Beach — but a lot more work is needed if the interior chronological differences which occurred within this type of pottery at Tonosí are to be worked out elsewhere.
CHAPTER 5
NON-POLYCHROME POTTERY

The ceramic assemblage of western Cocele is completed by pottery which is left unslipped and undecorated, carries a red slip on one or both surfaces, or utilises a simple decoration in red over the surface colour of the fired clay or a white slip.

Past attempts to analyse pottery with these characteristics have been undertaken by Lothrop (1942), Willey and Stoddard (1954) and Ladd (1957 & 1964). Lothrop used the descriptive category "ware" for PN-5 (Sitio Conte). He divided the redpainted pottery into three wares: Red-Line, Plain Red and Red-Buff; the unpainted pottery he called Buff Ware; and pottery fired in a reduced atmosphere, Smoked Ware. The Plain Red Ware and the Smoked Ware he subdivided into "Early" and "Late" by shape, while the remaining wares were assigned to either of the two periods according to their position in the stratified grave sequence (1942: 131-144 & 158-166). Willey and Stoddard employed the Type category for AC-2, creating Santa Maria Red-Daubed, Red and Plain Types for the Santa Maria Phase (IV) and a Delgado Type for the later phases (V - VII) (1954: 335-338). This division was later modified by Ladd into two Types and two Varieties - a Giron Type, Plain and Red Varieties and an Escotá Type, Plain and Red Varieties - while the Red-Daubed Type of Willey and Stoddard was preserved as an independent entity (1964: 170-171 & 176-181). At PN-5, Ladd's analysis of the selected samples from Trench XI used Red-Daub, Red-Line, Plain, Buff, Brown and Black categories (1957: 267 & Table 3).

During the 1969 - 1971 campaign, literally tons of non-polychrome sherds were recovered from both surface-collected and excavated sites. It became obvious after the first few months that non-polychrome was as susceptible
to typological and chronological breakdown as polychrome pottery and it was decided to create a classificatory system largely independent of the above categories, though one name used by Ladd – Escotá – was preserved, and most of the shapes of Lothrop’s Plain Red Ware found in graves at FN-5 grouped together under a "Conte Red Ware". The term "smoked" was kept for pottery fired in a reduced atmosphere. For obvious reasons, non-polychrome pottery is much more difficult to arrange into a meaningful classificatory system than polychrome, especially in an area like western Coolé, where all the pottery recorded to date utilises either a sand or sand-and-rock temper. In most cases, the shape of the rim and the mode of applying the red paint are the most diagnostic features and the enumeration of non-polychrome sherds by site and excavated unit has been limited solely to rims in Tables 6, 8 and 10.

Because of the paucity and ambiguity of differentiating criteria, it was decided to take the association of non-polychrome pottery with polychrome sherds in certain excavated units and surface collections as the basis for the classification: at the bottom end of the time-scale, Phase IV, all those red-painted or unslipped sherds – with the sole exception of the red-buff "drooping-lip" plate or bowl type at PN-11 – occurring in the same depositional context as the Aristide Group Polychromes, without either Conte, Macaraocas or Mendoza Polychromes (that is, below 30 cms. in all pits but pit E at PN-11 and below 50 cms. in pits B and D at AG-3), were grouped together under two Wares depending upon the nature of the undecorated surfaces: those with unslipped or red-painted surfaces under the Escotá Red-Buff Ware and those with a pure white slip which contrasted with the oxidised colour of the paste, under the Guácimo Red-on-White-Slip Ware. At the top end of the time-scale, Phase VII, undecorated and red-painted sherds occurring in pits A and B at NA-13, and in those surface collections which either lacked or had very minimal representations of pre-Phase VII polychromes, were incorporated within the Cortezo Red-Buff Ware. Rim shapes typical of the Cortezo Red-Buff Ware were almost absent from AG-3,
and the undecorated and red-painted sherds from 0-50 cms. in pits B and D not assignable to any other non-polychrome category were included within a third red-buff ware, the Olive, which should be considered residual. At present, Olivo Red-Buff is limited to the Santa María sites - AG-3,4 & 5 - though a few of its diagnostic shapes turn up further east in small quantities, and the author believes that the division between Cortezo and Olivo will later prove to be chronological rather than regional. The term "red-buff" includes unslipped and undecorated sherds, unslipped sherds with a geometric or daubed decoration in red, and sherds with one or both surfaces completely red-slipped, as these three modes may be represented on different vessels with identical shapes. Red daubing has been eliminated as a classificatory criterion per se, as it is utilised on all the red-painted categories considered herein, and also on the Aristide Polychromes, making the assignment of a rim-less, red-daubed sherd to a particular ware impossible.

Red-painted sherds with rim profiles identical to some of Lothrop's Plain Red Ware vessels at PN-5 - notably the "dropping-", "groove-", and "flat"-lips - have been classified together as Conte Red Ware. PN-5 has very few polychrome vessels which are not phase V or transitional V-VIII age and so the graves are tantamount to another independent "excavated unit". A few bowls and plates with "drooping" lips were found in the Phase IV levels of PN-11, but were absent below 60 cms. at AG-3 (pits B and D). This suggests that the "drooping" lip - the diagnostic rim shape of the Conte (Phase V) Polychromes - began to materialise in non-polychrome ware at the tail end of Phase IV (B) and emphasises the importance of shape in ceramic classification in western Goole. "Drooping" lips were assigned by Ladd to his Escoít Red Type at AG-2 (1964; fig. 63, a-g), thereby negating its importance as a time-marker. Another "red" category - the Mendoza Red - has been reserved exclusively for those s-shaped dishes with profiles similar to the Mendoza Polychrome dishes. The complement of major non-polychrome wares is made up
by the Olá Ware, which is similar in most respects to Willey's and McGimsey's El Tigre Plain from coastal Herrera, and Colonial or Modern in date.

Two minor categories have been added for pottery found in quantity only at AG-3: Snake Appliqué Ware, an unslipped pottery with unknown collar profile, which is adorned with appliqué snakes encircling the body, and Red-on-Cream Ware, reserved for collar rims with a cream-coloured, unslipped surface. Another category - Appliqué Red-Buff Ware - has been devised for pottery with characteristics of both the Cortezo and Olivo Red-Buff Wares, which is decorated with small appliqué motifs arranged around the shoulders of open-mouthed vessels. Smoked Ware, which occurs in quantity only at AG-3, has not been subdivided, but acknowledgement has been made in the text of correlations with similar shapes of the red-buff and red categories.

Unfortunately, few rim sherds were recovered with appendages attached, but surface and excavated associations of appendage modes with the various non-polychrome categories suggest a considerable chronological potential. The Phase IV levels of AG-3, for example, are almost totally lacking in appendages, while appendages found on Phase VII sites in conjunction with Cortezo Red-Buff sherds are multiform in shape, function and plastic decoration. Associations of all appendages and plastic decorative modes with non-polychrome rim sherds on surface sites and in excavated units at NA-8, NA-13 and NA-31 are enumerated in Table 10, while their stratigraphic positions at PN-11 and AG-3 are recorded in Tables 7 and 9.

It must be emphasised that, at this stage of analysis, the total sherd assemblage is often more important than the individual shape and decoration, and that a non-polychrome sherd taken out of its depositional context may not be precisely assignable to a Ware. This is very true, for example, of an open bowl with everted lip, which occurs in both the Escozó and Cortezo Red-Buff Wares. Collar rims of restricted vessels are likewise extremely difficult to assign one way or the other. Nevertheless, there are a good number of shapes and decorative modes which are, in the author's opinion,
useful indicators of relative age, and are probably limited exclusively
to one Ware and one Phase. These "indicator" shapes and modes have been
acknowledged in the text. One of the major weaknesses of the system
employed herein is the lack of pristine kitchen deposits of Phase V or VI
age in the area. Though the red-buff and red categories are well defined
for Phases IV, A and B, and Phase VII, it is difficult to determine when they
begin to peter out or materialise in the intervening Phases, V and VI. To
judge from complete vessels from FN-5 studied either in the hand or from the
contact strip at the Peabody Museum, some of the non-polychrome pottery from
the Phase VI graves - Graves 5 and 26, for example - is assignable to the Corte:
Red-Buff Ware, but a summary sample does not help us very much as, generally,
the larger non-polychrome vessels were not buried with the dead. The occurrence
of the occasional Olivo Red-Buff shape east of the Santa María river suggest
that this Ware will be extended to cover all of western Cooló when a far larger
sample is obtained. A generalised, rather than a site-by-site approach has
been preferred, as exactly the same assemblages occur on several sites over a
wide area, even though the finish of the individual wares may have been affected
in different ways at the various sites by post-depositional factors, the nature
of the local clay, or both. Thus, the Phase IV red-buff ware of FN-11 was
initially labelled Guáximo Red-Buff and separated from the ACP'3 representative,
Escoité Red-Buff, as hardness and finish are quite different at the two sites.
However, the overall similarity of the two samples was so obvious that it was
decided to eliminate minute and as yet unclear differences and to include
both samples within a broad Escoité Red-Buff Ware.

As regards the enumeration and tabulation of rims contained in tables 6, 8
and 10 of Volume 2, the different rim forms have been divided according to the
illustrations. These divisions are, of course, only approximate, and in part
arbitrary, especially where the collars of restricted vessels are concerned, but
they do help to emphasise the ubiquity of the various shapes and the constancy
of their association with other shapes within the defined groupings.
PHASE VIII: OLA WARE

Introduction:

OLA Ware comprises a small group of sherds with a very light and friable paste, extremely poor finish, and decoration consisting of appliqué ribbons and incised notches. These traits are typical of the El Tigre Plain pottery described by Willey and McGimsey from coastal Herrera (1954: 80-83 and figs. 19, 53 & 54, a-j).

Sample:

52 sherds from scattered localities, most of these from Cerro Portachuelo, a site in the Distrito de Calobre, eastern Veraguas, just over the Rio Cocobó from Cocolé.

Paste and surface:

Paste is very distinctive, friable and loosely structured. Mineral inclusions - probably natural constituents of the clay, at least at the Cerro Portachuelo site - are fine in particle size, though larger nodules of iron minerals occur. The ware is extremely light relative to bulk, and eroded examples resemble pumice-stone in weight and texture. Cross-sections through the walls are frequently multi-coloured, ranging from jet black, through grey, to buff, to orange on the opposite surface. No sherds are fully oxidised. Some have an entirely black wall. Large, dark smudges and smaller areas of oxidised red show through on both surfaces. Surfaces are polished with a pebble, presumably when the clay was still fairly plastic, as the striations are deep and wide. Pits and holes show through where the polish is incomplete. The surfaces have a characteristic soapy feel. The ware must have been fired at in a very low temperature with the heat centred on a small area of the vessel only.

Shapes:

Fig. 145: Rims are always unmodified, except for the appliqué ribbons,
and lips either squared (a, e & g), or brought to a thin point (darker).
Total shapes are difficult to appreciate and diameters can be measured in only a few cases. a and c-i are from vessels with tallish, straight-sided or in-sloping collars, which probably join the body with a rounded shoulder (c.f. op.cit.: fig. 19, b-g). Some may have straight walls without a shoulder and a squared base (fig. 145, n & o). b and j-l are from deep or shallow bowls. 1 has indications of an exterior bevel, before a thickened base.

Appendages and decoration:
Decorative modes consist of horizontally arranged appliqué strips, blobs of clay, or incised notches, frequently in combination. The appliqué strips are attached to the exterior of the vessel, just beneath the lip (fig. 145 and Plate 49, a-j). They either run continuously around the circumference or are arranged as smaller independent lugs (Plate 49, d, e & j). They are generally indented, either with the finger or a small tool, to give a "pie-crust" effect (Plate 49, a, e, f, h & i), or they may have notches sliced across them (Plate 49, g). Sherds with the bowl profile are decorated with simple incised notches which run right around the lip. The original notch is made with a sharp instrument and the resulting elevations are pinched with the fore-fingers or a tool, from the sides, to give added elevation to the poulainiations (Plate 45, l & m).

DISTRIBUTION OF THE OLA WARE IN WESTERN COCLE:
AG-3; NA-2; NA-8; NA-12; NA-13; NA-28; PN-5; LP-1; LP-2; an unnamed site near Olá (ref. 541700E9310000N); the Cerro Portachuelo Site in eastern Veraguas.
Sherds attributable to the ware from PN-5 are listed (PM):
The Olá sherds from Section 17 were mixed with glass fragments. In McGimsey's selected sherd lot from NA-9, there are examples of Olá sherds with "pie-crust" appliqué from pit 1 at 0-10 and 60-65 oms. (AU).

Relationship with other types and outside areas:

The Olá Ware sherds in the collection are very similar in paste, surface treatment, shape and mode of decoration to the El Tigre Plain pottery of Willey and McGimsey. The only Olá shape lacking in the El Tigre sample is the shallow bowl (fig. 145, k,l & m). El Tigre sherds are also recorded by Ladd from He-1 (Pit 2, 0-25 oms. and Trench I, 0-50 oms.) (1964: Plate 17, a-e & g). Sherds with the "pie-crust" appliqué have turned up at Chame, in Panamá Province (Bull, 1959: fig. 28, a & c), and also on two post-conquest sites east of Panamá City, Escorromulo I and Villa del Príncipe (Cruxent, 1958: Lms. I and IX). Pottery with similar shapes and decoration is frequently encountered in the region of the Chagres Trail, Madden Lake, Canal Zone, and very similar examples occur also in Venezuela, apparently in a terminal Pre-Columbian context (Vargas Arenas, 1969: Lms. 19, b & c).

Chronology of the Olá Ware:

35 sherds of the Olá Ware were recovered superficially from Cerro Portachuelo, a site just west of the Cocobó River, in Veraguas, on a high ridge south of the Rio Guías, near Tolondango. Cultural material occupied an area of about 200 x 100 ms. but was concentrated over 50 x 50 ms. Mixed with the potsherds were fragments of European porcelain, Spanish olive jars, Dutch ginger-beer bottles, clouded glass fragments and pieces of rusted iron. No sherds with definite Pre-Columbian characteristics were recovered. In the
Excavated samples from western Coolé, two sherds are from the very top (0-10 cms.) level of NA-8, Trench A; three from pit A at NA-13, which also contained modern artifacts; and one from the second level of pit B, at AG-3. Six sherds were recovered from the surface at LP-2, where a "ranchería" existed until quite recently, as at NA-13. At PN-5, sherds in two lots were from above 30 cms., those in the third from above 105 cms.

Lothrop considers that the first 22 cms. of the deposit at PN-5 are coeval with the occupation of La Habana in the nineteenth century (1937, fig. 24). In Herrera, El Tigre pottery was concentrated in superficial fire-basins or refuse deposits above 50 cms., and Willey and McGimsey conclude that it is colonial in date, perhaps being used for salt-boiling (1954: 82). The examples from He-1 are all from above 50 cms. Vessels with Olá characteristics are still made today in remoter parts of Coolé. One of the pots made by Natalia Pérez of Barranco Colorado (Plate 21) has a rim shape and appliqué decoration similar to Plate 49, 5, and the author has seen other pots with the same characteristics in a small village about three hours walk north of Olá. One was being used to store unrefined sugar syrup and had a piece of wire tied around the neck beneath the appliqué ribbon, by which it was hung from the roof-beam, with a gourd-shell lid to keep out marauding "sañago" flies. Exactly how old are the superficial deposits of the excavated units with Olá sherds is unclear, but it looks as though the Ware has a long post-conquest tradition throughout Panamá. Shapes and decoration are quite alien to Pre-Columbian traditions in the area. The apparent similarity to terminal pre-Spanish pottery in coastal Venezuela is interesting, but I have not seen the material first hand, and would not like to speculate wildly about possible connections between the two regions.
PHASE VII: MENDOZA RED WARE

Introduction:
Mendoza Red Ware comprises those open-mouthed vessels with the typical s-shaped profile of the Mendoza Polychrome that have interiors, exteriors, or both surfaces red-slipped. They may be accompanied by flaring pedestals.

Sample:
309 rim sherds

Paste:
Variable according to site. At sites around Natá, vessels are rarely completely oxidised; surfaces and outer edges of the wall are a light- or orange-buff and a jet-black fire core occupies about half the cross-section. At NA-I3, over 80% of Mendoza Red sherds are incompletely fired. At AG-3, oxidisation is generally complete and the paste is a light buff colour, with less quartz and more feldspar and iron minerals than on sites further east.

Shapes:
Figs. 82 & 83:
All examples are deep or fairly deep dishes, always with a rim that decures slightly from a point about three-quarters of the way up the vessel wall from the interior, to give a gentle s-shaped profile. Rims are usually unmodified or very slightly thickened towards the lip; they are never upcurved in one swoop like rims of the Olivo Red-Buff or Macaracas Polychrome. Some examples from AG-3 are thinned noticeably along the exterior wall as if to heighten the effect of the s-shape (83, b). Lips are thinned (82, a & 83, a); flattened on top (82, c), or at the end (82, d); or rounded (82, e, f & i-l and 83, b-h). On a few examples, from NA-I3 only, the lip is modified with a thin band of clay running around the interior (82, g), or everted slightly (82, h). Diameters range from 16 to 32 cms., with an average of 20 - 25 cms. Walls are generally thin (from 4 to 8 mms.), but those examples with thickened and rounded lips are sometimes as much as 1.2 cms. thick (82, k & l).
Appendages:

A number of sherds at NA-I3 have shortish, flaring pedestals as in figs. 82 and I39, b & c, though long, thin-necked pedestals of the type in fig. I39,a, probably accompany Mendoza Red dishes. These pedestals, both short and long varieties, have unmodified rims and either slightly flattened (fig. I39, a & b) or rounded lips (fig. I39, c.) The pedestals were affixed by adding a strip of clay around the inside junction of the pedestal with the surmounting vessel, and smoothing the two parts together with the edge of a small shell. The base of the vessel was often pricked with a series of oblique incisions before the addition of the pedestal, presumably to increase the viscosity of the clay. To judge from the number of pedestals at NA-I3 which have snapped off at the junction, the potters were not adept at the fixing process. Indeed, some pedestals have been intentionally ground down around the break and presumably re-utilised as chalices. A number of body rims thicken noticeably towards the base; some vessels with pedestal fragments attached are modified in this way, but it might be that others relied solely on this basal thickening for stability.

Surface:

Nearly all the examples from east of the Santa María are slipped on the interior and exterior and also on the exterior of the pedestal. The surfaces are generally polished with a pebble that leaves deep striations (not always horizontal), though some interiors are well finished to the total elimination of polishing scars. A few examples, notably at NA-8, are extremely lustrous. At AG-3, about 50% of the sample have unslipped (buff) exteriors, sometimes with splodges of paint splashed on randomly, or as small tear-drop elements below the lip. Surface fire-clouds are rare, running at about 8% for the whole sample. The red of the vessels east of the Santa María is often a blood-red, except on well polished examples, when it is orange; at AG-3, it is always orange-red.
DISTRIBUTION OF THE MENDOZA RED WARE IN WESTERN COCLE:

AG-3; NA-2; NA-5; NA-6; NA-7; NA-8; NA-9; NA-12; NA-15; NA-16;
NA-20; NA-21; NA-22; NA-23; NA-24; NA-28; NA-29(B); PN-5; PN-6;
PN-II; PN-I4; PN-20; LP-2; LP-3; LP-4; Verrill's unlocated site,
"Ancón" (AMNH:30.1,788); McGimsey's unlocated site, Co-22.

Relationship with other types and outside areas:

Mendoza Red dishes are obviously related to those Mendoza Polychrome examples which have the same s-shaped profile, and are presumably coeval with them. The typical Mendoza shape is not recorded by Ladd from AG-2. Mendoza/El Hatillo Polychromes did not occur there, and the Mendoza Red was probably absent. Lothrop illustrates no similar material from PN-5.

Chronology of the Mendoza Red Ware:

Probably exclusively Phase VII, though the lower limit has not been defined; one would expect the red ware plates and dishes of Phase VI age to have the profiles of the Olivo Red-Buff or Macaracas Polychrome examples. At PN-II, Mendoza Red rims are limited to pit E, and above 20 cms. in the other pits (Table 8). At AG-3, they occur only above 30 cms. in pit B and above 40 cms. in pit A, though there is one sherd at 70 cms. in the disturbed pit C (Table 9). Mendoza Red dishes are extremely common at NA-I3, totalling 51 rims, and they figure prominently in surface collections from the "stripped" sites NA-6,7,8,15 and I6, and PN-I4 (Table 10). Mendoza Red s-shaped dishes are in McGimsey's selected lots from NA-7 and from pit I at NA-8 (65-70 cms.) They are also present in some numbers in the refuse at PN-5, but no record was made of their position. No whole vessels of this ware were buried in the graves.
PHASES VII and VI: CORTEZO RED-BUFF
(Chico-Grande-Coclé Drainage)

Introduction:

The Cortezo Red-Buff Ware was formulated on the basis of the non-polychrome collections from those sites whose samples were totally lacking in or had very minimal representations of pre-Phase VII polychromes - NA-2, NA-5, NA-6, NA-7, NA-8, NA-15, NA-16 and PN-I4 - , and from both pits at NA-I3, which contained Mendoza, a few eroded Macaracas, and no Conte or Aristide polychromes. These collections together shared a number of traits - shapes, mode of application of the red paint, appendages and plastic decorative ideas - that together isolated them from the assemblages recovered below 30 cms. in pits B-D, F and G at PN-II and in most of the graves at PN-5, and warranted their incorporation into an independent typological entity. The author believes that the Ware is limited to Phase VII, and perhaps also Phase VI, and that it replaces the Guáscimo Red-on-White-Slip Ware as the predominant utilitarian pottery, at least in the drainage of the Chico, Grande and Coclé rivers. At AG-3, sherds with the shapes and surface treatment of the Cortezo sample were recovered from the uppermost levels only, in minute amounts, but as the ceramic stratigraphy of the site above 50 cms. was extremely compressed, and as the majority of
red-buff sherds between 0 and 50 cms. in pits B and D were alien to the Cortezo sample, a separate red-buff ware, the Olivo, was created for this site and AG-4 and AG-5 only. Macaracas Polychrome sherds were recovered in some quantity at AG-3, and are indicative of a substantial Phase VI occupation, but, though they are fairly ubiquitous in surface collections further east, they have not been found in quantities equal to the Mendoza Polychrome, so it is perfectly conceivable that the difference between the Cortezo and Olivo Wares is chronological and not regional, and that Olivo Red-Buff will fill the gap between Guácimo and Cortezo when more material has been recovered.

**Sample:**

2, 829 rim sherds

**Paste and surface:**

Standards of firing and finish are understandably extremely variable, and paste colour and texture heterogeneous. Large and massive vessels generally have a very dense, coarse sand temper, with high percentages of large-sized quartz grains, while on the smaller vessels, the particle size and density of the temper diminish. Fire-clouds, which often cover large expanses of both interiors and exteriors, are common on most shapes of all sizes, and a very high percentage of vessels is incompletely fired, so that a thick fire-core occupies most of the vessel wall. This may be a lighter shade than the colour of the surface, grey or jet black. Fully oxidised examples are extremely rare and are limited to the smaller size range. The pastes never approach the colour or the compactness of the light grey or deep orange pastes that are reserved for the polychromes.
Surface colour varies according to the standards of firing and finish.
No examples of the Group are slipped, though some are well polished.
Further comments are contained under the respective shapes.

**Shapes:**

**A: Restricted vessels with collars:**

1) **Massive vessels with rounded necks and collars with rounded lips:**

*Fig. 84.*

These collars are from massive vessels with diameters at the lip ranging from 20 to well over 50 cms. There are two basic variations in collar shape, flaring (a-f), and short and stubby (g-i). The flaring type has a thickened and rounded lip which is sometimes flattened and bevelled on top (e & f). The stubby type has a lip which is thinned (g & h) or modified on the exterior with an extra strip of clay which gives a somewhat hooked appearance to the profile (i). Neck shoulders on those examples with the body still attached are always rounded and never sharply angled as in fig. 85. The red paint is applied to the tip of the lip only on most examples of the flaring collar, though some with the flattened top are red-painted on the interior below the bevel, leaving the flat part bare (f). Painting is very careless, with dribbles running down either the exterior or interior. One characteristic which is apparently absent from both the Guácimo Red-on-White-slip and Escotá Red-Buff Wares is the use of blocks of red in a geometric pattern on the collar. In most cases these blocks are arranged vertically, from lip to neck shoulder, in a rather haphazard fashion, but some examples with the flattened lip have neatly executed semi-circular zones placed regularly around the interior of the collar beneath the lip. Most examples of the flaring collar have been smoothed on the exterior with a shell (probably *Scapharca*) which leaves deep horizontal striations. The interior of the collar is usually polished. The stubby type has either a
red lip or the interior red-slipped all over. No examples with these collar shapes were found with enough of the body attached to enable appreciation of the total shape.

2) **Smaller vessels with rounded necks and collars with rounded lips:**

   **Fig. 85, m-p**

   Some smaller vessels have the same collar shape as fig. 84, g-i, but are thinner-walled with diameters at the lip ranging from 12 to 25 cms. On some examples, the paint is arranged in bands running horizontally around the lip and the interior of the collar just above the shoulder (m & o).

3) **Vessels with thin, raked-back collars and thinned or flattened lips:**

   **Fig. 85, a-l**

   On these examples, the collar is much thinner in proportion to its length, and is sharply raked back from the neck. There are two varieties: one with a long, flaring collar (a-f) and the other with a short, stubby collar (g-k). Lips are either flattened horizontally (b) or, more commonly, vertically or obliquely (a, c & d). Others are thinned slightly (e). On the flaring examples, the red paint is confined to the flat part or the point of the lip, though some examples with the horizontally flattened lip (b) have the interior of the collar below the bevel red-slipped also, leaving the flat part unslipped. The stubbier collar has either the flat lip or the whole collar interior red. Collar exteriors are better smoothed than on the above examples, and, where a shell has been used, the striations are regular and shallow. The paint is carelessly applied and on most examples dribbles down both interiors and exteriors. One vessel with lip shape i, used as a lid for an urn burial with A.1 rim at FN-9, has a medial bevel and two horizontally placed strap handles just above the bevel. Cortezo sherds with medial bevel were rare at collected sites in the region.
4) **Vessels with straight-sided tall collars with sharply everted lips and narrow necks:**

*Fig. 86:*

A very distinctive shape apparently limited to the Cortezo Ware. Necks are narrow, averaging 8-10 cms., though occasionally as little as 5 or as much as 13 cms. Collar walls are straight so that the lip and neck diameters are very similar. The collars generally join the body at a sharp angle (d-f, h & k). The lip is everted and always flattened on top, horizontally (a,b,d,h & l), or obliquely, either upwards (c,f,g & k) or downwards (i & j). The commonest mode of painting is to limit the red to the tip of the lip only (a,b,d,g & l). Some examples have the flat part of the lip and the exterior of the collar red (i). Interiors of the collars are never completely red though some examples have a broad red band running beneath the lip, leaving the flat part unslipped (j). Zoning also occurs on some lips, with poorly painted blocks of red arranged around the flattened area. Exteriors which are not red-slipped are smoothed, often with a shell. No sherds were recovered with body fragments large enough to appreciate total shape. Some exterior bodies appear to be red-slipped, others have red splashes slapped on randomly.

5) **Vessels with short, raked-back collars with flattened lips and horizontal zoning of the red paint:**

*Fig. 87: a-l*

Similar to fig. 85 b, but smaller and stubbier, with more angular bevels on the collar. Diameters range from 8 to 23 cms. at the lip, but average between 10 and 15 cms. Lips are always flattened at some point, and the red paint is always arranged in horizontal bands depending on the nature of the lip. The interior collar is always red-slipped, and the flat part of the lip left bare, with the tip also painted red. The collar often joins the neck at a sharp angle (k & l, which were included only on the basis of
the flattening and zonation of colours, are rare). Exterior bodies seem to be either red-slipped or left plain. Exterior collars are well smoothed, and not striated with a shell (presumably because the potter could not fit one in).

6) Vessels with a high bevel on the exterior shoulder:

Fig. 87, m–q

A small number of sherds, mostly from NA-8, have short, somewhat pointed and erect collars, with a sharp bevel placed on the exterior wall just beneath the collar. Other anomalous rims from wide-mouthed vessels at NA-8 are in fig. 93, a–d.

B. Restricted vessels without collars:

1) Large 'tecomates' with mostly rounded lips:

Fig. 89, a–i

Most of the Cortezo 'tecomates' have fairly wide mouths with diameters ranging from at least 4.5 to as little as 14 cms. Lips are nearly always rounded and slightly thickened (either below, or above so a little round ledge is formed (g & h)). A few have bevel on the exterior just below the lip (g & h). A number of fragments have traces of large round handles arranged horizontally on the exterior just beneath the lip (d & e). Red paint is in most examples limited only to the lip, but a few sherds have red exteriors (b). Interiors are always unslipped though smoothed. Decoration on the exterior consists of irregularly shaped blobs, though some sherds from NA-13 are adorned with finger-painted designs consisting of strokes with two or three fingers beginning closed up and extending downwards and outwards, to leave a three-pronged design.

2) Small 'tecomates' with a variety of lips:

Figs. 88, n–t and 89, j–l.

Diameters range from 7 to 15 cms., and orifices are often narrower in
proportion to body width than on the larger examples. Lips are either rounded and lightly modified (fig. 89, j & k), thinned (fig. 88, a), or, more frequently, have a short apology for a collar (fig. 88, n-q and 89, l). Lips are always painted red, exteriors either red-slipped or unslipped. Some examples, notably those with short collars, are well polished, the pebble polisher leaving deep indentations over the red slip. A number of sherds have loop handles with round cross-sections placed horizontally just beneath the exterior lip. Diameters of the handles are large in proportion to body width, ranging from 1.5 to 2.5 cms.

3) Bowls with wide mouths and recurved rims, with either bevelled or rounded shoulders:

Fig. 88, a-m:

These vessels are deep bowls, probably with a somewhat pear-shaped body, with rims that curve in suddenly near the lip, either with a pronounced angular bevel (a-f) or more gently, with a rounded shoulder (g-l). Diameters range from 10 to 24 cms. The red paint is a) limited to the lip, which is either squared off or pointed (e & i); b) covers the exterior above the bevel and the interior lip (c, d, f, g, h, j-l); c) limited to the lip and the exterior below the bevel (a); d) covers the exterior above the bevel and also the interior (b). Most examples are well polished on painted and unpainted surfaces and the painting is better executed than on the preceding varieties.

C. Unrestricted vessels

1) Figs. 90 & 91

This shape is very similar to that of several Girón Banded Lip examples - especially those with the "panelled" lips - and also occurs on Escotá Red-Buff vessels. It must be admitted that some sherds of the Cortezo and Escotá Wares cannot be safely differentiated, especially if slightly
weathered. Nevertheless, there are several traits of the Cortezo examples which are idiosyncratic:

a) Everted lips are generally thinner, and longer in proportion to body width on Cortezo examples, and the angle at the junction of the lip with the exterior body is sharper (compare 90, a-c with 124, a-c).

b) Cortezo examples often have upward sloping lips; Escotá Red-Buff lips generally evert horizontally, or downward, and never slant upwards to the degree of the Cortezo examples (compare 91 with 123 and 124).

c) The general shape of the Cortezo examples is shallower, and the walls always slant obliquely away from the lip and are never as straight as the Escotá walls.

d) Cortezo examples very frequently have the red paint limited to the tip of the lip alone; Escotá examples always have the flat part of the lip red-slipped, and generally the interior body also. Cortezo examples sometimes have the flat part red, but the interior body is always unslipped. Escotá examples never have banding of the red paint, as in fig. 90,h, which has a red-tipped lip and a horizontal red band running beneath the interior junction of the lip with the body wall. This last arrangement is common.

e) Cortezo examples sometimes have shell-smoothing on the underside of the lip; this trait is absent on Escotá examples.

f) Several Cortezo examples have blocks of red, finger-painted streaks, or blobs of red arranged around the flat part of the lip, alternating with unslipped areas. Escotá lips are always continuously painted.

Most of the vessels of this shape are better made than their predecessors, and both interior and exterior surfaces are well polished. Some vessels have irregular red blobs on the exterior, and dashes of red paint intentionally flecked on the interior with the finger-tips.

2) Large plates and bowls with either rounded or "ski-tip" lips:

Fig. 92, a-h & k

The Cortezo assemblage is completed by a motley assortment of plates and bowls which fall roughly into large (diameters between 30 and 50 cms.) and small (diameters between 15 and 30 cms.) categories. The large examples have either slightly thickened and rounded lips (a, c, d, f & g), or lips which are thinned on the exterior only to form a ski-tip (b, e, h & k).

Nearly all the examples are unpainted, though some have a red-tipped lip
(c & e), and one or two examples with the rounded lip at NA-13 have semi-circular areas of red appended circumferentially beneath the immediate interior of the lip. Interiors and exteriors are polished, generally roughly, and the pebble leaves deep striations. Some of the ski-tipped examples have profiles which bend slightly outwards, in the manner of the Mendoza s-shaped dishes (e & h).

3) Small plates and bowls with a variety of lip forms:

Fig. 92, i & j; 93, f-k.

This group comprises plates and bowls with diameters ranging from 15 to 30 cms., thin walls, and unmodified or lightly modified lips. Rims may have the Mendoza s-shape (92, i & 93, g), be slightly upcurved, with "ski-tip" lips (fig. 92, j and 93, i); slightly thickened and rounded (93, f); unmodified and squared off (93, k) or have an everted lip (93, j). The tip of the rim is generally red painted, but several examples are unslipped in and out.

4) Bowls with a "gutter-rim" formed by the addition of a strip of clay to the interior of the rim:

Fig. 93, e

One bowl rim with this shape was recorded from NA-8. It has a red-painted exterior lip.

Appendages and plastic decorative modes of the Cortezo Red-Buff Ware:

Appendages:

Ring-bases:

Few Cortezo rim sherds have ring-bases still attached. One collared vessel from pit B at NA-13 - from which the flotation sample was taken - rests on a base of type B (fig. 142, a). A vessel of rim shape fig. 88, e, which covered an urn burial at PN-9, has a footed base of type C (fig. 143, c).
At NA-13, 28 bases are of type B and 13 of type C, with type A absent. In the top two levels of Trench A at NA-8, type C ring-bases predominate over type B (27 as opposed to 4). Cortezo Red-Buff and Mendoza Red are the only two non-polychrome categories represented at NA-13, and at NA-8 comprise all but five of the sherds, so it is probable that Cortezo vessels were frequently appended with type B and C supports, and never with type A (Table 10).

Pedestals:
A number of tall and medium-height pedestals occurring on sites with Cortezo Red-Buff sherds presumably accompany vessels of this Ware. At NA-13, 21 pedestal fragments have the profiles of figs. 139 and 140, o & d. The red-slipped examples presumably accompanied Mendoza Red s-shaped dishes. Some plastically decorated pedestals are also probably associated with Cortezo or Appliqué Red-Buff vessels (Plate 55, a-d). These are decorated with punctations, shell-edge stamping or fillet appliqué which either encircles the base of the pedestal or runs vertically halfway up the base. One pedestal fragment from McGimsey's pits at NA-7 has appliqué fillet with incised notches on the base. An Appliqué Red-Buff vessel illustrated by Lothrop (1942: fig. 438) has a pedestal very similar to Plate 55, d. The combination turns up in Veraguas (Lothrop, 1950: fig. 49), also on restricted bowls with appliqué decoration, and it might be that this mode is reserved for such appliqué vessels. Punctated pedestals also occur at AG-3.

Round handles:
Large round handles with diameters of more than 2 cms. are common at sites dominated by Cortezo Ware sherds. Some of the 'teocomates' definitely had handles placed horizontally beneath the exterior lip (figs. 88, t and 89, d & e). All those round handles encountered with body walls still attached were placed horizontally. (This fact does not exclude the possibility that some
are feet and not handles). Several round handles associated with Cortezo sherds have plastic decoration:

a) Simple rectangular indentations made with a pointed instrument (Plate 54, d).
b) An appliqué strip running down, the centre of the handle, cut by horizontal or oblique notches (Plate 54, j) or indented (Plate 54, i). The notches are either continuous for the length of the fillet or arranged in three groups - at the top, middle and bottom - with unmodified fillet in between.

c) Rope handles: formed by twisting three strands of clay to simulate rope (Plate 54, a).
d) Pseudo-rope handles: formed by incising the edges of a round handle to imitate the strands of rope (Plate 54, b).
e) Horizontal deep incision, perhaps simulating an armadillo carapace (Plate 54, m).
f) A deep groove running down the centre of the handle, flanked by eyes, formed of a pellet of clay with an excised "pupil" (Plate 54, g).

Some of these round handles were affixed to pottery lids (see Table 10 for distribution).

Strap handles:

Strap handles are less common than round handles, and some might well have been used as feet, as in Lothrop, 1942: fig. 336, a & b. They come in two basic sizes, large, from 2 to 4.5 cms. across, and small, from 1 to 2 cms. across, and they are from 0.4 to 1 cm. thick. A burial urn from PN-9, with a rim profile like fig. 85, i, and a medial bevel, has two strap handles affixed horizontally just above the bevel. To judge from the interior striations, all strap handles were arranged horizontally. Plastic decorative modes on strap handles comprise:

a) "Coffee-bean eyes". Pellets of clay arranged at the four corners of the handle, on the edge, with a small incised slit for a "pupil" (Plate 54, l). Handles of this type at NA-13 were affixed horizontally just beneath the rim of collared vessels (like fig. 87).

b) Horizontally placed fillet appliqué with shell edge impression (Plate 54, h. This example, from NA-8, Trench A, level 1, probably has just two fillets at the apex of the bend).

c) Simple indentation: Plate 54, c, has two parallel rows of simple indentations made with a sharp tool while the clay was wet, running vertically down the handle.
Frog effigy lugs:
All the nine frog effigy lugs recovered presumably accompanied Cortezo Red-Buff vessels. Three large lugs from NA-13 (Plate 53, e & f) were affixed to a wide-mouthed restricted bowl, with rim profile like fig. 89, c & g, on the exterior, just beneath the lip, and presumably served simply as handles. Two have "coffee-bean" eyes like Plate 53, e and the other plain pellet eyes. The legs are modelled in relief below the beast's chin and the mouth is fashioned with a broad incised stroke. A much smaller frog effigy (Plate 56,i) from NA-8, was attached to a small 'tecomate' with rim profile like fig. 89, j. It has two slit eyes and looks more like a "borreguero" than a frog. Another lug, Plate 56, j, has two strange appendages affixed above the head perhaps indicating that it is a fish. A rather similar example, but with definite anuran features - a handle for a pottery lid - is illustrated by Lothrop (1942: fig. 364, b). Another, from PN-6, may be a leg (op.cit.: fig. 403, b). The remaining examples are flatter in profile, with frog faces.

Abstract lugs:
Seven abstract lugs are either handles placed horizontally beneath the exterior lip of a 'tecomate' or grips for pottery lids. They are either flat in profile (like Lothrop, fig. 364, a), have two apices like a stylised fish-tail, or are bulbous and rounded, with a sand rattle (the last from NA-2). None is as long and narrow as those illustrated for AG-3 (fig. 103, b-e).

Nubbin feet:
Nubbin feet presumably associated with Cortezo vessels are truncated cones, about 2-3 cms. long by 2 cms. wide at the base.

Mammiform legs:
A small number of supports - legs or handles - have a truly mammiform shape, with an indented or raised nipple and well-rounded form. They are about 3 cms. across at the junction with the vessel. Another - Plate 57, e - which
is a pointed cone and hardly "mammiform" is more likely a handle than a leg.

Plastic decorative modes:

Face rims:

One sherd from NA-13 has appliqué human features placed onto a short-collared vessel with sharp bevel beneath the lip, not unlike fig. 87, q. This type of "face-rim" occurs commonly in Veraguas (Lothrop, 1950: figs. 45, 46 etc.), though the features are generally more pronounced (Plate 56, h). The incised sherd in Plate 57, i, may belong to the same vessel.

Modified fillet appliqué:

A very distinctive mode. A fillet of clay, modified by punctations, incisions or indentations, is placed circumferentially around the junction of a collar with its neck (Plate 50, a, f & h), on the exterior of a collar just below the lip (Plate 50, c & e), or half-way down the exterior of a flaring collar, perhaps, bowl rim. (Plate 50, d and 51, e). Sometimes additional fillets are arranged vertically from the lip to the circumferential fillet below (Plate 50, a & b), and one or two sherds (Plate 50, g) have fillets placed around the everted and flattened lip of an open bowl (Cortezo shape figs. 90-91). A few pedestal fragments have modified fillet on the base. The modifications are generally simple slashed incisions, as in Plate 50, a-f and h, but occasionally slight impressions with the finger or a blunt instrument are used to give a pie-crust effect (Plate 50, g). "Cañaza" punctations may be arranged on either side of the spine of a fillet (Plate 51, e). A number of sherds with this type of mode seem to be from vessels with the tall neck and everted lip of fig. 56.

Zig-zag fillet appliqué:

A distinctive variation on the above theme consists of a fillet arranged in a zig-zag fashion around the upper shoulder of a collared vessel, with
vertical incisions cut at the apex and base of the zig-zag and the straight parts left unmodified (Plate 52, b & d). Rim profiles of this type are illustrated in fig. 138, f-i.

Zoned punctation:
A third plastic mode utilised at the junction of a collar with its neck is that illustrated in Plate 51, a-c, f & h. No fillet is applied, the indentations being made directly into the soft clay with a sharp instrument. There are from one to three rows of indentations, which are arranged in zones and never run continuously around the vessel. Sometimes they are combined with circumferential incisions (Plate 51, h). This mode is also common at the base of fig. 86 collars.

DISTRIBUTION OF THE CORTEZO RED-BUFF WARE IN WESTERN COCLE:

NA-2; NA-5; NA-6; NA-7; NA-8; NA-9 (McGimsey's sample from pits I and II);
NA-12; NA-13; NA-15; NA-16; NA-20; NA-21; NA-22; NA-23; NA-24; NA-25; NA-26;
NA-29(A); NA-29(B); NA-31; PN-5; PN-6; PN-8; PN-9; PN-10; PN-11; PN-13; PN-14;
FN-15; FN-19; FN-20; LP-1; LP-2; LP-3; LP-4; LP-5; Verrill's unlocated sites: "Ancón", "Espinosa Burial Mound" and "Rio Grande Village Site".

The following Cortezo shapes and modes are present in the selected samples from PN-5:

C-12544:
Trench XI, section 15, 0-30 cms.: Fig. 87, k

C-12065:
Trench XI, Section 2, 75-105 cms.: Zig-zag fillet appliqué. Plate 52, b-d

C-12626:
Trench XI, section 14, 52-85 cms.: Modified fillet appliqué. Plate 50, h

C-12630:
Trench XI, section 16, 30-65 cms.: Modified fillet appliqué. Plate 50, h fig. 85, b.

C-12633:
Trench XI, section 18, 12-45 cms.: fig. 91, m
C-12638: Trench XI, section 20, 8-40 cms. Round handle with modified fillet applique (Plate 54, J).

Many more Cortezo Red-Buff sherds were present in the selected sherd lots from PN-5, but their precise stratigraphic position was not noted. Handles and lugs with plastic decoration recorded in the Cortezo sample are illustrated by Lothrop (1942) in fig. 352, f - compare Plate 54, f - and fig. 352, d & g - compare Plate 54, J.

Cortezo Red-Buff sherds from PN-6 are listed (PM):

C-12395 = I2401: Zig-zag fillet appliqué (Plate 52, b-d, a very common mode at the site)
Tall pedestal with fillet appliqué on the base
Round handles with either one or three ribs of modified fillet appliqué (Plate 54, J)
Modified fillet appliqué below a tall collar, some sherds having two rows of fillet (Plate 50, h)
Rims with the shapes in figs. 86, 87, 88, a-f and 90

Chronology of the Cortezo Red-Buff Ware and comparisons with other types:
The following rim shapes and painting varieties I consider to be diagnostic of the Cortezo Red-Buff Ware and not to occur on other non-polychrome categories in western Cocle (other than Olivo Red-Buff "Cortezo-type" rims):

a) fig. 84, e & f
b) fig. 85, b, when the red is zoned horizontally and the flat bevel left plain
c) fig. 86, when the collar joins the neck at a sharp angle and only the tip of the lip is painted, or the flat part left plain
d) fig. 87, a-k, when the red paint is zoned
e) fig. 88, a-f, unless the whole vessel is red-slipped
f) figs. 90-91, when the tip of the lip only is painted, or when patterns of red paint, alternating with unpainted areas, are applied to the flat part

Exactly how valid chronologically is the limitation of the Cortezo Red-Buff Ware to Phase VII and, perhaps, Phase VI, in the Cocle-Chico-Drainage, will depend upon the discovery of more living sites of Phase V and VI age in western Cocle. To judge from the funerary offerings at PN-5, the commonest non-polychrome pottery of Phase V is the Guácimo Red-on-White Slip Ware (Lothrop's Red-Line Ware, 1942: 131-135), which also clusters in the middle levels of Trench XI, from 100 to 205 cms. (Ladd, 1957: Table 3). All the Cortezo Red-Buff modes and rims seen by the author in the sherd lots...
are from above 105 cms. and correlate stratigraphically with the Mendoza Polychromes. According to the contact print catalogue of the grave contents, most of the recorded graves from the site lack vessels which would be assignable to the Cortezo Red-Buff Ware. Interestingly, the only graves that contain Cortezo-type, or at least vessels that are anomalous from the major sample, are 5, 23, 26, 45, 55 and 58. Graves 5 and 26 contain Macaracas Polychrome and transitional Conte-Macaracas Polychrome vessels, and are probably the latest rich graves found by Lothrop, while 45 is an isolated grave placed at the top of the sequence and 58 is one of the "decline" graves, found only 70 cms. below the surface. 23 and 55 are also placed right at the end of the stratified sequence (Lothrop 1942: Table VI and 1937, 301). Grave 5 includes a small plate with horizontal handles placed on the lip, like that buried with skeleton C-1 at AG-3, and also vessels with modified fillet appliqué below the collar. Grave 26 has vessels with rim profiles that look like fig. 87, a-1 (also with a medial bevel), bowls with recurved rims and angled shoulders (fig. 88, a-f) and no less than eighteen vessels with strap legs and handles bearing zoomorphic figures (Lothrop, 1942: 166, fig. 336, a). This last agglomeration is very interesting. Vessels with Loop-legs (with flat profiles) are common, as Lothrop says, in Veraguas, and he suggested that the Grave 26 examples were simply the products of Veraguan "slaves", exchanged for fine polychrome "Coclé" pots, who modelled their own local styles in the Sitio Conte clay (Lothrop, 1950: 81). None of the Cortezo sherds recovered from middens was large enough to preserve an unequivocal loop leg, but it is quite likely that some strap handles were thus affixed; at any rate, there is absolutely no reason to believe that these vessels are not local products for, as we shall see a little further on, a number of plastic modes often considered "Veraguan" are present in both the Cortezo and Olivo Red-Buff samples in western Coclé.
The surface collections from NA-21 and NA-30 substantiate the impression that the Guárico Red-on-White-Slip Ware was probably the major non-polychrome ware of Phase V. At the former site, which had a large percentage of Conte-Macaracas sherds, only 7 rims of Cortezo and as many as 65 of Guárico Ware were found; while at NA-30, dominated by Conte Polychrome, 106 Guárico rims were recovered, as opposed to only one Cortezo. Conversely, a brief glance at Table 10 will indicate that on sites with minimal representations of pre-Mendoza polychromes, in both pits at NA-I3, and in trench A at NA-8, Guárico sherds are virtually absent.

At PN-II, Cortezo Red-Buff rims and Cortezo-type modes (Modified Fillet Appliqué, Rope Handles etc.) were limited to the top 20 cms. of pits B-D and G, and the whole cultural deposit of pit E (Table 7). The selected samples from McGimsey's pits at NA-7 contain Zig-Zag Fillet Appliqué, round handles with Modified Fillet ribs, horizontally placed large strap handles, and Modified Fillet Appliqué on the base of a tall pedestal, as well as Cortezo rims of the shapes in figs. 84, 85, 86, 90 and 91. The samples from the McGimsey pits at NA-8 contain Modified Fillet Appliqué (as in Plate 51,d), pedestals with fillet appliqué on the base, and rims like figs. 84 and 89, g & i. Some rims identical to Cortezo shapes occurred in the very top levels at AG-3 - along with modes such as Zoned Punctation, Rope Handles, Modified Fillet ribs on handles - and it is likely that the Cortezo Red-Buff Ware will eventually prove to be the latest non-polychrome manifestation all over the surveyed area.

As regards comparisons with outside areas, an interesting revelation has been the similarity of a lot of the Cortezo (and also Appliqué Red-Buff and Olivo Red-Buff) modes to those occurring further west. In the Tonosí region, the total assemblage of modes seems to change in the Bi-jaguales Phase (VI-VII): zoomorphic appendages, for example, which are
very similar to frog-effigy lugs on Cortezo vessels (Plate 53, e & f) are very common. One or two of the Appliqué Red-Buff Ware "face" nubbins can also be duplicated quite closely with examples of Ichon's Jobero Bisquit Ware (for example, fig. III, b, d & f). (These impressions are the author's, based upon Ichon's collections, and will have to await the publication of Ichon's final report for substantiation). The zig-zag fillet appliqué mode (Plate 52, b - d) apparently does not occur in the Tonosi region, though it is found commonly on sites down the eastern side of the Azuero Peninsula, near Pedasi and Guararé (Ichon, personal information). In Veraguas, plastic modes of decoration are found very frequently on pottery assigned to the so-called "Classic Veraguas" culture. Rope handles of the type in Plate 54, a, and a tall pedestal with punctations, like Plate 55, b, are illustrated by Lothrop (1950: figs. 9,c and 49, c); appliqué lizards of the kind illustrated in op.cit.: fig. 51,c, which are affixed to the rim of a double-rimmed vessel, have turned up at PN-9 and PN-I3; and the miscellany of appliqué nubbins found in Veraguas, from Santiago right up to the Chiriquí border, can be duplicated closely with examples on the Appliqué Red-Buff Ware in western Cochlé (see under the following heading).

It is, of course, reasonable that non-polychrome wares should be more subject to local variations and predilections than polychrome, but the evidence that is beginning to accumulate from both sides of the Santa María river suggests that certain plastic modes which are late forms in Cochlé - and, in particular,

*Some localism, notably in manufacturing techniques, must still be acknowledged in west-central Panamá: "Bisquit" ware, for example, is common west of the Santa María river, but - apart from a few rims at NA-8 - is as yet not known from Cochlé
zoomorphic appendages - are horizontally evolving traits which occur throughout the Pacific littoral and are not simply local manifestations.

PHASES VII and ? VI: APPLIQUE RED-BUFF WARE

Introduction:
This is a somewhat arbitrary and unsatisfactory catch-all category formed to incorporate those open-mouthed or slightly restricted vessels, with rounded or bevelled shoulders, or obliquely flattened exterior lips, which are adorned at the shoulder or bevel, or on the lip, by small appliqué lugs. These lugs may be obviously zoomorphic, with plastically modelled features; abstract, and modified with incisions and punctations; or abstract and unmodified. (The vessels have rim profiles akin to those of the Cortezo and Olivo Red-Buff Wares, and should perhaps be considered merely decorated varieties of one or other of these two Wares, or both).

Sample:
62 sherds

Paste and surface:
Paste is extremely variable from site to site, and within the sites. Most sherds show signs of incomplete firing, in the blackened walls or extensive clouds on one or both surfaces. Unslipped surfaces vary according to the nature of the paste and standard of firing. One rather characteristic paste from AG-3 fires to a homogeneous light buff, and the polished surfaces slough away to leave deep pits and holes, with lumps of hematite poking through. On the other hand, a few sherds from the Natá sites have a very compact paste and surface finish not unlike those of the "Bisquit" wares from further west.

"Bisquit" is a term reserved for a very thin buff ware common in Veraguas, Chiriquí and the western side of the Azuero Peninsula
Shapes and decoration:

Shapes may be split into three categories:

I) Bowls with sharply bevelled shoulders and decoration on the bevel:

*figs. II0, c & e; II2, f-j; III, a-c, f & g:*

These examples probably have the same reconstructed shape as *fig. II2, f,* which has a characteristic thinning of the rim below the bevel. Rims either shoot straight upwards after the bevel — which is always high on the vessel wall — and have lips that are lightly modified and rounded in and out (II0, e; II2, j; III, c & g), unmodified and rounded (II2, i; III, f), thinned (II2, h), or squared (II2, f); or are recurved and have the same lip variations (II0, c; II2, g; III, a-b). Red paint is either limited to the tip of the lip (II0, c; II2, g & h; III, b), extends over the exterior and interior (II2, i; III, a, e & g), covers the exterior of the vessel from the bevel to the lip (II0, e; II2, j), or covers the interior and exterior below the bevel, leaving the part above the bevel plain (III, f). On totally slipped examples, the nubbins are slipped also. The only appendage recorded is the pedestal type, of unknown base, which accompanied II2, f.

2) Bowls with rounded shoulders and decoration on the shoulder:

*figs. II0, a, b, d, f & g:*

Rims recurve slightly and are generally unmodified with rounded lips, though there might be some thickening above the shoulder (II0, b). Red paint is limited to the lip only, covers the lip and exterior, or is lacking. The nubbins are affixed to the shoulder, just below the lip.

3) Bowls and plates with lips that are thickened slightly on the exterior and flattened, or left unmodified and flattened obliquely:

*figs. III, a & c-g; III, d, e & h-j:*

Lips are usually flattened on the exterior at about 45 degrees, north-west, south-east, and the appliqué fixed to the flat part (III, a & d-g); but
other examples have vertical (III, c; II3, d, e, h & i), or north-east to
south-west flattening (II3, j). Some examples are thickened and flattened
in a manner which recalls the Conte drooping-lip plates, though the apex of
the droop never extends so far out.

4) Profile similar to Olivo Red-Buff, fig. I38, k-o, with zig-zag inner
and outer bevel:

fig. III, b:
This strange shape has the lip flattened at 45 degrees on the interior and
a bevel on the outer wall, just beneath the lip, above which the mode is
affixed.

Decorative modes:
These fall into three categories: zoomorphic, abstract (modified) and
abstract (unmodified):

1) Zoomorphic:

figs. II0, d; III, a, b, d, & f:
The wide-eyed beasts are presumably frogs; their snouts are pointed
(though usually broken off) and their eyes circular blobs of clay, with
the pupils gouged out and accentuated with an encircling gutter (III, b
& d), or simply indented (III, f). The animal in II0, d, with the features
of the nose and mouth incised, is perhaps a lizard. III, a, probably also
a frog, has two feet at the sides of the head. Those abstract nubbins
with excisions may also be feet (II0, e; III, e).

2) Modified abstract:

figs. II0, all but d; III, e & g; II2, g - i; III, i:
These features seem to be stylised parts of animal anatomies. They
consist of ovaloid or rounded blobs of clay affixed to the bevel or shoulder
and are either excised on top or bottom to form a series of flutes (II0, a&f;
111, e; 112, g & h), stabbed with a hollow reed on top, at the sides or on the bottom so a hole is taken away (110, b, f & g; 111, g; 112, i); or incised horizontally to give a coffee-bean effect (110, c). One example has what is probably an extended fillet running around the bevel, with vertically cut notches, similar to the modified fillets on the lower collars of some Cortezo Red-Buff vessels (113, i).

3) Unmodified abstract:

figs. 112, f & j; 113, a-h & j

These abstract modes consist of small, ovaloid nubbins, with rounded surfaces (112, f; 113, d); irregularly shaped blobs of clay, rather haphazardly arranged (111, c; 113, a); nubbins which are flattened at the sides to form a sharp medial point (112, j), or flattened on top (113, b); rounded nubbins which have been indented at the centres to give a hollowed-out effect (113, g & h). Other sherds have the apex of the flattened exterior lip folded over slightly, so the clay hangs down like several small curtains over the exterior wall (113, e).

The zoomorphic and stylised abstract modes were probably arranged in groups of unknown numbers (two or four?) around the vessel, while the abstract nubbins without modification formed a continuous decorative band (as in fig. 112, f).

DISTRIBUTION OF APPLIQUE RED-BUFF VESSELS IN WESTERN COCLE:

AG-3; NA-2; NA-5; NA-8; NA-13; NA-20 (AMNH: 30.1.954); NA-22; PN-5; PN-6; PN-11; PN-14; PN-20; LP-1; Lothrop's unlocated site, "Lower Rio Grande" (1942: fig. 438); McGimsey's unlocated site Co-25. The PN-6 sherds are listed PM: C-12355; C-12401. At PN-5, there is one vessel which looks like this Ware from Grave 26, but the contact print is not very clear.

Relationship with other Types and outside areas:

As stated in the introduction, this category should probably be amalgam-
ated in the future with either the Cortezo or Olivo Red-Buff groups, or both. Vessels with the same sharp bevel or rounded shoulder, with appliqué zoomorphic or abstract nubbins, or both together, are very commonly found in graves in Veraguas and are often considered to be typical of the "Veraguas Culture." Examples from Veraguas are illustrated by Lothrop (1950, figs. 47, b & c and 49, a-d), and elements on the vessels can be compared directly with the western Cocle sample: Shapes - Lothrop, fig. 49, c to Cooke, figs. 112, j & 113, g; Lothrop, fig. 49, d to Cooke, fig. 111, a; appliqué motifs - Lothrop, figs. 49 a & b to Cooke, fig. 113, a & c; Lothrop, fig. 49, c to Cooke, figs. 110, e & 111, e. The Veraguas vessels are either tetrapod or have shortish tall pedestals with flaring bases. One of these has zoned incisions running horizontally up the exterior, in the manner of the base on the Appliqué Red-Buff vessel illustrated by Lothrop (1942: fig. 436). Pedestals of this type occur at several sites in western Cocle, and this might be an exclusive association (See Plate 55 a-d).

Vessels with bevelled upper shoulder and appliqué abstract or zoomorphic nubbins are common also in Chiriquí. Burica Phase material (Isla. Falenque Maroon Slip) is somewhat similar in shape, but the modes are quite distinct and the material is, presumably, on an earlier time level than the Appliqué Red-Buff from Cocle (Linares, 1968: fig. 12). Vessels typed under the Cavada Appliqué by Linares are much more similar in shape and the style and method of application of the lug. Interestingly, this material is assigned to the latest of the Gulf of Chiriquí Phases, the Chiriquí. Shapes of the Cavada and Cocle material are very similar (Linares, 1968: fig. 25, d & f and Cooke, figs. 111, d and 112, f, for example), both the "straight-up" and obliquely flattened rims occurring in Chiriquí.

Moving eastwards, outside Panamá, it is interesting to note that one of the complete vessels illustrated by Beichel-Dalmatoff from Cupica, in
Pacific Colombia, is rather similar to Appliqué Red-Buff Ware both in shape and decoration (1961: Lam. III,2, which may be compared to the Coclé examples with rounded, simple nubbins, as in fig. II2, f). The Cupica example is, however, from an earlier time period than the Coclé material, being assigned to Phase-I by Reichel and hence, presumably, pre-"Coclé" (Phase V).

**Chronology of the Appliqué Red-Buff Ware:**

Late, Phases VI and VII, though the sample is small and fragmentary. At AG-3, sherds were limited to the top three levels (0–30 cms.) of pits B and D, and to the top 40 cms. of pit A. There were 21 examples in pit A, which might conceivably post-date the top levels of pit B. At NA-8, one sherd was found in level I and one in level II. There were four sherds in pit B at NA-I3. At PN-II, three sherds came from above 20 cms. The Ware is rare on surface sites, occurring at NA-2, NA-5 and PN-I4, of the "stripped" sites, and NA-22, PN-20 and LP-I, of the "mixed" sites. (See Tables 6, 8 and 10). I recorded no examples from the selected refuse samples at PN-5, but may have overlooked them. No whole examples – apart from a possibility in Grave 26, which is Phase VI – occurred in the graves. Three sherds at least were in the sample from PN-6, which I judge to be a late (Phase VII) site. The correlation with the Cavada Appliqué material of Linares is interesting, as this Type is a late manifestation in Chiriquí. The fact that the only whole example known to me from Coclé – that from the Lower Río Grande valley – has a long pedestal with a flaring base and punctuated decoration, substantiates the suggestions of a late date given by the sherd sample. The occurrence of similar material in Veraguas – as far west as the Serranía de Tabasará – and in Chiriquí and the Tonosí Valley, implies a fairly widespread distribution over Panamá of this type of decorated pottery.
OLIVO RED-BUFF

Introduction:
Olivo Red-Buff is an unsatisfactory and somewhat artificial category devised for AG-3 to include those shapes which were missing from the other non-polychrome groupings at the site and noticeably more prominent at the Santa María sites than at others in the region. It is the author's belief that some of the more distinctive shapes and combinations of shape and appendage modes recorded for the Olivo Red-Buff are typical of the Macaracas Polychrome-dominated Phase VI all over Coclé, but, because of the rarity of its forms outside the Santa María area, Olivo Red-Buff must remain at present the one localised non-polychrome category.

Sample:
About 1,200 rim sherds (AG-3, AG-4 and AG-5). Fifteen complete red-buff vessels recovered with the skeletons at AG-3 have been tentatively assigned to this Ware (Plates II-13).

Paste and surface:
Considered under shapes

Shapes:

A) "Cortezo-like" rim profiles:
A few of the rims recovered at AG-3, including that of the whole vessel in Plate II, top row, left hand side, have profiles which compare with Cortezo-Red-Buff rims from further east. These have been isolated because their presence in small numbers in the superficial levels of the site is probably indicative of the final period of prehistoric occupation and suggests that they should be associated with the Mendoza Polychrome sherds found in the same context. A lot of the sherds in the top thirty centimetres of pit A had been badly charred and churned, and virgin conditions might have ensured a better preservation and representation of the typical Cortezo-type rims.
I) Collars with tallish necks, narrow diameters and everted lips:

*figs. 95, a-1, 1 & p and Plate II, top row, left, and c.f. figs. 86 & 87,a-l;*

Characteristic of these collars are the tall necks and narrow diameters at the lip and neck (95, a-f and Plate II), and on some examples the zonation of the red paint, which is applied to the tip of the lip and part or whole of the collar interior (95, b, e & p). Plate II is red-slipped over the entire exterior, and the interior collar. It is very highly polished with a pebble that leaves irregular, deep striations. The profile of the collar approximates fig. 95, a. It is 12.5 cms. high, 7.5 cms. at the bevel; the diameter at the neck is 6.2 cms.; at the exterior lip, 10.3 cms. Comments on the chronological and typological associations of this vessel and the others found in the burials at AG-3 are contained in Chapter 10.

2) Other stubby collars with angular profiles:

*fig. 95, j, k & m-o and c.f. 85, m-k;*

Either the tip of the lip alone (j) or the whole interior of the collar is red-painted (k, m-o).

3) Open bowls with sharply everted red-tipped lips:

*fig. 95, q-s and c.f. figs. 90, a and 91,g;*

Three sherds only combine the sharply everted lip of this common Cortezo Red-Buff shape and the red limited to the tip of the lip, with the exterior and the interior unslipped.

B) Unrestricted vessels:

I) Thin collars with rounded profiles and everted, downwards-sloping lips:

*fig. 96, a-f;*

Thin, tall collars, with lips that evert downwards at an oblique angle and are sometimes thickened to give an "overhanging" effect, are rare at AG-3
(one also occurred at NA-8, Trench A, level II). They are assigned by Ladd to his Class 'c' of the Red-Buff Type and were well represented in sherd lots, though only one complete vessel was found - in Find 356 at He-4, without associations. The seven examples from western Coclé are all made in the paste which fires to a bright orange colour and I think they may well belong to Macaracas or Mendoza Polychrome vessels. The Smoked Ware effigy vessel from AG-3 has a similar rim profile (Plate 10).

2) Miscellaneous collars, mostly with rounded inner shoulders:

figs. 96, g - p and 97, a - b and Plates II, bottom row, I2, top left, and 13, top row:

A mass of collar sherds with very heterogeneous profiles were recovered at AG-3, and are presumably all from vessels with globular or sub-globular bodies. Rounded shoulders are prevalent at the site, necks as sharp as 96, i being a rarity. One rather odd shape, which does not occur at other sites, combines a very narrow orifice at the lip with a tall, gently rounded collar profile (96,h). The red slip on these examples has a strange metallic tinge. Six small collared jars were recovered with the skeletons at AG-3. Four are illustrated in Plates II - I3. Plate II, bottom row, is plain buff, crudely smoothed, 8.4 cm. high and 6.5 cm. wide at the collar lip (exterior). Plate I2, top left, has a red-tipped lip and polished red exterior. The collar is extremely roughly smoothed. It is 6.8 cm. high and the diameter at the exterior lip is 4.4 cm. Plate I3, top row, left, has a red-slipped interior collar and exterior body. It is 7.3 cm. high with a diameter at the exterior lip of 7.0 cm. The pot next to it is red-slipped on the exterior of the body and the interior of the collar. It is 9.0 cm. high, with a lip diameter of 8.3 cm. Small "bean pots" such as these are extremely common in burial sites all over Panamá and are not good diagnostics of age.

C) Restricted vessels with very short or no collars:

I) "Tecomates" with heavily modified lips, voluminous bodies and narrow orifices

figs. 97, c-i and 98, a - d:
"Tecomates" with narrow orifices relative to volume, and modified lips, are common at AG-3. The modification to the lip varies enormously. Lips modified on the exterior only, with a little collar (97, g - i and 98, a - d) are the commonest form, while others are modified on the interior and exterior (97, e & f). Some of these vessels have loop handles with round cross-sections affixed to the exterior immediately or some way below the lip. These handles were arranged horizontally, pointing straight upwards as an opposing pair, with the tops of the handles sometimes projecting well beyond the tip of the lip. Red paint is applied in a variety of ways: to the lip only, to the whole exterior, or arranged in a series of broad stripes running down the vessel exterior. Paste and surface finish are variable, but polishing marks on well polished examples are clearly visible and tend to run across the vessel in a very haphazard fashion. Interiors are very roughly smoothed.

2) Thin "tecomates" with thin and unmodified or lightly modified lips:

figs. 98, e - h and 99, b & c and Plates II, top row, right, I2, right hand side;

A very common shape indeed above 50 cms. in pits B and D. Bodies are probably more or less globular, or pear-shaped. Lips are very lightly modified, being either approximately squared (98, e-g) or thinned on the underside to form a point on the upper side (98, h; 99, b & c). A large number have loop handles with round or ovaloid cross-sections affixed horizontally above the shoulder and below the lip. The diameters of the handles are large relative to wall thickness. Fragmentary examples show that the handles were made by wrapping a tube of clay around a stick (there is a hole where the stick has either rotted or been pulled away); a hole was made in the vessel wall; the handle inserted; the inside smoothed with a hard instrument, often very badly; and an extra ring applied to the exterior of the junction and then smoothed down. The handles presumably always curve upwards so that they project vertically above the level of the lip. Red
paint is applied to the lip alone (98, e), to part of the exterior above the
handles (98, f & h), or to the whole exterior (98, g; 99, b & c). Handle
fragments are frequently painted red along the upper surface only.

Four miniature "tecomates," with wide and narrow orifices, were recovered
from the burials at AG-3. Plate II, top row, right, is red-slipped all over
the body exterior and the top of the handle. Polishing is prominent and crude
with obvious striations. The small horizontal handle has a round cross-section
and is 5.0 cms. across the exterior junction, being 1.7 cms. thick. The
diameter at the lip is 6.0 cms. and the height 8.0 cms. The zoomorphic lug
seems to represent a Cracid, perhaps Penelope purpureascens. Plate I2, right
hand side, top and bottom, are almost identical - red-slipped over the exterior,
with diameters of 3.9 and 4.4 cms. and heights of 5.8 and 6.5 cms. respectively.
Polishing has left deep striations, as on the former vessel. Handles are
1.0 and 1.4 cms. thick. Plate I2, bottom left, is buff all over, unslipped
and crudely smoothed. The diameter and height are 5.5 cms.

3) Heavily restricted, massive vessels:

Fig. 99, a and I0I, j & k:

A number of massive "tecomate" rims with bulbous lips, thickened on
the underside and rounded, were recovered, some with heavy loop handles with
round cross-sections. Some of these vessels are atrociously manufactured
with very irregular surfaces and undulating rims.

4) Vessels with narrowly restricting rims and wide mouths:

fig. I0I, a - i:

There are two categories of these characteristic vessels: thick, a-d,
and thin, e-i. They have very wide mouths (between 30 and over 50 cms.) and
straightish, gradually recurving walls that thicken as the lip is approached.
Lip variations are varied, but the commonest variation has thickening and round-
ing on the underside (b, c, e-g). The paste on all these examples
fires to a bright, fully oxidised orange, and surfaces are frequently
pitted, with the red slip sloughing away. Most sherds have polished, red-
slipped exteriors, though there are some with red lips only (I0I, a), and
others which are unslipped (101, b).

5) Vessels with collar profiles in the form of an S

*Fig. 116, q-t*

Six rim profiles were recovered with an outcurving and incurving profile and thinned lips. Two of these have appliqué features (see Plate 53, c & d) which are presumably parts of a face. Rims similar to these are found on Parita Polychrome face-effigy vessels (Ladd, 1964: fig. 27, a) and on a Mendoza Polychrome sherd from NA-13 (fig. 116, p and Plate 53, b).

D) Unrestricted vessels

1) Deep bowls with thickening rims and modified or unmodified lips, sometimes with round loop handles which leave the lip of the vessel:

*Fig. 100*

Another common category of vessel shape. Bodies are deep, and orifices wide, ranging from about 25 to over 40 cms. Walls are surprisingly thin for a vessel of these dimensions and most examples are well made, with pastes that fire to a bright orange, generally homogeneous, without evidence of poor firing. Surfaces slough away where they have been polished in the manner of vessels with the shapes of fig. 101, a-i. This homogeneity of paste colour and degree of firing, plus the similarities in shape, should be borne in mind when future classifications are undertaken, as I believe these vessels - very common in late burial sites over the river - are important both distributionally and chronologically. Another salient feature is the handle - which leaves the lip vertically and extends for as much as 8 cms. above the lip. The diameter of these handles is often much greater than the width of the lip, and the handle leaves the lip with an ovaloid cross-section (b). Two fragments of vessel with this shape and handle were recovered from level II at NA-8, Trench A.
2) **Miscellaneous shallow bowls with upcurving rims and, generally, thin walls:**

*fig. IO2 and Plates II and I3:*

A catch-all category, created to include those bowls and plates which do not fall within the Escotá Red-Buff, Conte Red or Mendoza Red categories at AG-3. Most examples have the profiles of IO2, a – d, with unmodified rims and rounded or lightly squared lips. Other rims approximate more closely the shapes of some Macaracas Polychrome bowls, with profiles that thin and then thicken again, as in IO2, e, f & h. Walls are characteristically thin (between 4 and 8 mms.) and noticeably thinner than Escotá bowls which curve upwards from the centre. Most examples at AG-3 are very well fired and finished with a light buff or bright orange paste and a polished orange-red slip. Those examples which are unslipped on the exterior, have splotches of red slapped on with the finger-tips in an irregular pattern. Some bowls have small horizontally placed loop handles, with round cross-sections, sprouting from the lip, in the manner of Plate I3, bottom row, left. This has four little blobs of clay appended to the lip just to the sides of the handles. The interior is red-slipped and well polished, and the exterior left unslipped, but polished; it is light buff in colour. Bowls and plates do not seem to be very good chronological diagnostics, though Olivo-shaped bowls are rare east of the Santa María river, and might – for reasons stated elsewhere – be the typical Phase VI shape all over Coclé. However, the above-mentioned example came from what are surely Phase VII burials, presuming they were all interred
together, and more stratified midden and isolated funerary samples are required before we can work out the evolutionary subtleties of this sort of bowl. Three small red-slipped bowls with bases were recovered with the burials at AG-3. Two are certainly pot-stands. Plate II, top right, has a homogeneous profile and a rounded lip. The pedestal also has a rounded lip and flares outwards slightly. Both bowl and pedestal are red-slipped all over, including the interior junction of the two parts. The diameter of the bowl is 11.8 cms., the total height 5.2 cms., the diameter of the pedestal 6.0 cms., and the height of the pedestal 5.2 cms. Plate I2, top right, has a red-slipped interior and unslipped exterior. The total height is 2.8 cms., the diameter of the bowl 5.8 cms., and of the base 3.5 cms. The base is an annular ring-stand. Plate I3, bottom right, is red-slipped on the exterior only. The height is 3.3 cms., the diameter at the lip 9.1 cms., and the diameter of the base 5.1 cms. There are four pinched lugs on the lip arranged as two facing pairs. The base recalls the shape of fig. I44, e.

3) Bowls with bevelled exterior shoulders and rims which are perpendicular or very slightly curved inwards:

fig. II2, a-e:

These profiles occur on the Appliqué Red-Buff category and are probably from bowls with appliqué decoration. All examples from AG-3 have sharply bevelled shoulders and walls which sometimes thin above the bevel and thicken again (d & e). Lips are rounded. e is thickened at the base, presumably to meet a pedestal in the manner of fig. II2, f. The red is applied to the tip of the lip or to the exterior of the vessel above the bevel (d).

4) Shallow bowls with sharp bevels on both exterior and interior:

fig. I38, j-o:

A characteristic shape not present at other sites: there is a sharp bevel high on the exterior shoulder and the lip is attached obliquely, slopin
inwards at an angle of 45 degrees or so, creating a zig-zag profile.
The flat part only of the lip is red-slipped. One Appliqué Red-Buff vessel has the same profile (fig. III,b). A similar rim shape is illustrated by Marshall from Farfan Beach (1949, fig. 44,D).

**DISTRIBUTION OF THE OLIVO RED-BUFF WARE IN WESTERN COCLE:**

AG-3; AG-4; AG-5. One or two rims with Olivo characteristics were found at NA-8, and vessels of the shape of Plate I3, bottom left, occurred in the graves at FM-5. Similar shapes are recorded by Ladd for AG-2 under his Girón Type, Plain and Red Varieties (1964: 170-171).

**Relationships with outside areas and chronology of the Ware:**

Vessels with the same general shapes of figs. 97-101 occur very commonly at He-4, in Herrera, both in the refuse and in the graves. These have the bright orange paste and sloughing surface of a lot of the AG-3 examples. The Herrera vessels are likewise massive and frequently have vertically placed round handles arranged as one or two facing pairs on the upper exterior wall (Mitchell and Acker, 1961: Plate X; Bull, 1965: Plates IV, B and XII,A). A proportionally far higher percentage of restricted vessels occurs at AG-3 than at sites in the Chico-Grande-Cocle drainage which have Cortezo Red-Buff assemblages and, conversely, AG-3 has an insignificant number of Cortezo-type diagnostics. But Macaracas Polychrome sherds are not as common at studied sites to the east of the Santa María river as they are at AG-2 or AG-3, and the differences in the post-Phase V red-buff assemblages of midden sites in the two areas are probably partly chronological and not spatial. However, there are innumerable unsolved problems and time will tell whether this assumption is correct or not. It is, of course, quite possible that the two assemblages are functionally distinct.

**Miscellaneous appendages and plastic decorative modes at AG-3:**

A number of appendage and plastic decorative modes occurred at AG-3 most of which are probably assignable to the portmanteau Olivo Red-Buff Ware.
Ring-bases:
Out of 226 ring-bases from pits A-D, 113 are of type A (fig. 141), 30 of type B (figs. 142 and 143, a-b) and 83 of type C (figs. 143, c-e and 144). Some small 'pedestals' - which are, in fact, ring-bases with wide diameters - with red-painted exteriors, also occur (fig. 140, a & b). There is a suggestion that type A ring-bases do not accompany Cortezo Red-Buff Ware vessels, and, in this context, it is interesting that the type A ring-base is commonest in Level 4 at AG-3 while the type C is commonest in the uppermost level (1) (Table 9).

Pedestals:
Several tall pedestal fragments with the profiles of figs. 139 and 140, a-d were found at AG-3. These cluster in the top 40 cms. of all pits, and are commonest in the top two levels of pits A and B. Painted pedestals are a Phase VI-VII manifestation, and it is quite possible that the non-polychrome examples from AG-3 are also late (that is, those pedestals with restricted necks, unmodified or lightly modified rims and pointed or rounded lips.) Pedestals with pronounced, everted lips might be earlier manifestations - they occur on Conte Red vessels from PN-5 - but none was recovered at AG-3 or on the Chico-Grande-Coclé sites. 16 tall pedestal fragments from the site have punctated and incised decoration of the kinds in Plate 55, e-h. As said earlier, it is possible that these pedestals were reserved exclusively for Appliqué Red-Buff vessels, of which 45 sherds were found. Similar pedestals were found at He-4 (Ladd, 1964: fig. 55).

Round handles:
Round handles are extremely common at AG-3 and most are presumably associated with Olivo Red-Buff "tecomate" and other categories (figs. 97-101). As many as 259 whole or fragmentary large examples (diameters between 2 and 4 cms.) were found in the top 50 cms. of pit A and 177 in the first 40 cms. of pit B.
Round handles are much rarer at NA-13 and NA-8, and in surface collections west of the Santa María. Whether this refers to a particular function for the pottery of these late deposits at AG-3 or indicates another temporal division, is open to thought. An interesting fact is that only two handles have a Modified Fillet Appliqué decoration—that in Plate 54, k, wrapped around the top of the mode—which offers a further indication that plastically decorated handles are Phase VII in date.

Strap handles:

These are much less common, there being only 42 large (2 to 4 cms.) examples and 16 small (1 to 2 cms.) The large examples, like the large round handles, are confined to the upper levels of the site and post-date Phase IV at least. No strap handles are decorated with plastic modes.

Rope handles:

Seven rope handles are from the top 30 cms. of pit A and the top 10 cms. of pit B. They are all genuinely twisted—employing three strands of clay (Plate 54, a).

Nubbin and Mammiform supports:

Some sherds of Olivo Red-Buff bowls have conical, pointed nubbin legs which may be from incense burners. Mammiform supports found at the site (only between 0 and 40 cms.) are conventionally female, solid, rounded and with indented nipples.

Zoned Punctation:

One small sherd—from the very top of pit A—has this typical Cortezo Red-Buff mode (cf. Plate 51, c), arranged at the collar junction.

Miscellaneous zoomorphic appendages:

A number of zoomorphic appendages have been broken off their vessels and are difficult to appreciate "in toto" (Plate 56, a-g). They are all, however, very definitely animal-like: a is some sort of mammal with protruding eyes
and was affixed to the rim of a shallow bowl (another example seems to have the sprouting antlers of a young deer); b is probably a frog; c is a shark or ray; d is a frog; e is a Psittacacid; f is a monkey; and g is a saurian. Zoomorphic appendages of a similar kind are illustrated by Ladd for He-4 (1964: fig. 56). Two rim sherds of the shape in fig. 101, d, have the "open wound" nubbin of Ladd (1964: fig. 56, a & b) - a nodule of clay which has been incised in two directions and split open. A sherd identical to Ladd, 1964: fig. 56, e, was found in pit B, level 1 at AG-3 and also Level II of Trench A at NA-8. Another zoomorphic mode - Plate 53, a - placed on the exterior of a restricted bowl, turns up in Veraguas (Soná and other localities) (Lothrop, 1950: fig. 42, d and 43, f). Three of these were found at AG-3.

Large abstract lugs:

40 large abstract lugs, consisting of thick strips of clay appended to the exteriors of a miscellany of rim shapes, but generally bowls or plates, occur only in the top 40 cms. of the deposit. They are generally semi-circular or semi-ovaloid in outline but some have a double apex, resembling a fish-tail. They presumably served as handles.

Pottery lid:

One fragment of a pottery lid was found (Fig. 103, a). It has a diameter of 14 cms. and a strap handle. It is unslipped.

Bottle spout:

One plain buff bottle spout, 8 cms. long and 4 cms. wide at the mouth, has a very small (pepper-pot) hole, and obviously had to be shaken to let the liquid out. A number of bottles with similarly small apertures have been found at He-4 in polychrome styles (Ladd, 1964: 120, Calabaza Polychrome, Calabaza Variety; Dade, 1972).
PHASES V/VI	 CONTE RED

Introduction:
At PN-5, Lothrop divided the red-painted pottery into Plain Red and Painted Red Wares. Plain Red Ware is always covered with a red slip or wash before firing and is made "of the local clays, one at least of which has a reddish tone" (1942: 135) The 260 - odd pieces recovered from the graves were described according to their basic shapes and assigned either to "Early" or "Late" periods. In this report, Plain Red Wares which have the rim profiles typical of those recovered from the Sítio Conte are described together as Conte Red Ware. A number of the shapes recorded by Lothrop for the graves are totally missing from the sample. Concerning Lothrop's division of the Red Wares into two periods, the same comment applies as was made about the Polychromes: in the absence of corroborative funerary material, the actual division of the pottery cannot reasonably be attacked. Evidence from both excavations and surface collections in western Coolé suggests that the shapes typical of the graves at PN-5 post-date Phase IV, or, at least, first appear during the Phase, and have disappeared by Phase VII, and argues for the incorporation of all the diagnostic shapes described by Lothrop into the Conte Red Ware, pending further excavation of whole examples with good associations. Typical Escotá and Mendoza shapes are absent from the graves but present in the refuse at the site. The best indicators of relative age within the Conte Red itself will probably turn out to be the appendages - pedestals and bases - notably the long, flaring pedestal and the straighter-walled, footed pedestal.

Sample:
560 rim sherds.

Paste and surface:
Dependant upon the clay. Most Conte Red sherds fire to an orange colour,
but several at AG-3 have the typical light-buff paste of the site, while one or two sherds have the light grey (tuffaceous?) paste present on some Conte Polychromes. There again, this last paste colour and composition might be a useful classificatory diagnostic for the Ware as it is apparently absent in other Red and Red-Buff Wares. Surfaces are red-slipped, usually both interior and exterior, though a number of "drooping lip" plates and dishes have the exterior beneath the apex of the droop unslipped. Some examples have a very hard and lustrous slip, which is thickly applied, and contrasts strongly with the light pastes. Finish is fairly variable, some examples being well polished to the total elimination of striations, others having pronounced indentations. On some rim sherds, there is a hollow space between the modified lip (the "droop") and the unmodified rim, presumably formed as the pressure exerted by the two fore-fingers while smoothing out the "droop" concentrated at the top and bottom of the strip of clay only.

Shapes:
Shapes recovered in 1969-1971 are illustrated in figs. 114 - 116, a-k.

1) Plates and bowls with drooping-lips: (Fig. 114, a-r)

Characteristic of these vessels is the exterior modification to the lip which projects outwards and downwards. Most examples have a pronounced apex to the modification, and either an oblique (45 degrees) or vertical outer face, which may be either curved (a, j) or fairly straight (c, e, h, i etc.) Other profiles have a much more flat and rounded "droop" (f, g, n & q-s). Most examples are fairly shallow and would classify as "plates" according to Lothrop. Diameters range from 20 to over 40 cms. Red slip is always applied to the interior and the outer face of the "droop" (as far down as the apex). Beneath the apex, the exterior may either be red-slipped (j-s) or left plain and smoothed with a hard instrument, and sometimes polished (a-i). Similar profiles are illustrated by Lothrop (1942: figs.
260, 261).

2) Open-mouthed vessels with a groove on the exterior beneath the lip:

*figs. II4, s & II6, h & i:

Another profile illustrated by Lothrop for PN-5 (1942: figs. 260, c & 263, g) has a broad groove running around the circumference of a bowl or plate, just beneath the exterior lip. It is rare in the collections, the only examples being those illustrated. All are red-slipped in and out.

3) Open and lightly restricted vessels with noticeably thickened rims and flattened lips: *Fig. II5, a-k:

The "flat-lipped" shape is illustrated by Lothrop (fig. 261, b) and is common in the excavated and surface samples from western Coclé. Walls are often characteristically thin (as little as 3 mms.) and the rims thicken considerably and bend sharply upwards, being flattened horizontally (a-g), or obliquely at an angle of 45 degrees inwards (h-k). All examples are red-slipped in and out. Diameters remain fairly constant between 20 and 30 cms.

4) Open and slightly restricted vessels with a grooved-lip:

*fig. II5, l-t:

l-r are the third common rim shape of the Conte Red, s & t less common. Shapes are essentially the same (l-r) as the above rim form, the difference being that the lip is grooved instead of flattened (presumably by running a finger around the circumference). The groove varies in shallowness and symmetry. l-n have the apices of the indentation the same height and width, but sometimes the exterior apex is higher (o & p) or the inner apex more pointed than the outer (q-r). These last examples were probably modified by adding another strip of clay around the inner lip, as opposed to grooving the existing wall. s & t were absent at AG-3. A profile similar to s is illustrated by Lothrop (fig. 266, a) from a gourd-effigy.
5) Restricted vessels with lightly recurved rims and modified lips:

fig. 116, a-g:

A rare category of profile in the collections. Lothrop illustrates examples in 1942: figs. 267 and 268, the former with a sharply incurring shoulder and rim form similar to 116, a & b, the latter apparently similar c 116, e, though with a more sharply angled shoulder. This last has a laring pedestal. Some of these sherds have very thin and delicate walls c & g, for example).

6) Vessels with rounded lips and rounded or angled exterior shoulders high on the wall:

fig. 116, j - l:

Another rare category in the sample. l has excised flutes running vertically below the exterior lip and is presumably from a tiny gourd-effigy vessel. It is from AG-3.

None of the Conte rims has the lightly flaring or recurved unmodified rim and low exterior flange of Lothrop's fig. 263, a, c & e.

Appendages:

The majority of the type A shallow, annular ring-bases with red-slipped exteriors (fig. I4I) are probably from vessels whose profiles are outlined above. Such ring-bases are illustrated by Lothrop on vessels from PN-5 which have all these profiles (I942: figs. 260, a & c; 261, a-c; 267, f).

None of the Conte sherds in the sample was found with traces of a pedestal, though several examples of Lothrop's "Early" and "Late" red ware have either tall, flare-based or footed pedestals (op.cit.: figs. 263, a & g; 264; 266, a).

DISTRIBUTION OF THE CONTE RED WARE IN WESTERN COCLE:

AG-2; AG-3; AG-4; AG-5; NA-5; NA-7; NA-8; NA-II; NA-I2; NA-I4; NA-I5; NA-I9; NA-20; NA-2I; NA-23; NA-26; NA-27; NA-28; NA-30; PN- I; PN-4; PN-5; PN-7; PN-II; PN-20; LP-I; LP-4; sherds were present in collections
from most of Verrill's sites but catalogue numbers were not recorded for this Ware.

Relationships with other types and outside areas:

In Ladd's monograph on the Santa María sites, Conte Red sherds are referred to as Cocle Red if they had a paste of a light grey hue, "gutter-rims", "drooping-lips" and "other distinctive rim shapes discussed by Lothrop in his second volume of Sitio Conte" (1964: 134). In the Site Distribution of ceramic categories, "Cocle Red" is listed from He-2 and He-4. Outside of Cocle, the "gutter" or groove-lip certainly occurs in midden deposits in central Veraguas (de Brizuela, personal information on the Focagua site); a Smoked Ware groove-lipped bowl is illustrated from a grave at Bubi (near the Chiriquí border) by Lothrop (1950: fig. 474, d). In the Tonosi region, Ichon considers the groove-and flat-lips typical of the Conte Red to be characteristic of the second half of the Cañazas (i.e. Phase V) Phase ("Tintidero a décor plastique"), and they continue into the final Bijaguales Phase (Phases VI/VII). Rims approaching fig. 116, j & k are recorded for the category "Jobero Bisquit", which is Bijaguales Phase in date (Ichon, personal information). Moving eastwards, groove- and flat-lips are illustrated from Farfan Beach in the Canal Zone (Marshall, 1949: fig. 44,d), and also from Panamá Viejo (Biese, 1964: fig. 11, e,f, & h). These last are apparently from red-slipped vessels but the illustrations are not good.

To reiterate a point, I would expect the above-listed shapes to be widespread east of the Serranía de Tabasará and indicative of period over the entire area.

Chronology of the Conte Red Ware:

Conte Red rims were limited to twelve examples at PN-11, nine of these were "droop-lips" and occurred from 30 cms. to 80 cms. in the deposit (Table 6). The two rims representative of figs. 115, b & 116, b were from above 30 cms.
in pit B. This paucity of Conte Red forms at the site concords with the lack of Conte Polychromes and substantiates the claim that the site was sparsely occupied between Phases IV and VII. At AG-3, only one Conte Red rim (a droop-lip) was found beneath 60 cms. in pits B and D, while 83 were recorded from 0-60 cms. Of the 57 Conte Red rims in pit B, 48 were from levels 3-5. At NA-8, only one rim attributable to this ware was found (level III) but three other eroded droop-lips occurred. NA-13 was lacking in Conte Red rims, but three eroded droop-lips were found in pit A. On surface sites, Conte Red forms were rare or totally absent from the "stripped sites", while at NA-20, NA-21, NA-23 and NA-30 they were common. At the last site, which lacked Mendoza Polychromes and had high percentages of Conte Polychromes and Guáquima Red-on-White Slip sherds, there were 81 Conte Red rims out of a total of 365 rims (Table 10).

At PN-5, Lothrop tabulates the Plain Red Ware vessels in Table III, by grave. Of the bowl and plate categories, the drooping-lip shape is the commonest (39 out of 87 examples in the "Late" period and 19 out of 79 in the "Early" period). 17 "groove-lipped" examples are recorded for the "Early Period" graves and only 1 for the "Late" period graves. Interestingly, Grave 5, which I consider to be late on the basis of the polychrome vessels, is lacking in both "droop-" and "groove-lip" red ware vessels. The Red Ware contents of the other late grave (26) is unfortunately not recorded. I would expect vessels with flaring pedestals or footed pedestals to be late at the site, but this impression is upset by the occurrence of pedestal-based red vessels in graves 4 and 31 (Lothrop, 1942: fig. 263, e & g and 264), which I consider to be early in the sequence. The absence of Conte Red shapes below 60 cms. in pits B and D at AG-3, their rareness at PN-11 and also on late surface sites in the region, and the absence of the diagnostic Escotá or Mendoza Red shapes in the graves of PN-5 place the Conte Red within
PHASES IV B and V  GUACIMO RED-ON-WHITE-SLIP WARE

Introduction:
Guácimo Red-on-White-Slip ware is, as its name implies, characterised by a white slip contrasting with a rusty or orange paste. Decoration is limited to a red band around the lip and simple geometric, splashed or tear-drop shaped elements in red. Sherds with the same white slip and oxidised paste are included by Lothrop into a Red-Line Ware (1942: 131-134), a term used subsequently by Ladd (1957).

Sample:
988 rim sherds: 429 from PN-11; 141 from AG-3; 418 from surface collections.

Paste and surface:
Paste is generally a fully oxidised orange or rusty colour which contrasts sharply with the white slip. These two traits together isolate this ware from any other category of non-polychrome pottery. Clearly defined fire-cores are absent, but some sherds have been irregularly or incompletely fired and have a darker central wall or completely clouded cross-section. Temper is sand, with high percentages of quartzite, and generally dense, with varying particle size. Unslipped surfaces are orange, or pinkish, varying in hue according to the degree of oxidation of the paste. Fire clouds on both surfaces turn the white slip a smoky colour and might be quite extensive. The white slip is generally well polished and ranges from an off-white to creamy colour, but weathering at PN-11 has caused the slip to wear thin and appear characteristically chalky to the touch.

Shapes and decoration:
A: Restricted vessels with collars:

1: Tall, straight-walled collars:

Fig. 105, a - c:

15 collars only have the tall, straight walls of some Escotá Red-Buff and Escotá Polychrome examples. Lips are flattened obliquely or on top, or slightly thinned. Red slip either covers the entire inner and outer surfaces of the collar, the exterior and only half the interior, or just the lip. The white slip is well polished on all examples.

2: Everted collars with a slightly rounded profile:

Figs. 105, e - g & 106:

By far the commonest rim form of the Ware at PN-II (360 out of 429 rims); much less common at AG-3 (15 out of 141 rims). Generally the collar curves gradually away from the neck and is often appended to the neck by a thin band of clay placed at the junction, to give a protruding profile (105, e; 106, c-g). This is a useful diagnostic for the identification of the Ware, even when eroded. Rims are generally unmodified, with lips that are brought to a point on the upper surface by thinning on the underside (105, e-g; 106, c & e); thinned and slightly pointed (106, a & i-k); or simply rounded (106, d, f, g & l). One sherd only, from PN-II, has an everted lip (106,b), and a few have a noticeably thickened lip (106, h). Apart from these last anomalies, the collar profile is remarkably uniform. The white slip is always applied to both the exterior and interior of the collar. On interiors, it is well polished and the pebble leaves leave light horizontal striations, never as deep or as irregular as on polished Cortezo Red-Buff examples. The white slip terminates at the junction of the collar with the body, and the last few millimetres of collar which extend beneath the neck are unpolished. Exterior collars are never polished. Vessel bodies are always rounded at the shoulder (no bevels are recorded for this Ware) and are presumably globular or sub-globular in shape. The white slip probably covers the entire exterior. Lips of the collars are always red-painted; the red never extends
far down the interior. Painting is accurate and few examples are dribbled.

Decoration on the bodies consists of red elements slapdashly applied on the upper shoulder: circles, blobs with frayed edges, irregular smears with the finger-tips, more carefully drawn broad bands running vertically down the exterior from the collar, and tear drop elements with the thick part uppermost (often arranged in pairs, with the thick ends joined by a thin bridge of paint). No sherds large enough to enable total reconstruction of the decoration were recovered; the reader is asked to refer to Lothrop, 1942: figs. 251, 254 and 255 for comparison. Vessels are always wide-mouthed, with diameters at the lip ranging from 10 to 45 cms., and averaging 20 to 35 cms.

3) **Thick, stubby everted collars:**

   figs. I05,d; I09, h & j-1:

   One thick, stubby collar, more reminiscent of the Escotá Red-Buff Ware, was recovered at PN-II (test pit A). It has a diameter at the lip of 41 cms. Smaller vessels with thinner walls and collars that are everted upwards at an angle of 25 to 45 degrees (I09, h & j-1), occur in small numbers at both sites. These are white-slipped in and out, and either have the entire flat part of the lip and the immediate interior of the body red-painted (h), a red upper lip (k), a red tip to the lip (l), or a double band of red painted around the tip of the lip and its junction with the body (j). Some of these last examples have additional decoration attached to or arranged beneath the bands.

   **B: Restricted vessels without collars:**

   1) **Small bowls with deepish bodies and wide mouths that are slightly restricted**

       **Fig. I07, a-g:**

       Small bowls of this description have diameters ranging from 5 to 12 cms. Lips are either flattened (a,d & e), or rounded (b,c & f). A red band always runs around the lip, while exteriors and interiors are white-slipped in all but one example, which has a red-slipped
interior (b). Decoration consists of blobs of red paint arranged around the exterior lip (1). Appendages consist of small lugs: zoomorphic heads with appliqué features (c); ovaloid lugs (d); (probably) round lugs (e).

C) Unrestricted vessels:

1) Bowls with unmodified or lightly modified lips:
   
   Figs. 105, h-j; 107, h-n; 108, a-i;

   Bowls are common and there are a number of subtleties in the finish of the lip: thickened slightly on the interior and rounded (105, j; 107, h-j); rounded without additional modification (105, h; 107, n; 108, a, c & d); flattened obliquely on the exterior (107, k, l, & m; 108, b, h, & i); sharply recurved with a little "hook" (108, f); flattened obliquely on the interior and very thin walled (108, e). Diameters are variable but some vessels are very small, about 5 cms. across. The red is usually limited to the lip but some interiors are red-slipped (107, k; 108, f). The variety of bowl profiles is greater at PN-II than at AG-3, the only profiles recorded for the latter site being fig. 105, h-j. Decoration consists of red blobs and circles arranged circumferentially round the interior, exterior, or both, just below the lip.

2) Bowls with thickish walls and flattened lips which are sometimes sharply everted:
   
   Figs. 105, i and 109, a-i;

   Lips are generally flattened horizontally, but sometimes incline obliquely downwards (109, g) or upwards (109, h & i). Modification to the lip is either light - to both the interior and exterior (109, b & c) or the interior or exterior only (109, a, d, e & f) - or heavy (109, g-i) - when the lips are sharply everted in the manner of several Girón Banded Lip and Escotá Red-Buff vessels. The red is applied only to the flat part of the
lip or, in a few examples with everted lip, to the interior just below the lip also (109, g & h). Some examples from PN-11 have a banded decoration on the lip with pendant or isolated red blobs (109,i). Red blobs are also dotted onto the exteriors or interiors in a rather random fashion.

3) Plates and bowls with drooping-lips

Fig. 108, j-p

The typical Conte drooping-lip (with a sharp apex and obliquely or vertically slanting droop) is common in the Guácimo Red-on-White-Slip ware. Shapes may be shallow (j-m) or deepish (n-p). The red is either limited to the flat part of the droop (j & m), or, more frequently, covers the interior also (k,l, n-p). The exteriors below the apex of the droop are always left white-slipped. No examples have additional decoration on interior or exterior. Diameters range from c. 18 to 42 cms. Some small type A ring-bases (c.f. fig. 141, e-h) are recorded for the Ware, and are presumably from drooping-lip vessels.

4) Plates with "ski-tip" or rounded lips:

Figs. 105, k & 108, q & r

Shallower vessels without drooping lips are rare. One, from AG-3, has an unmodified rim and a lip which thins from the bottom to form a pointed tip (the "ski-tip") (105,k); four rims with the shape of 108, q-r, were recovered from AG-3, very shallow, with red-tipped lips. One has a design incorporating a vertical line with two appended strokes (q.)

Appendages:

Type A ring-bases in this ware probably accompany drooping-lip plates. One heavy ring-base, also Type A (fig. 141,c) is presumably from a bulky vessel. A fragment of what is surely an incense burner was recovered from PN-11 (pit B, level 7). It has two nubbin legs (probably there were three originally) placed near the neck of the handle, which is broken off near the base, but is
probably tongue-shaped, like larger examples of the Escotá Red-Buff (q.v.)
Other appendages are small strap and round handles and large strap handles
with zoomorphic features. The small strap handles measure about 1.2 cms.
across and were appended vertically to the top of the lip of a small
collared vessel, thinning at the waist and then thickening again at the
junction with the body. They measure about 3 cms. across the diameter of
the loop. They have a red band running vertically down the spine. The
cross-section is oval. No round handles were found with fragments of the
wall still attached, but, to judge from whole examples in the PN-5 funerary
collections, they were arranged vertically from lip to body like the small
strap handles. One large strap handle, with "Cañaza" punctations on the
"back" and four "legs", is presumably a frog effigy and may have been a lid
handle. It is from NA-30 (superficial).

DISTRIBUTION OF THE GUACIMO RED-ON-WHITE-SLIP WARE IN WESTERN COCLE:
AG-2; AG-3; AG-9; NA-8; NA-10; NA-11; NA-14; NA-17; NA-19; NA-20;
NA-21; NA-22; NA-23; NA-27; NA-28; NA-30; PN-1; PN-3; PN-5; PN-6;
PN-7; PN-11; PN-15; PN-17; PN-20; Lothrop's unlocated site, "Coclé
Village" (1942: fig. 414,a); Verrill's unlocated sites: "Ancón" (30.1.788/9),
"Espinosa Burial Mound" (30.1.1038/47); McGimsey's unlocated sites: Co-22;
Co-26; Co-37.

Relationship with other Types and outside areas:
Lothrop's Red-Line Ware comprised both vessels with a white slip and with
red decoration on the natural colour of the clay (1942: 131). Vessels and
sherds in the Sitio Conte collections (PN) are identical to the Guácimo
Ware and should be included within the category. The white slip has been
chosen as the diagnostic of the ware as it is considered to be an important
chronological marker in western Coclé. Outside Coclé, wares combining a
simple decoration in red, a white slip and an oxidised paste are found in
several localities. Linares describes a Red on White category, found in "substantial percentages" at IS-7. No rims were recovered and Linares suggests that the ware is "a local imitation, in a very simplified version, of painted carafe forms that occur in the Coclé-Azuero region" (1968: 45 and Table 3). At the Mariato sites, Ko-1 and Ko-3, sherds with Guácimo characteristics are common, but shapes differ somewhat: bevelled vessels, of the type found at Mariato, are unrecorded for this ware from western Coclé. Surprisingly, Ichon records no vessels combining red paint, and a white slip from the Tonosí region (Ichon, personal information). In Herrera, Ladd created two Types for vessels with a white slip and red decoration at He-4; Red-Line Ware Type (with a cream slip), and Red-and-White Ware (with a whiter slip), which differ also in the mode of painting, size, shape and handle type (Ladd, 1964: 130-131). Other Red-Line and Red-Daubed categories from other sites in the region apparently had red on a white slip but it is rather difficult to separate them from other categories in the text. Moving eastwards, collared white-slipped vessels identical to those from Coclé (even with the added thin strip of clay beneath the collar junction) have been found at Venado Beach (e.g. 51-25-20/20517). Biese illustrates a typical example from Panamá Viejo which he classifies as Coclé Red-Line Ware and lists as "trade" (1964: 42 and Plate 15,a).

Chronology of the Guácimo-Red-on-White-Slip Ware

In the Phase IV levels of FN-11 and AG-3, Guácimo Red-on-White-Slip is noticeably commoner at the former site, there being 276 rims beneath 30 cms. in pits B and G at FN-11 and only 10 below 60 cms. in pits B and D AG-3. Above 30 cms. at FN-11, the rims of this ware diminish drastically, while in pit B at AG-3, they are commonest between levels 4 and 6. (Tables 6 & 8). At NA-8, there are no rims in level I of Trench A, 3 in level II and 6 in level III, though several more eroded rims in the lowest level almost certainly
belong to this ware. Guácimo sherds are absent from both pits at NA-13. At AG-2, the ware is not recorded in the statistical charts, but the AU sample of McGinsey's campaign has Guácimo sherds occurring in the last level of Pit IX, at 215-220 cms. so, presumably, they were found throughout the deposit. The ware is totally absent from most surface sites which have high percentages of Mendoza Polychromes (NA-2, NA-5, NA-6, NA-7, NA-15, NA-16 and PN-14). Conversely, it is common on sites with high percentages of Conte and Macaracas Polychromes (NA-21, NA-23, NA-28 and NA-30). At the last site, 106 rims of Guácimo ware were collected (Table 10).

Dade illustrates a Guácimo collared jar from PN-17 with small vertical strap handles from the anomalous Burial 18, probably of Transitional IV-V date. More were apparently found in the Medium (? Phase V) burials also (Dade, 1960: 73 and fig. 19, c). At PN-5 red-on-white vessels were present in all graves, but the catalogue and the photographic record do not always state whether the "white" is a slip or the natural surface of the clay. The ware was certainly very commonly used at the site - both for kitchen and funerary ends. Land's analysis of Trench IX places the apogee of "Red-Line" ware about a third of the way down the trench. Percentages run as:

Level 1: 0-50 cms. 0.5%
Level 2: 50-100 cms. 0.9%
Level 3: 100-150 cms. 4.5%
Level 4: 150-205 cms. 5.8%
Level 6: 205-235 cms. 0.5%
Level 7: 235-290 cms. 0.7%

(Ladd, 1957, Table 3)

If we accept the hypothesis that the paucity of designs and shapes of the Aristide Polychrome at PN-11 is suggestive of age, it appears that the Guácimo Ware becomes vigorous half-way through Phase IV - Phase IV, B. Certainly, the fact that it is very scarce beneath 60 cms. in pits B and D at AG-3 indicates that the combination of white slip, oxidised paste and red decoration had not materialised fully before the deposition of those levels. Arguing against this, is the presence of sherds of the ware at the bottom of
the midden at AG-2, though in unknown quantities. The appearance of plates
and bowls with the "Conte" drooping lip at FN-11 links the Guácimo ware
stylistically to the Conte Red and Polychrome potteries. The noticeable
clustering of the Guácimo sherds at AG-3 in those levels with high
percentage of Corotú and Conte Polychromes and the obvious commonness of the
ware in both burials and refuse at FN-5 corroborate this intimation. That
it completely drops out of the sequence in western Coolcé at some time before
Phase VII is suggested by its almost total absence from shallow excavated or
collected sites. Over the river in Herrera, at He-4, only one Red-and-White
Ware vessel (presumably similar to Guácimo) was found, in Mound 1 (Fing 8-4),
in association with a Macaracas Polychrome, Pica-Pica vessel. (All the other
non-polychrome vessels with red paint seem to belong to the "Red-Buff"
category of Ladd, whose shapes mostly approximate those of the Phase VI and
VII polychromes). Red-Line and Red-on-White sherds are present in reasonable
numbers in the mound fill so one would presume the Guácimo-like wares antedate
the building of the mounds (Ladd, 1964: 130 and 243). At He-1, Red-Line
type, Patterned and Moulded variety, vessels are common in certain find units
with "Early" and "Late Coolcé" vessels. No "Parita" or "El Hatillo" (Phase
VII) vessels were found intact at the site.

A relative date from Phase IV B through to the beginning of Phase VI
seems likely. It is doubtful whether as generalised a sequence as that
advocated for polychromes would be viable for non-polychromes, but it is
interesting that material identical to the Guácimo from Coolcé occurs at
Mariato - at two sites which seem to be transitional between the El Indio and
Cañazas Phases at Tonosí - and also at Venado Beach, and at scattered
localities around the shores of Madden Lake. Its apparent absence from the
Tonosí Valley during all known phases argues for a reasonably localised
distribution but it is probably broad enough to encompass most of the Pacific
Smoked Ware is the name employed by Lothrop for pottery that has been darkened by the fire in which it was baked. Lothrop suggests two processes by which pottery was "smoked:" the first by smothering the oven with a mass of combustibles, and the second by the addition of some substance to the exterior of the vessel so that one side only was blackened (he suggests fat which carbonised when the vessel was fired). Smoked Ware occurred in "graves of all periods from the earliest to the latest" at PN-5 and the vessels were assigned to the "Early" and "Late" periods according to their shapes and position in the grave sequence (1942: I58-I59). In his analysis of Trench XI, Ladd used the term "Black Ware" for sherds with a dull black colour, verging on brown (1957: 270). In the author's campaigns, Smoked Ware was found in quantity only at AG-3 where sherds blackened on one or two sides, or with completely clouded walls occurred. Ladd, in his analysis of the Herrera material, split Smoked Ware into three shapes: "Platanillo", with a groove-lip; "Sangre" with a rim profile similar to figs. II5, s and II6, k of the Conte Red; and "Aromo", a plain open bowl with obliquely flattened lip (1964: 198). Sherds with the "Platanillo" and "Aromo" rims occurred at AG-3, but no subdivision of the Ware has been made in this study.

Sample:
200 sherds: 106 body sherds, 68 rims and 24 modes from AG-3; one complete vessel from AG-3 and one complete vessel and a rim sherd from NA-I3.

Paste and surface:
Varies according to the nature and degree of the firing. Sherds either
have both surfaces blackened, with the black extending further into one wall than the other, and a lighter core in between; a thin outer or inner wall (about 0.5 to 1.0 mms.) and the rest of the profile a lighter colour; or are blackened more or less homogeneously all the way through. Blackened surfaces are always polished and the polishing pebble leaves pronounced but fairly shallow horizontal striations. The black may be jet-black, blackish-brown or a murky brown, with patches of the oxidised clay showing through. All the sherds in the sample seem to have been blackened by the application of the oven fuel to the vessel rather than by the addition of fat, or by the use of a black pigment. Crackling of the exterior surface indicates that Smoked Ware was generally slipped over the areas that had to be smoked, and Lothrop is probably right in considering Smoked Ware merely a modified Red Ware. However, some sherds at AG-3 approximate Ladd's Smoked-buff Ware in colour, and these vessels were probably left unslipped before firing (Ladd, 1964: 167.) A small number of the sherds included in the Smoked Ware count might be simply badly fired red, or red-buff sherds from vessels which were not intentionally smoked all over.

Shapes:

Fig. 132:

Collarless restricted vessels (a-e):

Eight rims were found with this shape; one has a lip modified on the exterior only (a) - a shape common in the Olivo Red-Buff Ware - and another a medial bevel (c).
Collared restricted vessel with sharply everted lip (f):

Only one rim, blackened right through the wall; this might be simply a mis-fired Escotá Red-Buff sherd.

Open bowl with downward-pointing everted lip (g):

One rim only; intentionally smoked; black exterior, smoked grey interior, light core.

Plates and bowls with drooping lips (h-i):

Three rims only, intentionally smoked, with rounded apices to the "droops".

Bowls with unmodified or lightly modified rims (j-n):

Eleven rims; one, k, found in the Phase IV levels of pit D, the only Smoked Ware sherd found for the Phase, apart from the anomalous examples in Plates 58,f and 61,a, is perhaps a mis-fired Escotá Red-Buff sherd. The profiles of the other sherds resemble Escotá Red-Buff, but they seem to have been intentionally smoked, with both surfaces blackened and lighter cores.

"Sangre" shape (p):

Only one sherd, with a loop handle springing out of the exterior rim of the "groove", ovate in cross-section (at the base) and resembling the Olivo Red-Buff shape, fig. 100,a–c. (Extension C of pit A, AG-3, 60–100 cms.)
Groove-lipped unrestricted or very lightly restricted bowls and plates:
figs. I32, o & p; I33, a-i;

The commonest shape (16 sherds). Profiles are identical to Conte Red, fig. II5, 1-s, except for figs. I32, o and I33, h & i, which have a rounded fillet of clay appended to the inner lip to form the "groove" as opposed to the finger-made indentation. Diameters vary from 16 to 29 cms. Fig. I32, p has a handle with an oval cross-section sprouting from the top of the exterior apex of the lip. Fig. I32, o, is presumably similar.

Flat-lipped bowls and plates:
fig. I33, 1-s;

9 sherds. Profiles compare with Conte Red, fig. II5, a-k. Diameters range from 17 to 29 cms.

Fig. I34:

These sherds are very similar both in general profile and the appliqué decoration to the Appliquéd Red-Buff Ware. Rims are curved inwards on all examples and lips are always rounded. Shoulders are either rounded (a & e-i) or angled (b-d). On some sherds, the profile narrows characteristically after the shoulder (as in the Applique Red-Buff). Applique modes are unmodified (a-d), definitely zoo- or anthropomorphic (e & i), abstract zoomorphic (f & g), or elongated and undecorated (h). The little face-nubbin is interesting as it has circular ear-spools.

Appendages:
fig. I35:

Pedestals and ring-bases:

Pedestals are either tall, with a flaring base (a & b) or short (c-e) and like type C ring-bases. 6 type A and I type B ring-bases in Smoked Ware were found (fig. I35, f and compare fig. I43, b).

Handles:

Two handles on groove-lipped vessels have already been mentioned.

Two fragments of strap handles were found (both like fig. I35, h).
allow support:

Fig. 135, i: Ladd illustrates a groove-lipped Smoked Ware vessel from He-4 th bulbous legs, though he does not mention whether they are hollow or not.

...other hollow leg - this one more definitely mammiform, with a punctured nipple - is in McGimsey's selected sample for NA-7. (Ladd, 1964: fig. 57,a).

Zoomorphic appendages:

Fig. 135, g & j: g is probably a fish tail appended to the exterior of a bowl; j is a solid dog or Procyonid head; the eye is typical of the Appliqué Red-Buff Ware, having a raised pupil. A little animal from AG-3 (not illustrated) - probably a frog - is probably a pottery lid handle.

Snake appliqué with "cañaza" incisions:

Plate 57,d: One exterior body sherd. (AG-3) has an appliqué ridge representing a snake, decorated with punctations made with a "cañaza", and slashed incisions.

Gourd-effigy vessel from NA-I3:

Plate 64

This vessel was found in pit B at NA-I3. It is a modelled effigy in the shape of a gourd. The flutes were fashioned by pushing the clay out from the interior. There are twenty-one flutes, irregularly spaced and poorly executed (some being much higher than others). The diameter measures 8.5 cms. at the lip. The lip has a slight collar, everted upwards. The vessel rests on a type B ring base, which has a diameter of 7.5 cms. It is smoked on both interior and exterior, and the smoking has been well controlled, so that there is a black surface about 1 mm. thick, while the inside wall is oxidised to a buff-orange. The temper is fine river sand. The exterior is fairly homogeneously black, but there is a patch which is noticeably blacker than the rest of the vessel, on the exterior above some of the flutes. Both interior and exterior are well smoothed, but not polished. A very similar vessel is illustrated by Reichel-Dalmatoff from Cupica, on the northern Pacific coast of Colombia (1961: Lam. XIII,A). Gourd effigies with finger-pushed flutes
found in graves at PN-5, in Plain Red Ware (Lothrop, figs. 266, 271 and 272a), in Smoked Ware (op. cit.: figs. 323 & 325). Fig. 323 is very similar to the NA-vessel, but it rests on a footed pedestal of a type not found in 1969-71. The Lea example has been dated to 1227 A.D. by carbon-I4, an interesting date, as NA-I3 was occupied during Phase VII, with only a minimal scatter in Phase VI, and NA-VII should date by analogy with outside areas to 1200 - 1500 A.D. (Linares Sapir, 1968: 90).

ate 52a:

The other Smoked Ware pottery recovered from NA-I3 is a rim from a very thin-walled ecomate" (5 mms.), with a diameter at the mouth of 8 cms. The decorative band ranged on the exterior, just below the lip, comprises fine-line incision and notation: one of the two motifs consists of two horizontal lines, bent down at right-angles in the corners, outlining a single row of dots, and the other of a double row of punctations.

ate 10:

und in association with either skeleton C-I or C-5 at AS-3. It is 13.5 cms. 11 and has a diameter at the exterior lip of 11.9 cms. The short pedestal has a profile similar to fig. 143, d. It is 1.5 cms. high and 8.5 cms. wide. The twoomorphic appendages seem to depict Howler Monkeys. Both surfaces are smoked; e exterior is very highly polished. The collar profile is similar to the Oliva d-Buff fig. 96,e.

scellaneous Smoked Ware and incised buff ware sherds:

enado Beach Incised":

e sherds in Plate 58, d&e, have their exterior surfaces, decorated with deep incisions and punctations, smoked intentionally. The rest of the sand-tempered paste fired to a deep orange. Similar material - with the same well-executed incisions and dashes - was found by Ladd at He-I and He-2 and called "Venado Beach Incised" re because it "practically duplicated" in shape and treatment material from Venado each itself. (Compare Biese's "Votive Ware" (1964a: Plates 6 & 7)). The incised d-buff sherds in Plate 59, m & p have a treatment very similar to "Venado Beach" material and are here included as "Venado Beach Incised". m is identical to the rim Biese's Plate 6 and similar to Lothrop, 1942: fig. 459, a "Brown Ware" vessel from caracas. Ichon has found very similar material in small quantities in the post region which he also calls provisionally "Venado Beach Incised"
Ichon, personal information). (It is by no means certain that the Canal one region is the "type locality" for this Ware). Another buff ware sherd ith incisions and punctations is illustrated in Plate 58,c.

nomalous sherds from Phase IV at AG-3 and PN-II:
The sherd illustrated in Plate 58, f, is clouded through the entire wall and has a strange scroll-like design, with an "eye", appended to some notches of the kind which occur on Escotá Deep Incised Rims (Plate 59, i). The sherd is too small to determine whether this clouding is intentional or not. (A number of plastically decorated sherds of the Escotá Red-Buff Ware have the decorated part sometimes clouded, presumably intentionally - see pp. 269-271 - and it is interesting that one of the "Scarified" vessels illustrated by Harte, N (1966: p. 4) is described as "ahumada"). Another strange rim (Plate 61,a) is fire-clouded right the way through and has some very light incisions forming a criss-cross pattern on the lip below two deeper, horizontal incisions. The profile, illustrated in fig. 136,q, is also anomalous. Both these sherds were found at the very bottom of pit D (level 7), right on the base clay. At PN-II, in pit B, level 10, a solitary smoked sherd was found. It has been carefully smoked on one side only, the remainder of the wall being of a white colour. The decoration consists of a series of flattened clay pellets arranged in two rows. It is only a small fragment, however, and even the approximate shape of the vessel cannot be determined.

DISTRIBUTION OF SMOKED WARE IN WESTERN COCLE:
AG-3; NA-7 (McCimsey's selected sample); NA-I3; NA-20 (Temple Site);
PN-5; PN-II; PN-I7; Verrill's unlocated sites, the "Espinosa Burial Mound" (AMNH) and the "Barrancos Grave" (Lothrop, 1942: fig. 428,a.)

Relationships with areas outside Cocle and chronology:
The only fully smoked sherds found in the Phase IV levels of AG-3 and PN-II were those just mentioned and an Escotá shape bowl, which might be mis-fired red-buff ware (fig. 132,1). Vessels smoked intentionally on one or two sides probably become popular after the end of Phase IV, though, from the sample at hand, it is impossible to know to what extent the Escotá plastically decorated
vessels were smoked and how well the clouding was controlled. Smoked Ware was common at PN-5 in both the Phase V and the transitional V-VI or VI graves such as 5 and 26. An approximate date for the appearance of completely smoked pottery might be provided by the strange incised bowl found in burial 18 at PN-I7, which is transitional IV/V (Dade, 1960: 86 & fig. 20, b, right). The shapes of the Smoked Ware sherds at AG-3 are surely indicative of age, the "flat-", "groove-" and "droop-lipped" vessels being assignable to Phases V or VI and the appliqué examples to Phases VI or VII. The absence of Smoked Ware sherds on all the collected sites with Phase VII assemblages indicates that perhaps the technique of smoking had dropped from popularity by Phase VII in the Cocle-Grande-Chico drainage, though a Smoked Ware hollow leg - approximately mammiform - and a groove-lipped rim of the type with the thin inner lip (c.f. fig. II5,q) were found in McGimsey's pits at NA-7. The whole gourd-effigy vessel and the strange incised rim from NA-I3 should be Phase VII; the possible correlation of the former with Cupica Phase IV at about 1200 A.D. is interesting, but the gourd-effigy shape with similar rim occurs in Plain Red Ware in "early" (Phase V) graves at PN-5, and it might be a poor indicator of age. The Smoked Ware effigy buried in pit C at AG-3 ought to be Phase VII.

Over the river, in Herrera, the finds of Smoked Ware vessels in units with more than one vessel are not very conclusive chronologically: Sangre-type rims (c.f. Conte Red, figs. II5, s and II6, k) were found at He-4 in possible association with Parita Polychrome, Ortiga Variety sherds, in Finds 5 and 6; possibly in Find 369, with El Hatillo Polychrome vessels; and in Find 378, with Macaracas Polychrome, Pica-Pica Variety vessels. At He-I, Sangre vessels occurred with a "Late Polychrome plate" (Macaracas?) and Ladd considered that the Variety had a range "which may have extended from Early to Late periods" (Phases V and VI) at this site. Platanillo (groove-lipped) vessels were found in Find 372 at He-4, with I5 Macaracas Polychrome vessels; and with Cocle Red, Red-Line (Guácimo) and Girón Interior Banded (?Talingo) vessels in Finds 4, 5 and 10 at He-2. Aromo vessels were found with a "Late Polychrome" plate at He-I and the variety "ranges over two periods."
Spouted vessels were found in Finds 3, 11 and 14 at He-2, with "Coolé" and miscellaneous Red Wares. Thus the total of associations suggest at least a Phase V-VI span for the three varieties described by Ladd (1964: 145-7; 198-9; 243-267). Only a Sangre rim in possible association with Parita Polychrome and a "possible" Sangre rim in association with El Hatillo polychromes were recovered from Phase VII contexts. However, too little is known about Phase VII burials in the Parita Bay region to warrant any definite conclusions about the chronology of the Smoked Ware at this point. It looks, at least, to be post-Phase IV.

Smoked Ware vessels have been found frequently east of Chiriquí. Groove-lipped vessels have turned up at Bubí, right on the Chiriquí frontier, from an interesting Phase V grave with four Conte Polychrome vessels, one of which has an effigy handle representing a Cracid (? Penelope purpureascens). This grave was regarded by Lothrop as evidence of "contact with Cochlé": "The evidence here presented shows definitely that the people of western Veraguas were in contact with Cochlé at the time that the Sitio Conte was founded (1950: 79). Smoked Ware has also been found at Venado Beach but no illustrations of the material have appeared (Ladd, 1964: 145).

**PHASE IV**

**ESCOTA RED-BUFF**

**Introduction:**

At AG-2, Ladd created an Escotá Red and an Escotá Plain Variety of the Escotá Type and the name Escotá has been preserved for the major non-polychrome ware of Phase IV as manifested at both FN-11 and AG-3. However, some shapes which were allotted by Ladd to his two Types - the "droop-" and "groove-lip" (1964: figs. 63,e, f & m) - have been excluded from the Escotá Red-Buff and assigned to the Conte Red Ware. Otherwise, the shapes included in the Group are predominantly those described by Ladd.

**Sample:**
3354 rims sherds: 2574 from AG-3; 526 from PN-11 and 254 from surface collections.

**Paste:**
At PN-11, nearly always orange or orange-buff in colour, generally fully oxidised, though lighter cores occur and fire-clouds sometimes cover the entire wall. The Escotá sherds, like other categories at the site, are chalky to the touch. At AG-3, the paste is much more varied ranging from light buff through to bright orange. Poorly fired sherds are common. For comments on surface treatment see under respective shapes.

**Shapes:**

A) Restricted vessels with collars:

1) Vessels with restricted orifices and tall, straight-sided or flaring collars:

Figs. 117, 118 and 119, a-e

These tall collars are the most distinctive rims of both the Escotá Polychrome and the Escotá Red-Buff and do not occur on any other ceramic category in the region. Examples from PN-11 are straighter-walled than those of AG-3 and tend to have thicker profiles. Rims are always unmodified, or very lightly modified, and lips are either thinned on the interior (117, a, e & d), rounded (b), slightly flattened obliquely on the interior (e) or brought to a gradual point (f & g). There are four modes of applying the red paint: to the exterior and to the base of the collar on the interior (a, b); to the interior only (e); to the exterior and half the interior (f); and to half the interior only (g). At AG-3, the rim form is considerably more varied, and most collars flare back at a greater angle from the neck, the difference between the diameter at the neck and lip being much greater than at PN-11. Rims are also thinner in proportion to length. Lips are frequently slightly modified on the exterior (118, a & d, 119, b) or obliquely on the outer lip.
At both sites, the collar generally joins the neck at a sharp bevel but one or two collars from AG-3 have rounded interior shoulders which are thicker than the body wall beneath (118,f). At AG-3, collars are decorated in the four ways given for PN-11, but several collars are completely undecorated, and polished crudely with a pebble. Few collars have fragments of the body still attached. The total shape presumably is the same as that of the Escotá Polychrome vessels, and body shoulders are either sharply or lightly angled, or rounded (see fig. 38 for reconstruction of shapes). Diameters at the lip range from 12 to 38 cms.

2) **Vessels with shorter straight-sided or flaring collars:**

*Figs. 119, f-l and 120*

Profiles of the shorter Escotá collars vary slightly at the two sites: at PN-11, a common shape is that in fig. 120, d-i, k & l, where the collar is fairly straight and curves very gently from the shoulder, inwards at first, and then either straight up or slightly outwards. Neckless vessels of this sort are absent from the Escotá sample at AG-3. Interior shoulders at AG-3 are more sharply pronounced and the rims are thicker. Nevertheless, the curve upwards from the neck is never accentuated. At PN-11, rims are thickened slightly from bottom to top and rounded (120,a,e,f & k); unmodified and rounded (b,c); thickened and pointed (d,g); or thinned and pointed (h,l & m). At AG-3, the rims are either unmodified with rounded lips (119, f,h,i,k & l), or thickened, and thinned at the lip (e & g). Red paint is applied in four ways: to the interior collar only (119,g; 120,a,c,h,j & k); to the interior and exterior (119,f,i,k; 120,m); to the lip alone (119,h; 120,i); or to the lip and part of the interior collar also (b,d-g, k & l). Diameters at the lip vary from 7 to 24 cms. The few vessels which have part of the body still intact have red splashes dotted around the upper shoulder. Bodies are presumably subglobular with sharp bevels or rounded shoulders.
One rim from PN-11 has two deep grooves running around the exterior collar below the lip (120,i).

3) Sharply everted, thin-walled collars

Fig. 125, a-e

This rim form and the next are recorded only from AG-3, where neither is common. Collars flare out sharply from and are considerably wider at the lip than the neck. Rims are unmodified and either squared off obliquely on the exterior (a,b,e) or rounded (c,d). Red slip is nearly always applied to the exterior of the vessel and interior and exterior of the collar, though the red paint on the body is often thinner than on the collar and wears off. Some exteriors are splashed or daubed with paint. Two examples (a & b) are fire-clouded all over, though patches of oxidised paste poke through the clouds. Fig. 136, a-c,e,h,i & n illustrate other examples with deep incised decoration on the lip. The decorative variations are recorded in Plate 59.

4) Everted and decurved rims:

A strange shape. Only two recorded undecorated (125, f & g) and several more with deep incised decoration on the rim (fig. 136, d,f,g,j-l). Ladd (1964 illustrates this profile from AG-2 (fig. 63,a). All examples - both incised and plain - are unslipped and have light buff surfaces which are carefully smoothed when not fire-clouded.

5) Thick, stubby collars, everted upwards and outwards:

Figs. 121, a-i; 122, a-k

Similar profiles occur at both sites, in about the same quantity, though at AG-3 they are rare below level 7 in pit B and level 2 in pit D. Collars are everted sharply upwards at about 45 degrees; the amount of eversion varies considerably as does the angle of junction with the exterior body. Rims nearly always taper slightly towards the end and lips are either pointed (121, b-f & i; 122,k); squared off obliquely (121,a,g, & h); or rounded
Red paint is always applied to the flat part of the collar which is never unpainted), and sometimes to the interior and exterior of the body also. The red is sometimes limited on the interior to a broad band beneath the collar (I21, f, h, & i; I22, j & k). Those exteriors which are buff are generally adorned haphazardly with red: finger-painted streaks running vertically downwards from the collar junction; random- or horizontally-arranged blobs; and a finger-painted design looking like the explosion of the big rocket on Guy Fawkes' Night - the fingers start together and then are spread out rapidly to achieve a star-like affect, with four streaks leading away from the node. Interiors may also be splashed (probably unintentionally) with red.

6) Vessels with very restricted orifices and horizontally flattened lips:

Figs. I21, k & I22, l & m:

A very small number of vessels at both sites have this strange shape (which occurs also on Girón Banded Lip vessels). The body is brought gradually into a restricted neck and the lip everts sharply, to form an apology for a collar, being quite flat on top. The red is applied to the flat part. Exteriors are red-daubed.

B) Restricted vessels without collars:

Figs. I26 and I27:

"Tecomates" of Escotá Red-Buff are always thin-walled (never over 1 cm. thick, except for a few modified lips). Diameters at the lip never exceed 20 cms. and are usually between 10 and 12 cms. Vessels are either full-bodied, with an orifice much smaller than the diameter of the exterior body (I27, a-i), or have walls which are only slightly recurved (fig. I26). The narrow-mouthed examples are rare at PN-II (only three examples). Lips vary enormously. The very thin, rather pointed lip, is the most characteristic; "tecomate" lips of other wares are never so pointed (I26, i; I27, g&m). Most rims are unmodified, or very slightly thickened towards the lip. Some lips are slightly everted
upwards at about 45 degrees (126, s & t; 127, j & k). A few sherds have a medial bevel at the shoulder. Application of the red paint is as varied as on other shapes: red-slipped all over (126,b, c & l); red-slipped exterior and buff interior (126, h-k, n & s; 127, b-i); red-slipped interior and buff exterior (126, d, e & p); red lip only (126, o, q & t; 127, k, m & o); or red-slipped lip and part of the exterior (126, r; 127, a & n).

C) Unrestricted vessels or vessels with minimal restriction
1) Bowls with sharply everted horizontal or downward pointing lips:

Figs, 123 and 124:

At PN-11, all the open bowls with this characteristic profile have horizontally everted lips, while at AG-3, several lips incline downwards at about 45 degrees. (123, g-l). This conforms very precisely with the almost total absence of the Girón Banded Lip bowls with downward slanting lips at the former site. Escotá bowls never have lips which slant upwards from unrestricted walls, as in the Cortezo Red-Buff. No lips at PN-11 are modified on both interior and exterior (as in 123, d-j). Red is always applied to the flat part of the lip and never to the tip alone as in Cortezo Red-Buff examples. The lip is also never panelled into blocks of red; never painted with blobs or circles; and there are never stripes running from the lip right down the interior. There is frequently a broad band on the interior below the lip (123, a & e). Some vessels are red-slipped all over (123, b, c, f & l; 124, b & k), while others have the interior red-slipped and the exterior buff. Buff exteriors are nearly always - as in the Girón Banded Lip Type - decorated in some way with red paint, with horizontal or vertical finger smears, blobs, and tear-drop shaped elements. Diameters vary from 9 to over 40 cms. Cortezo Red-Buff vessels never have the thickness of either wall or lip of some Escotá examples from PN-11 (124, c-e).
2) **Bowls with unmodified or lightly modified lips:**

*figs. I28, I29 and I30, a–d:*

Bowls are common in the Escotá Red-Buff Ware and have three major lip forms: a) rounded on the underside and straight on the upper to form a "ski-tip" (I28, b–d & g–k; I29, c–e); b) flattened and unmodified, either horizontally (I29, a & b), or obliquely on the exterior (I28, e & f; I29, g); and c) simply rounded (I28, l–o; I29, k–m). No other red-buff or red category has bowls which combine the rather thick walls of figs. I28, g and I29, d & e with the upcurving rim and the ski-tip lip. A few bowls at AG-3 have thinned and pointed lips (I28, j & k) and heightened exterior lips with rounded interiors (I30, d). The red is applied, as on all other shapes, in a variety of ways: a) to both interior and exterior (I28, b–d, h–j & l; I30, a & b); to the interior and the lip or the uppermost past of the exterior only (I28, e–g, k, n & o; all examples in I29; I30, d); or c) to the lip and exterior only (I28, a & m). No examples at PN-II are red-slipped on exterior and interior. A few bowls are unslipped (I30, c).

Vessels with unslipped exteriors are usually daubed with red in some way. Exterior red slip tends to be much thinner than interior, with patches of the base colour showing through, as in the Cocobó Interior Banded. In fact, the red is rarely as neatly finished as it is on the Conte, Olivo or Mendoza Red bowls. At AG-3, a large number of Escotá bowls have homogeneously fired pastes except for a fire-cloud which covers large expanses of the surface and penetrates very slightly into the wall. Finish to surfaces is variable: all examples are well polished, but the polishing tool leaves broad and irregular horizontal striations. Manufacture was almost certainly by coiling, as the thicker examples, especially the large bowls with "ski-tip" lips, have distinct undulations along the interior and exterior walls. Rims are often badly made and very uneven.

3) **Bowls and plates with irregular striations on the exterior:**

*figs. I30, e–j; I31:*


A characteristic combination is that of a shallow shape, unmodified rim, and an exterior which is smoothed with an instrument that leaves shallow striations (perhaps a shell) on the exterior, which is always unslipped. All profiles except two from PN-11 (131, i & j) would classify as plates. At AG-3, interiors and sometimes lips are red-slipped; at PN-11, all examples are unslipped in and out. Lips are either rounded (150, e-i, 131, a,c,h-j), often with a paraboloid profile (130, f & g), or flattened (130, j; 131, b,d,e & g). The flattened examples frequently have a characteristic groove along the edge of the lip (130, j and 131, b & e.) Profiles at PN-11 are much thicker than at AG-3, some examples having a wall thickness of 2 cms. These thicker-walled examples usually become thicker as the base is approached. Diameters at AG-3 range from 12 to 25 cms., at PN-11 from 12 to 34 cms. Some of the AG-3 examples, especially the flatter (130,j) are probably rim fragments of incense burners with nubbin legs. The striations on the underside are intentionally executed, and are made in short strokes irregularly over the surface, so that the lines frequently cross each other to form a reticulate effect. Interior surfaces of the unslipped examples at PN-11 are smoothed but not polished; colour is variable, and blotchy, with patches of fully oxidised paste showing through lighter areas. The combination of the flat shape and the intentional striations implies some special function but I am ignorant of its nature. Perhaps the flatter vessels were used as griddles.

4) Incense burners:

Some fragments of incense burners in Escotá Red Buff ware were recovered from the Phase IV levels at AG-3. These have the rim and lip profiles of the above examples, and a wide, tongue-shaped handle appended to one end. One whole handle measures 12 cms. across at the junction with the plate,
and tapers to 9 cms. at the end, which is lightly rounded. The handle follows the curve of the bowl upwards, and has an irregular surface. The upper surface is red-slipped, with fire-clouds showing through, while the under surface is smoothed and left plain. Other fragments have the striations of the above-mentioned examples on the underside. The burners are stabilised by small, conical nubbin legs with truncated ends. They were probably arranged in threes, with two legs at the junction of the handle with the bowl and one mid-way between them at the other end of the vessel. The plates measure about 25 cms. across. None of the PN-11 bowls has nubbin legs.

**Vessels with double profiles:**

Five fragments of vessels with a double profile were recovered from AG-3, and another superficially at NA-22. One at AG-3 has a shape identical to a sherd illustrated by Lothrop for PN-5 (1942: fig. 349, f). About the same amount of the vessel has been preserved. The upper wall is 1 cm. thick and straight. It is adorned on the exterior with broken pinched ridges, about 1 cm. long, like the element on the left-hand side of Lothrop's example. The base is 2 cms. thick and the bottom part flares away, though the total shape cannot be appreciated. The diameter measures 6 cms. across the inside wall. One other fragment, also from AG-3, has a similar shape and size but the pinched ridges are arranged horizontally. The NA-22 example is larger, with a diameter at the inner wall of 9 cms. The decoration, also on the straight wall, consists of vertical applique strips, notched with the edge of a small shell, exactly like the motif on the right hand side of Lothrop's vessel.

The remaining three fragments at AG-3 have a profile which is symmetrical, and is surely hour-glass "in toto", like the drum or pot-stand illustrated in op.cit.: fig. 359, 360, a. All are red-slipped in and out and the bases are thinner, about 0.5 cms. across.
Appendages and plastic decoration:

Appendages:

a) Pedestals:

One pedestal was recovered from the Phase IV levels at AG-3 (pit B, level 8). It has the profile of fig. 139, a, but is half the length. The diameter at the base measures 13 cms. and narrows to 7.5 cms. at the junction with the surmounting vessel. The interior has been smoothed roughly, with a shell; the exterior and vessel fragment are red-slipped and polished, though the pedestal is badly fire-clouded. One small pedestal fragment from PN-11 is perhaps from an Escotá vessel (Pit B, Level 7).

b) Nubbin legs:

Four stubby nubbin legs found at AG-3 are definitely from Escotá Red-Buff incense burners. They are about 2 cms. tall and 2.5 cms. wide at the base, narrowing to 1.5 cms. at the end.

c) Round handles:

One fragment of a round handle (AG-3, pit B, level 7) is presumably from large Escotá vessel. It is 3 cms. in diameter, crudely shaped and red-slipped, but not polished.

d) Abstract lug handles:

Small lug handles of the type illustrated for Escotá Black-on-Buff (figs. 47, a & 49, d), occur in small numbers on Escotá Red-Buff vessels also, either arranged vertically, just below the lip, or horizontally, as in Plate 60, a. Two examples are larger than those illustrated, being 5 cms. in diameter and 2 cms. tall.

e) Small strap handles:

A few vertical strap handles which are attached to the lip and body of a collared vessel, being broader at the junction with the lip and body than in the centre, and about 1.5 to 2 cms. wide, accompany Escotá Red-Buff vessels.
Plate 58, b, illustrates a coarser example of a strap handle on an Escotá Red-Buff vessel (pit B, level 7). It is attached to the shoulder of the vessel and is merely a thick ribbon of clay crudely pressed on. Plate 55, i illustrates another strap handle which was attached vertically: it is 4 cms. wide and only 4 mms. thick. Plate 55, j, arranged horizontally, has a strange, thin, white slip which has a greenish tinge.

Plastic decoration:

Plastic decoration is characteristic of a number of Escotá Red-Buff sherds at AG-3 but seems to have dropped out by the second half of the Phase, B+. FN-11 had only three plastically-decorated red-buff sherds in the Phase IV levels. It is the author's opinion that these plastic motifs are a link backwards with the poorly defined "Scarified - Guacamayo" tradition and the Búcaro Phase of the Tonosí Valley.

a) Thin parallel line incisions ("escarificaciones").

85 sherds at AG-3 have been incised with a fine instrument on the exterior to form a decoration of parallel lines running vertically down the exterior of a subglobular bodied vessel. 46 of these sherds are from the Phase IV levels at the site. The lines were made when the clay was still plastic with a very fine instrument (of the size of a catfish spine) and are always shallow. The fineness of the lines, their closeness, and the accuracy of drawing are variable. The impression is that they were made quickly. As far as can be judged, their total arrangement is always vertical, though some incisions are diagonally placed. Vessels with the collar still attached indicate that the incisions run from the junction of the collar with the body to an unknown point down the vessel exterior. Some sherds are red-slipped above the incisions, but these are probably always collarless (as in Plate 61, b & n). Exteriors are smoothed very
roughly prior to incisions, with an instrument that leaves irregularly placed shallow striations. Interiors are always well smoothed, and exteriors which are undecorated are well polished. Unpolished surfaces are grey- or orange-buff in colour. Vessels with the rim still attached are illustrated in Plate 61, b-f and n and their profiles in figs. 136, r & s and 137, a-c & k. One of these has a Girón Type, Circumbanded Variety decoration on the flat part of the lip (Plate 61, c, and fig. 137, a, and another the typical, tall, rather straight collar of the Ware (fig. 137,c).

b) "Cañaza" punctate:

"Cañaza" is a local word reserved for small reeds of the genus "Canna" which probably made the punctations which are commonly used to decorate vessels of different wares. At least seven Escoptá Red-Buff sherds have "cañaza" decoration, as in Plate 61, g (PN-1), Plate 61, o (AG-3), and Plate 61, h (PN-11). Rim profiles are in fig. 137, d, e & l. One exterior sherd from PN-11 combines "cañaza" punctations within a rectangular "frame" of two parallel incised lines. The indentations on all examples were fashioned when the clay was wet. The "Cañaza" usually makes a simple and shallow, circular indentation but Plate 61, c which has punctations made on a circular, raised platform, has been bereft of the centres of the holes. Plate 61, i & j, which have "cañaza" punctation on plain buff (unslipped) bowls, with typical Conte Red flat-lips, as well as a similar example with shell edge stamping on the lip, k, have been listed under Conte Red in Table 8.

c) Ridge fluting:

Plate 62, a, has vertical flutes about 2 mms. deep arranged beneath the lip of a "tecomate". The ridges are triangular in cross-section. Plate 62, i, has deeper fluting, also vertical, arranged at the shoulder of the vessel, in a rectangular panel. On both these examples the exterior was
slipped and polished subsequent to the fluting. Plate 62, f, has another type of fluting, which consists of minutely thin ridges which barely protrude above the surface. The exterior of this example has traces of a very thin smudged white slip that is unpolished. Only four sherds have this type of fluting - two in conjunction with "pinching" (Plate 63, g). It occurs also on "Sariguá Complex" sherds.

d) Fillet appliqué and shell edge stamping:

Plates 63, b, c, e & f are decorated with fillets of clay, crossed at regular intervals by small indentations made with the edge of a ? Scapharca shell. One has a strange ribbon- or knot-like design on the exterior of a vessel with a pointed, flaring collar (fig. 138, c and Plate 63, b) which approximates, Lothrop, 1942: fig. 349, b. Plate 63, c and fig. 138, d, has a similar profile and a decoration of vertical fillets running down from the rim. Plate 63, e & f have thicker fillets, on the body of the vessel, on the former arranged vertically, on the latter, horizontally. 11 sherds of Escotá Red-Buff were found with this decoration.

e) Simple shell-edge stamping:

Six Escotá Red-Buff sherds have a pattern formed of light impression made with the edge of a shell (Plate 60, a, b, e, f, n & p). a has three rows of vertical and another of horizontal impressions arranged within an unslipped panel, bordered by red. b is decorated with rows of vertical impressions above the shoulder; a very fine, white slip with a green tinge covers the patterns. e has diagonally placed impressions clustered around the remains of what is probably the type of handle in Plate 58, b.

f) Pinching:

Plates 61, p; 62, h-j; 63, a, d, g, i-l.

18 sherds have decoration consisting of pellets of clay which have been pinched with either the fingers, or, presumably, a sharp instrument from either
ide. The result is generally a cuneiform (Plates 61, p, 62, h and 63, d, g, i) which is sometimes combined with other decorative elements such as the very thin ridge flute (63, g) or a thicker flute (63, d). Other examples have larger pellets which are formed into rounded or ovaloid nubbins (62, i & j) or stabbed from beneath with a sharp instrument (63, j). Other cuneiforms are more pronouncedly pinched (63, k & l).

g) Conical nubbins:
Plate 62, c has three horizontal rows of four conical nubbins set in a rectangular panel within a red ground, on the exterior of a "tecomate" with a bevelled shoulder (profile, fig. 138, a).

h) Stabbing:
Plate 62, b, has been stabbed with a broadly pointed instrument and the clay prised upwards to form elevated ridges.

i) Raised ridges and shell stamping:
Plate 63, h, has a pattern consisting of three parallel ridges crossed by impressions made with a shell, much deeper and wider than b, c, e & f.

j) Appliqué animals:
Plate 56, k, and l, illustrate two strange appliqué animals which are probably from Escotá Red-Buff vessels with a restricted neck - possibly "drums". The animals themselves are unslipped but the encircling surfaces are of a highly polished red. The interiors have broad red bands.

k) Flat rims with deep incised decoration:
Plate 59, a-l; fig. 136, a-l
56 rims from AG-3 and one from PN-11 (pit B, level VII) are decorated on the flat part with deep incisions and, sometimes, punctations. Profiles are illustrated in fig. 136, a-l (n is probably Escotá Red-Buff, but it is black through the profile and on the surfaces). Body walls are very thin relative to rims on some examples. The decoration was made when the clay
was plastic, and the incising instrument has left elevated ridges of clay alongside the incisions. The total design on all examples probably consists of some highly stylised beast - a ray, perhaps - arranged radially around the rim. The beast either has simple "cañaza" punctated eyes (Plate 59, a & b), a pellet with a punctated centre (c, e & f), a raised "pupil" (d, g) or an unmodified pellet (h). Lothrop illustrates almost complete rims of the same type (1942: fig. 345). The surfaces of the rims are smoothed but not polished prior to incision. Some are fire-clouded, in some cases probably intentionally. Plate 59, e, for example, has a completely black upper rim and a buff lower rim and interior. The undersides of the rims are only roughly smoothed. Some examples (a, b, d, k) are unslipped; others have red tips to the lip alone (e); c has a red interior; while the remainder have been painted with red on the raised portions of the designs. This red has worn thin in most examples, but the total effect was probably one of "zoned bichroming". A few examples have traces of thin white slip in the incisions.

Plate 59, o illustrates a bowl rim with three deep grooves incised on the interior. It is unslipped (pit D, level 5).

Escotá Red-Buff sherds with the plastic modes outlined above are anomalous in other ways apart from their decoration: firstly, the temper on all examples except the deep incised rims, is a heavy-grained quartz sand, which does not occur on other wares at the site in such density relative to paste. Whether this is one instance of a foreign provenience or whether it merely indicates a different local source for the temper, I do not know. Secondly, the shapes, as far as can be determined from so fragmentary a sample, are strange: cylindrical vessels with flat bottoms and outflaring bases have already been mentioned, and most of the thinner-walled body sherds seem also to be from straight-walled vessels with a narrow diameter and
cylindrical shape, and to have been broken from a fairly flat base. Some have broad red bands arranged concentrically on the interior. These flat bases and straight-walled sherds are probably from large, tall drums of the type illustrated by Lothrop for PN-5 (1942: fig. 401). The body form of the rim sherds in Plate 63, a-d and fig. I38, b-e is impossible to appreciate, but it would not surprise me if the total shape did not approximate that of the "Scarified-Guacamayo" goblets. Thirdly, the treatment of the plastically decorated surfaces of some sherds includes a thin white slip, or wash, with a strange consistency and hue, and also intentional smoking and smudging — probably of the same white wash. I believe that on some of Ichon's Nicaaro Phase material from Tonosí, a thin white wash occurs in conjunction with plastic decorative modes similar to those of the Escotá Red-Buff Ware.

DISTRIBUTION OF THE ESCOTA RED-BUFF WARE IN WESTERN COCLE:

AG-2; AG-3; AG-9 (Co-I4); NA-I2; NA-I7; NA-2I; NA-22; NA-23; NA-28; NA-30; PN-I; PN-5; PN-7; PN-II; LP-I; McGimsey's unlocated site, Co-22.

The Ware was present in the Verrill collections (AMNH) but the catalogue numbers were not recorded.

Chronology and relationship with other types and outside areas:

The following rims and plastic decorative modes I consider to be diagnostic of the Escotá Red-Buff Ware and not to occur on other wares (non-polychrome):

1) Tall, straight-walled or flaring collars, with lightly modified rims (figs. II7, II8 and II9, a-d).

2) Collars which curve gradually up from the body and do not have pronounced shoulders (fig. I20, f-i & k-1).

3) Thick, stubby collars on restricted vessels, with the flat part always red-slipped, and the angle of the slope at about 45 degrees upwards (figs. I2I, a-b; I22, a-b).

4) Bowls with everted, flat lips, on which the red covers the entire flat part and the body interior, and whose angle of eversion is either at 90 degrees outwards or inclined downwards to about 45 degrees. Thickening of both the inner and outer lip and the downward slope are diagnostic of the earlier part of Phase IV, A (figs. I23, b-d & f-l; I24, b-e, g-i & k). Vessels of similar shape that have the tip of the lip only red-painted

* A massive drum with plastically decorated exterior has been found recently in southern Veraguas by de Brizuela, in a transitional IV/V context.
panelled decoration in red on the flat lip, sometimes extending down the interior, or lips evert ing upwards at 45 degrees, are Cortezo Red-Buff.

5) Rims of restricted vessels that evert sharply outwards and downwards (fig. 125, f & g).

6) Bowls with thick body walls, a thick red slip on the interior, and rims that thin on the exterior to form a "ski-tip" lip (figs. 128, c & g; 129, d & e).

7) Flat plates and bowls that have irregular shallow striations on the underside (figs. 130, e-i and 131).

8) Fine parallel line incision running vertically down the exterior of a vessel (Plate 61, b-f).

9) Deep incisions on a rim that is sharply everted, and thin and wide (Plate 59, a-l).

10) Very thin ridge fluting (Plate 62, f). This type of decoration occurs also on Sariguâ sherds (Plate 31) and the relationship between the Escotâ and Sariguâ examples is not clear.

11) Cuneiform pinching (Plates 62, h; 63, a, d, g & i).

To take the plastically decorated sherds first, they presumably dropped out of the Phase IV assemblage before the occupation of PN-11 (that is, around 300 A.D.), where only three plastic sherds of Escotâ Red-Buff Ware were found: two "cañaza" punctated sherds and a rim with deep incised decoration (Table 7). 106 sherds with plastic decoration occurred below 60 cms. in pits B and D at AG-3 (Table 9). At AG-2, the same types of plastic decoration occurred in some numbers below 50 cms., approximately the limit between Phase IV and the succeeding phases: deep incised decoration on rims; fine parallel line incision; shell edge stamping; and cuneiform pinching (Ladd, 1964: Chart 10 and Plate 14, f, g, h & n). "Cañaza" punctation was absent below 50 cms. at AG-2, and at AG-3 was confined below the Phase IV line to the odd sherd in Plate 61, o and three rims like Plate 61, g, so it may be that this particular mode attained its greatest popularity after Phase IV. Certainly on flat- and groove-lipped, and bevelled vessels it should be post-Phase IV. The relationship between the Escotâ plastic modes at AG-3 and other sites is still not clear; again,
we must await the publication of Ichon's material for better comparison, but appliqué fillet with shell stamping occurs only, I believe, in the El Indio Phase (Culebra Appliqué) (Mitchell and Heidenreich, 1965: Plate 9,A). Sherds with scarifications can certainly be duplicated at Tonosi.

Scarifications are, of course, well known as the diagnostic decorative feature of the Phase III "Guacamayo-Concepción Scarified" wares whose chronology has not yet been worked out. A summary of the possible spatial and temporal associations of the pre-polychrome pottery in Panamá is contained in Chapter 10, but we can say here that it seems likely that the plastically decorated sherds in the Escotá Red-Buff sample provide the link between Phase IV and the pre-polychrome phases that precede it along the Pacific coast. Interesting is the Girón Banded Lip sherd with Circumbanded decoration and scarifications on the exterior (Plate 61, c and fig. I37,a). Plastic sherds similar or identical to the Escotá turned up quite frequently at PN-5, but only in the refuse. Sherds with deep incised decoration on the rim were commonly found—apparently at some depth. The designs can be duplicated very closely with sherds from AG-3: my Plate 59, i to Lothrop's fig. 345,b; Plate 59, l to Lothrop's 349, d; and Plate 59, e & f to Lothrop's 349, g. Cylindrical vessels—perhaps "drums"—fillet appliqué with shell impressions, and cuneiform pinching are illustrated by Lothrop (figs. 346,h & 349,f; 349,b & e-g; 349, f & 350,a). Some of these PN-5 sherds are black on one side and but on the other, with broad concentric circles in red on the interior, just like sherds from AG-3. Lothrop's fig. 350, b is "touched up with white". None of these types occurred in the graves; so if we do a simple sum, the lowest deposit of AG-3 should connect directly with the material in the refuse of PN-5 which was surely laid down before the burial of the bodies that have been exhumed so far at the site. I would not be surprised if the strange pottery "drums"—sherds of which were found by Dade at PN-17, in Burial 18—had plastic decoration similar to that of the Escotá Red-Buff Ware (Dade, 1960:85).
Escotá Red-Buff sherds are completely absent from excavated samples at NA-8, NA-13 and NA-31, and from all surface samples except those with mixed polychrome percentages, or a predominance of Conte and Aristide sherds: NA-30, for example, includes 128 Escotá Red-Buff rims; PN-1, 41 (Table 10). At AG-3, all but a handful of the non-polychrome rims below 60 cms. in pits B and D belong to this Ware (913 out of 927), though they remain common in levels 4 and 5 of pit B, dropping off drastically in levels 1-3 (Table 8). At PN-11, the variety of shape has declined relative to that of AG-3, and those rims which typify the Girón Banded Lip varieties with decoration on red-inward- and-outward rims, downward sloping rims etc. - are absent. Guácimo Red-on-White slip is much commoner below 30 cms. at PN-11, representing as much as 45% of the non-polychrome rims in pit G. No unequivocal Escotá shapes are recorded for the PN-5 graves, but there are several sherds in the refuse samples. I imagine the Escotá Red-Buff ware drops out by the beginning of Phase V, and is replaced totally by the Guácimo Red-on-White-Slip and Conte Red Wares.

Miscellaneous Pottery Type

RED-on-CREAM WARE

Post-Phase IV

Introduction:

At AG-3, a residual ware was created to include those collar rims which have a fairly homogeneous profile (fig. 104,) and unslipped, polished interior surfaces which are cream in colour.

Sample:

482 rim sherds.

Paste and surface:

Paste is compact, with dense but fine mineral inclusions, though the usual
Large lumps of iron minerals occur. Colour is generally a light buff, sometimes approaching the light grey of the Conte Polychromes. Most sherds are evenly fired, though some have a dark fire core with orange or rusty-coloured walls. The interiors of the collars are always unslipped but polished, and the resulting surface is generally a rich cream, depending upon the paste colour for hue. Poorly fired examples have smudged clouds on interiors or exteriors. Exteriors are never polished, but roughly smoothed with either a shell or a flat instrument. About 55% are shell-smoothed. The shell leaves deep horizontal striations. The decoration is limited to a red band painted around the lip, which never encroaches more than 1 cm. below the interior lip. The red is either an orange or orange-red in hue. The band is better painted than on Cortezo Red-Buff lips, and few sherds have running dribbles. The lines, however, are often wobbly.

Shapes:
Collars have rims limited to the profiles in fig. 104. No sherds were recovered with enough of the body intact to calculate the total shape. Collars are of varied height (ranging from about 4 to 10.5 cms.) and are fairly straight, never being so sharply raked back from the neck as a lot of Cortezo examples (rim A-3, for example). Lips are modified in a variety of ways: thickened with a strip of clay at the tip, and rounded, slightly flattened on top, or brought to a point (a, c, f & j); flattened obliquely, with a sharp bevel on the inside lip (b); brought to a gradual point (d); flattened vertically on the exterior lip (e); rounded (g); everted sharply outwards and downwards, in the manner of Cortezo rim A-4, but with less pronounced eversion (k-n). This last is the least common modification. Vessels are wide-mouthed, with diameters at the lip ranging from 15 to well over 40 cms.
Appendages:

Unknown. Red-on-Cream rims probably accompany Snake Appliqué Ware vessels, 10 examples of which were recovered with rim attached.

Relationship with other types and outside areas:

More similar in rim and lip shape to the Guárico Red-on-White Slip Ware than to the collared examples of the Olivo and Cortezo Wares. Sherds combining the shape, surface colour and finish of the Red-on-Cream Ware were absent from the collections made east of the Santa María, though similar material is present in the PN-5 sample. Perhaps it is no more than a variant of the Guárico Red-on-White Slip Ware.

DISTRIBUTION OF RED-ON-CREAM WARE IN WESTERN COCLE:

Limited to AG-3

Chronology of the Red-on-Cream Ware:

Uncertain. No sherds occurred below 50 cms. in pit B, and only three between 50 and 70 cms. in pit D so it post-dates Phase IV at the site. In pit B, it is commonest in levels 3 and 4 (Table 8). Probably Phases V-VI.

Miscellaneous Pottery Type

Snake Appliqué Ware

Post-Phase IV

Sample:

135 sherds

Shapes:

Limited to a single shape, a restricted jar with everted collar and globular or subglobular body. No sherds were recovered with the entire collar attached, so diameters of the collar and lip shapes could not be determined. Diameters at the neck range from 16 to 30 cms. and collars are between 0.7 to 1.5 cms. thick at the junction with the neck. One sherd of this type,
illustrated by Lothrop, has a short collar with deepish exterior striations (1942: fig. 347, f). No appendage modes were recovered.

**Paste and surface treatment:**

Paste colour ranges from pinkish through orange-buff to greyish-white, with the last colour predominating. The ware is not slipped and surfaces vary according to the colour of the paste: on examples with the pinkish or orange-buff pastes, they tend to be of a lighter colour, and there are one or two sherds with orange-buff exteriors and greyish interiors. Fire-clouding is visible in only a few sherds, leaving dark grey patches on either exterior or interior, but these are never very extensive. Apart from the fire-clouded examples and those with differentially fired surfaces, the ware is well-fired and fire-cores are unknown. Exteriors are well-smoothed and never polished, and the smoothing instrument (a gourd?) leaves very fine, parallel striations around the circumference. Interiors are less well smoothed and the striations are wider, less regular and deeper. Those sherds which preserve fragments of the collar, have the inside collar well polished. Temper is finer than on some other wares from AG-3, whence came all but one of the sherds.

**Decoration:**

**Plate 57, a & b**

Consists solely of an appliqué ridge representing a serpent, arranged around the exterior of the vessel, parallel to and just beneath the collar, in a series of undulations, with the head and tail meeting, but not touching. The snake is trianguloid or rounded along the spine. It is either left undecorated or has painted spots, eyes and tail, usually in red, but on two examples in red alternating with purple, and on another in red alternating with black. Spots are oval in shape, with the axis along the spine. The white slip often runs over the appliqué, leaving a broad white line on either
The junction between the appliqué and the body of the vessel is often poorly smoothed down, leaving a ridge which follows the undulations of the snake. Eyes are simple rounded blobs attached to either side of the face and tails are rounded and bulbous. The sherd illustrated by Lothrop has a red-painted lip.

**Distribution of the Snake Appliqué Ware:**

All but one of the sherds in the sample are from AG-3, the anomaly from NA-30. Lothrop's sherd is from FN-5. The only other similar material I have seen is from Ponuga, Veraguas (de Brizuela, personal information). Lothrop illustrates a vessel with a snake appliqué from FN-5 which has "cañaza" punctations aligned along the body; this is perhaps a variant. A Smoked Ware sherd from AG-3 (Plate 57,d) has a similar appliqué snake with "cañaza" punctations and incisions.

**Chronology of the Snake Appliqué Ware:**

No sherds were found in the Phase IV levels at AG-3, so it presumably post-dates that Phase. Out of 47 Snake Appliqué sherds in pit B, 39 are from levels 3 and 4; this clustering, and the virtual absence of Snake Appliqué sherds from surface sites in western Coçlé would suggest a Phase V/VI date.

**PHASES II/III(?) SARIGUA COMPLEX**

The Sariguá Complex, consisting of a small sample of 150 sherds, was isolated by Milley and Logimsey at a one component site of no more than 60 cms. depth (He-16) in the Herrera alvina. Three sherds of uncertain stratigraphic provenience occurred also at He-3 (Monagrillo). The Complex was assigned on stylistic grounds to a period of time intermediate between the Monagrillo and Santa María Phases (1954: 105-110 and fig. 34).

In the collection made by Logimsey from an unlocated shell-mound in the Aguadulce alvina (Co-24), are a handful of sherds with yellowish paste colour,
thin walls and plastic decoration which are considered by the excavator to be similar to the Sariguá sherds from he-16 (compare Plate 31, with op. cit.: fig. 29). The deposit at the site was only about 10 cms. deep but it appears that no other sherds were recovered. LoGimsey also refers to "Sariguá-like" sherds from the bottom-most levels of pit VI at AG-2.

A handful of Escotá Red-Buff sherds from AG-3 have very thin appliqué ridges similar to those on the Sariguá material. Exactly what is the connection between Sariguá and Escotá Red-Buff will have to await further excavation.
CHAPTER 6
MISCELLANEOUS ARTIFACTS IN CLAY, BONE AND STONE

CLAY ARTIFACTS

Pottery "cylinders"

A strange series of artifacts is illustrated in Plate 35, i-o. Two complete examples and the fragments of twenty-five others were recovered at PN-II. Their precise stratigraphic position is recorded in Table 7. Excepting two end fragments with traces of red daubing, all are unslipped, smoothed, and at times well polished. Shapes are varied. One of the complete examples is a simple elongated cylinder, 7.6 cms. long and 1.4 cms. in diameter (Plate 35,i), while the other has been pinched at one end between thumb and forefinger and thinned at the other on three sides to create a rather sophisticated shape out of humble beginnings (Plate 35, k). It is 8.4 cms. long and 1.9 cms. thick at the "waist". The cylinders are fashioned from the typical, friable fine sand-tempered paste of the site, and surfaces are orange or orange-buff. It has been suggested that the cylinders may have been used for rolling tortillas. I know of no other examples from Panamá.

Pottery disks:

Twenty-eight pottery disks were recovered, twenty-five from AG-3 and one each from NA-9, NA-I3 and PN-II (surface). Ten have holes drilled through the centre. Breakdown by pottery categories is as follows:

AG-3

<table>
<thead>
<tr>
<th>Category</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escótà Type, Crosshatched Variety</td>
<td>2</td>
</tr>
<tr>
<td>Escótà Type, Black-on-Buff Variety</td>
<td>1</td>
</tr>
<tr>
<td>Cocobó Interior Banded</td>
<td>1</td>
</tr>
<tr>
<td>Macaracas Polychrome, Cuipo Variety</td>
<td>1</td>
</tr>
<tr>
<td>Smoked Ware</td>
<td>1</td>
</tr>
<tr>
<td>Miscellaneous Non-Polychrome Wares</td>
<td>19</td>
</tr>
</tbody>
</table>
NA-8
Mendoza Polychrome: 1

NA-13
Mendoza Polychrome: 1

PN-11
Cortezo Red-Buff: 1

Decorated examples are illustrated in fig. 80. In the quantitative analysis, the decorated examples were included as sherds of their respective Types. For the precise stratigraphic position of the disks at AG-3 see Table 9.

The disks vary considerably in finesse: some are well rounded and have smoothed edges which are at times polished and slightly thinned from top and bottom, while others are crudely shaped, with jagged edges. Likewise, the perforations are either well executed or have rough diameters. Some have been drilled from one side only, others from both sides, leaving an hour-glass profile for the hole. Diameters range from about 2.5 to about 7 cms., thicknesses from 0.5 to 1.3 cms., and diameters of the perforations from 0.3 to 0.8 cms.

Small pottery disks are ubiquitous in Panamá and are known from the four polychrome Phases along the eastern Pacific littoral and also from Chiriquí. Rather surprisingly, examples of the kind described above were not found at FN-5: the only pottery "disks" described by Lothrop are large, polychrome pottery covers (1942: 178-181 and fig. 361-363.) Five small disks in Verrill's Coclé collections include two fashioned from Conte Polychrome vessels, one, unperforated, from the Temple Site (NA-20) (HF:14/6542,) the other, perforated, from the "Espinosa Burial Mound" (AMNH: 30.1.1017.) The remaining three are from non-polychrome wares and
Disks seem to be quite common in the Azuero Peninsula. Lothrop illustrates one example from Macaracas, in Parita Polychrome, Caimito Variety (1942: 240 and fig. 473,c,) and Sander (1965) has written a short article on a collection from Paso Espavé and Piedra de Chata, two midden sites in the Guararé and Parita "Distritos" respectively. Seven of those illustrated are of plain pottery, three are Macaracas Polychrome, Pica-Pica Variety (fig. 1, 1 & 8,) one Parita Polychrome, Caimito Variety (fig. 2, 13,) and five others indeterminable polychrome (fig. 2, 10-12,14 & 15.) None of Sander's examples is perforated and they range in diameter from 2 to 7 cms. In the Tonosi Valley to the south, Ichon found several examples, perforated, half-perforated and un-perforated, from the El Indio, Cañazas and Bijaguales Phases (Ichon, personal information.) MacCurdy illustrates one unperforated example from a small collection found in Chiriquí (1911: 164, fig.260.)

Sander offers three suggestions for possible function of the disks: 1) projectiles for sling-shots, 2) components for a game, and 3) covers for "bean pots" (the small red pots frequently encountered in burials in the region.) (1965: 1.) He prefers the last idea, and quotes the contemporary parallel from Panamá where, in some areas, sherds are used to cover pots. (I have myself seen this in the foothills behind Ola.) However, the holes in some Coclé examples would indicate that they were strung or worn in some way. I prefer to confine myself at the moment to Sander's original adjective - "problematical."

**Pottery whistle**

One pottery whistle was recovered from AC-3 (Plate 35, a.) It was found immediately above skeletons A-1 and A-2 and, though it was removed before their discovery, was probably associated with them. It is zoomorphic, though the nature of the beast it depicts is not clear
The body of the whistle is shaped like a truncated egg, with the sound-box at the bulbous end, which is left hollow. The pointed end is solid, and the playing aperture consists of a small hole 4 mms. in diameter. The sound is produced through a hole 1 cm. in diameter at the junction of the solid and hollow parts. The walls of the hollow part are about 6 mms. thick. The diameter of the truncated end is 1.7 cms. The head, consisting of a rounded snout, two rounded "ears" and a bull neck, seems to have been affixed after the fabrication of the playing part by drilling a hole through the wall of the sound box and smoothing the neck around the body. The paste is orange and the surface whitish and unslipped. The ears of the dog and two ovate shoulder patches are painted black. The bottom of the hollow sound-box is broken, so the tone of the notes cannot be determined.

No pottery whistles were found at FN-5 (the four whistles are all metal,) and the only other unarguable example known to me from Coolé is a simple whistle from AG-2, which has an hour-glass profile and a playing aperture in the wall, just beneath the bevel with one of the roofs. It is about 4 cms. long and the diameter of the ends is about 2.5 cms. It was found in pit VI at a depth of 100-110 cms. (Mc.Gimsey, material unpublished.) It is similar in general shape to the object from FN-11 in fig. 148,a, which was broken on one side and might also be a whistle.

The rareness of clay whistles in the area is strange as they are well known outside the Province. In Veraguas, cute little zoomorphic effigy whistles are quite common, and several examples are illustrated by Lothrop (1950: 47-48, figs. 65-67.) Effigy whistles, often with double apertures and several finger-holes, are common in Chiriquí also. In the Tonosí Valley, Ichon recovered a remarkable set of incised effigy whistles, from the El Indio phase (Ichon, personal information, and Mitchell and Heidenreich,
and a similar example is illustrated by Linne from the Pearl Islands (1929: 98 and fig. 26,a.)

**Spindle Whorls:**

Nineteen spindle whorls were recorded during the campaign. Unfortunately, only one of these was excavated (from AG-3,) the remainder being in private collections: thirteen from NA-8 and five from FN-11. Two unpublished examples from Verrill's collections, listed under the Temple Site (NA-20) and the "Limón Graves," (AMNH: 38.1.873 & 1138,) another illustrated by Lothrop from the Guacamayo "Volcano" (1942: fig. 408,a, and two mentioned by Mc.Gimsey in his field notes for NA-8 and NA-9, bring the total definitely known from Coclé to twenty-four (though more were apparently found at NA-8 by Mc.Gimsey.) These fall into three types: with a medial bevel (fig. 148,c-h and Plate 35, a-f & h,) with a proximal bevel (fig. 148,b,) and rounded (fig. 148,i, and Plate 35,g.) The former is by far the commonest with twenty examples, there being only one of the second and two of the third. The rounded examples are treated as spindle whorls though some authors refer to them as pottery beads.

Of the first type, three from NA-8 have a polished red slip, while all the other, unweathered examples are unslipped and have a lustrous polish. Surface colour of the unslipped examples ranges from orange to buff. Diameters at the bevel range from 2 to 4 cms. The holes have straightish walls and were presumably made by moulding the whorl around a twig.

One of the rounded examples (AG-3, pit A, extn. C, 80-100 cms,) is redslipped and highly polished, the other unslipped but polished (fig. 148,i.)

Four examples with medial bevels and that with the proximal bevel were supposedly found inside a vast Cortezo Red-Buff burial urn which
was dug out of the Irrigation Canal just west of PN-11 (see Map 5.)
Mc.Gimsey mentions in his field notes that a spindle whorl was found
between the femora of the skeleton in the excavated mound at NA-9.
Another whorl - which to judge from his sketch is of the medial bevel type
- was found in pit IV at NA-8 at a depth of 55-60 cms. He makes reference
to others of the same type being found in pits I and II in the "upper
level." These associations and the relative frequency of whorls at NA-8,
would suggest a late date for the medial bevel type. The absence of clay
spindle whorls at PN-5 and PN-11 and in pits B and D at AG-3 does not mean
they were not used in Coclé during Phases IV and V, and spinning was
certainly not unknown.

The medial bevel type occurs outside of Coclé. Reichel-Dolmatoff
mentions an example corresponding to the one recorded by Lothrop from
the Guacamayo Volcano, from burial XXVI, Phase IV, at Cupica, Colombia
(1961: 313,) and I know of one example from the Canal Zone area (CZ-11)
which is similar in size and shape to fig. 148,e (Snyder, personal in-
formation.) Fifteen spindle whorls were found superficially at Panamá
Viejo. Most are of a composite shape, with notching along the bevels,
but one at least is of the medial bevel type (Biese, 1960, and 1964, Plate
22.) No spindle whorls were found by Ichon in the Tonosí Valley (Ichon,
personal information.) A whorl found at He-4 from Trench 11 and Trench 8,
(Ladd, 1964: 141, fig. 54,f,) is similar in shape to the Coclé examples,
but flatter at the truncated ends. There are some round spindles,
similar to that in fig. 148,i, labelled "Veraguas" in the Smithsonian
collection (SI: 403141.)

Pottery stamps:

Lothrop mentions that about thirty cylindrical pottery stamps were
found at the Coclé Village site, and illustrates four examples (1942:
They all bear simple scroll designs excised from the rolling surface. In the Verrill collection (AMNH: 30.1.876, the Temple Site (NA-20)) is a different kind of stamp. It is about 5 cms. long, paraboloid in profile, with a round cross-section. The stamping end is flat and the excised pattern consists of three concentric circles with six diamonds set radially around the outermost circle. The other end is rounded, and is perforated right through by a small hole presumably intended for a string.

**Pottery figurines:**

Pottery figurines are very uncommon in Coclé. Lothrop illustrates six "figurines," but three of these are certainly handles from pot covers (Lothrop, 1942: fig. 366.) Two which seem to be separate units are in buff clay, and the third is a polychrome bird. According to Lothrop, an anomalous feature of the "Espinosa Burial Mound" was the relative frequency of figurines, three of which are painted - two birds and the other a man (op.cit.: fig. 427.) Two other figurines were excavated by Verrill from the "Banks of the Río Grande" and the "Barrancos Graves" (op.cit.: figs. 428,b & 431,a.) The former looks vaguely anthropomorphic, the latter represents an owl. In the collection from the Temple Site (NA-20,) is a flat object, again anthropomorphic, in unpainted pinkish clay, with rudimentary facial features and arms, which seems to be an independent figurine. I have seen two rather similar objects from NA-8 in private collections; their bases were broken and they could be pot cover handles.

**Pottery "axe"**

Buried to the east of the head of skeleton A-3 at AG-3 was a strange double axe-shaped object in unpainted clay, with a yellowish buff interior and grey exterior. It has been very roughly shaped, only carelessly smoothed, and is missing one end. The shape suggests the typical fish-tail handle of some Coolé incense burners, and the "axe" might simply
an unfinished, broken handle of such a utensil. Quite what it was
doing presumably intentionally buried with a skeleton is anybody's guess. Its location is yet another indication that the buried individuals were either put there in a hurry, or maybe despised.

**Daub fragments:**

One clay fragment from AG-3 is striated in an irregular pattern which suggests that it is a piece of daub broken from a wall. It is fired to a bright orange. Another clay fragment seems to be the positive impression from the interior of a strand of "cañaza" or "bijagua" (*Canna* spp.) Both these fragments were found in level IX of pit A.

**BONE ARTIFACTS**

**Worked bone at AG-3**

Rather surprisingly, the amount of worked bone recovered at AG-3 is scant. Buried with skeleton A-4 was part of a flute fashioned from the humerus of a Brown Pelican, (*Pelecanus occidentalis* (Plate 36,a.) The playing aperture, cut about a fifth of the way up the shaft from the proximal end, measures 16 mm. in diameter. The bone has been cut very cleanly and the aperture slightly thinned (some diagonal striations are visible on the underside of the aperture.) The shaft of the instrument is well polished and the holes perfectly executed, presumably by drilling. There are five holes on the fragment. The first is 31 mms. from the playing aperture and the distances between the other four are 15, 17, 19 and 19 mms. respectively. The flute was found lying across the cranium. Skeleton A-4 was also buried with the partial skeleton of a Red-blue-and-green Macaw (*Ara chloroptera*) which was heaped up across the tibiae.
One of the bones shows any signs of working and I presume they represent a dried-bird pendant or simply a pet macaw buried with its owner (though the head is missing.)

Six metatarsal fragments of White-tailed Deer (Odocoileus virginiana) show signs of modification and usage: they have all been intentionally split lengthwise between the hinge-joints, and three examples exhibit polishing along the split and also on the exterior of the bone. One example, which has the hinge-joint snapped off, is thinned to a point about three-quarters of the way along the shaft, being used presumably as an awl. (Plate 36,e.) A fragment from a similar tool is so highly polished that the bone has become discoloured and has the appearance of ivory. It has deep cut marks along the edge. One broken hinge-joint has been perforated, rather crudely, and very highly polished. It is fire-blackened, presumably intentionally. There is evidence of a shallow groove running from the joint along the interior of the shaft (Plate 36,d.)

One ungual phalanx of an adult Odocoileus shows signs of polish.

Some of the long-bones of Odocoileus have quite extensive cut-marks which were probably made while the meat was being scraped off. One distal fragment of a deer tibia (juvenile) has been cut off just below the tuberosity. Striations along the cut indicate a sawing-motion. The cut is so neatly executed that I presume the shaft was reserved for a prized artifact (Plate 36,f.)

The brow-tine of a fragment of Odocoileus antler is highly polished and was perhaps used as some sort of drill or polisher.

All of the artifacts fashioned from Odocoileus bones, except for one metatarsal fragment from the lowest level of pit A, came from the Phase IV levels of pits Band D, mixed with kitchen refuse.

The only other bone artifacts recovered from the site are part of a
needle (Plate 36, 1) and a fragment of a pointed instrument. The needle (pit B, level 9, ) has a head measuring 4.5 mms. across, tapering to c. 3 mms. along the shaft. The hole is well executed, presumably by drilling. It is c. 2 mms. in diameter. The bone is well polished and probably mammalian. A very similar needle was found by Ichon in the Tonosi Valley (Ichon, personal information.) The pointed instrument (pit A, extn, A, level 7, ) looks like the end of a paper knife, having a width of 6.5 mms., a thickness of only c. 1.5 mm and a rounded end. The bone is not identifiable.

Worked bone at NA-8

The only worked bone from NA-8 is an ungual phalanx of a jaguar (Felis onca,) from the base of level I, which has been polished, either intentionally or through usage. The underside is more heavily polished than the upper.

Only two bone artifacts have been recovered previously from Phase IV deposits in Coclé: two fragments of bone tubes from AG-2 (Ladd, 1964: Plate 19, b & c.) Cerro Mangote (AG-1) also had little worked bone. The tips of the tines of some of the seventeen deer antler fragments recovered did "seem to be more lustrous than the remainder, as if their points had been used to rub leather" (Mc.Gimsey, 1966:6,) and the example quoted above from AG-3 may well have been used to that end. The only other bone tools from the site were a faceted tooth of a peccary (?) and five fish vertebral drums which had been worked down to form bead-like disks.

The drab sample considered above of course in no way compares with the sumptuous bone artifacts recovered from rich cemetery sites along the Bay of Panamá. The marvellous bone inventory from PN-5 shows that the
Artisans of Phases V and VI understood the medium as well as they did clay or metal. A complete catalogue of bone artifacts recovered contains: aprons, necklaces, bracelets and ornaments for bags, made from the teeth of dogs, shark and peccary; pendants, either plain or beautifully carved into zoomorphic forms, out of whale teeth or manatee bone; bone beads and tubes of varying length, shape and dimension, out of bird and jaguar bone; arrow heads and harpoon points; awls; spear throwers; carved vertebrae; a comb; boxes; and perforated phalanges. Most graves were also accompanied by unmodified teeth, especially shark, sting-ray spines, and whole turtle carapaces.

While the grave contents of PN-5 were being scrutinised with a view to revising the chronology of the ceramics, a total list of bone artifacts was made by grave in an attempt to determine chronological changes in this medium. The only possible clue to relative dating was provided by Grave 32. Lothrop himself noted that this grave had a total artifactual assemblage which was considerably different from that of the other graves at the site (1937: 289,) and several bone objects were not found in other graves: a carved cylindrical box (op. cit: fig. 197, b,) a comb (fig. 72,) a crocodile of whale tooth (fig. 159,) all but one of the fragments of spear-thrower (figs. 66 a,b and 67 a,b,) the carved deer vertebrae (actually, I think not deer) (figs. 192-194 incl.,) and a piece of incised bone (fig. 19a.) Whether the inclusion of so much bone carving in this grave indicates that its occupant was addicted to bone-work, was a bone-carver himself, or whether it has a special chronological significance, time will perhaps tell, but it is interesting to note that the ceramics contained in Grave 32 are, in my opinion, representative of the earliest years of the developed Phase V art style. Some vessels I would classify as transitional Phase IV-V.
Iconographically, some of the bone objects at PN-5 relate directly to ceramics: the cylindrical box mentioned above, from Grave 32, has a fragmented scroll motif (which, I feel, might not have the V and its tail joined because of the fragility of the material). A similar scroll occurs on a mother-of-pearl piece from Venado Beach (Dockstader, 1964: Plate 187). The "crocodiles" modelled in the round have some attributes of the ceramic and gold "crocodiles", especially the teeth and the claws. (Compare, for example, the claw of Lothrop, 1937: fig. 164, with 1942: fig. 93). It is interesting that no flutes were recovered at PN-5 (Lothrop, 1937: 105). Aside from the example from AG-3, the only claimant from this part of Panama is a "perforated bone tube" from He-4, Mound 3, which has two holes in the fragment and a cleanly cut, polished, but not thinned mouthpiece (Ladd, 1964: Plate I9,h).

The sources utilised for bone objects at PN-5 comprise: dog, peccary, deer, jaguar, manatee, whale (including Sperm Whale), shark (fossil and recent), sawfish and sting-ray. I doubt whether the carvings from Grave 32 were executed on deer vertebrae. The longest vertebra of Odocoileus from AG-3, where some heavy animals were taken, is 36 mms. long, while some of Lothrop's carved examples are as much as 60 mms. long. Nevertheless, the fact that the carvers of PN-5 could make so much of such an awkward shape is testimony to their great skill.

The exploitation of most of the animals listed above is to be expected, but the rather frequent presence of manatee bones and whale bone and ivory deserves additional comment. As regards the peculiar nature of manatee ribs, quote Lothrop:

"Manatee ribs, like most ribs, have a flattened cross-section for the greater part of their length, but they become round in cross-section near the tips which terminate in a cone-like point. By cutting off the end of the rib, therefore, it was possible to obtain a piece of bone closely resembling the tooth of a whale" (1937: 170).
About the whale, more later. Manatee ribs are also marrow-less and the bone is dense, rendering it a perfect medium for fine-line incision and careful carving. No species of manatee now occurs, and probably never has occurred in Holocene times, along the Pacific coast of Panamá. (The most southerly record for fossil manatee along the Pacific is the Gulf of California (Simpson: 1950.)) The Atlantic species, *Trichechus manatus* *manatus* still occurs in some numbers in the Laguna de Chiriquí, Bocas del Toro, and was formerly much more common. Dampier saw them in the "Bay of Campechy, on the coast of Bocca del Drago, and Bocca del Toro, in the river of Darien, and among the south keys of Cuba" (1906: 64;). Maack recorded them also from the eastern boundary of Panama (1874: 171,) but Goldman says they were limited to the Chiriquí Lagoon by the time he was working in Panamá (1920: 69). This distribution must indicate that manatee bones were traded over the cordillera from the Atlantic side to the Pacific. That they were used for food in Pre-Columbian times is evidenced by Linares' recent excavation at Cerro Brujo in Bocas del Toro, where manatee bones were not uncommon in midden deposits (Linares, 1971: 34-35). The carvings on manatee bone at both PN-5 and at HE-4 (see Ladd, 1964: Plate 1), are iconographically in the Pacific coast tradition and it is most likely that the bone was traded in its raw state. Some authorities are of the opinion that the fine goldwork seen by Colon on the Atlantic coast was in fact brought over the Cordillera from the Pacific - which is, after all, only a day-and-a-half's trek. Whatever the accuracy of this hypothesis, it is interesting to speculate what would have been returned for the manatee bones. Perhaps other perishable products from the animal were also traded. Dampier says of the meat that it is "white, both the fat and the lean, and extraordinary sweet, wholesome meat" (1906: 64). Allen, quoting from Gaumer, records that in Yucatán the beast was used for fuel,
ubricants and dressing for meat, while the hide made extremely good
eather thongs. The bones were supposed to have curative properties and
ere worn as charms (Allen, 1942; 540.) Carved manatee bone occurs in
graves 1,2,24 and 26 at PN-5, which according to the ceramic content,
date from Phases V and VI. The He-4 examples were found with El Hatillo,
Jobo Variety vessels, so trade in manatee bones must span at least Phases
V-VII.

The other exotic material frequently used by the Coclé carvers was
whale ivory, generally from the lower jaw of a female Sperm Whale (Lothrop,
1937: 170.) Whales can still be seen from time to time blowing off the
Playa Caleta near Aguadulce. Sperm Whales are prone to stranding and it
is quite likely that the materials used by the Coclé artists were collected
from such unfortunate beasts. Gilmore gives the Bay of Panamá as a
major feeding ground for this species and both males and females have
been recorded in Panamá Waters. As many as thirty-one Sperm Whales were
stranded in France in 1784 and, in 1954, twenty-two were beached at La
Paz, California, so though no actual strandings are recorded for the Republic,
there is no reason why they should not have occurred in the past (Gilmore,
1957 and 1959.) Certainly, the chance that whales came ashore from time
to time is strong enough to ward off visions of Coclesanos turned Kwakiutl.
Willey and Mc.Gimsey found between five and seven whale fragments (from
Orcinus and other toothed whales) at the Monagrillo site in Herrera, dating
from 2000 B.C., and the use of whale bone for housing in Preceramic VI Perú
is well known. Lanning himself is of the opinion that these whale remains
represent occasional stranding rather than intentional whale-hunting (1967:53)

Of the other animals used for ornaments at PN-5 the dog, sharks and
rays, and peccaries are the most popular. Dog bones were not found in the
midden deposits at AG-3 or NA-8, but their absence probably indicates
simply that they were not eaten. Dog tooth ornaments are found at Venado Beach (Bull, 1958, and Sander, Mitchell and Turner, 1958;) La Tranquilla (CZ-3), Canal Zone (Mitchell, 1964, fig. 11;) and in the Tonosí region (Ichon and Clutton-Brock, personal information.) Sharks, rays, and small hammerhead sharks sometimes come up the rivers at least as far as the road bridge over the Río Chico in Natá, and were probably quite frequently caught without any massive excursions taking place. Peccaries were absent from the AG-3 and NA-8 midden samples too, a little more puzzlingly, but this absence may simply be due to chance (see Chapter 7.) Lothrop records the presence of one or other of the two species in the refuse at FN-5 (1937.16.)

Another interesting cultural trait at PN-5 is the placement of large numbers of pristine turtle shells with the dead. Turtle shells occurred in graves 1,2,5,24 and 26, so the custom spans, according to the ceramic content, periods V and VI. The shells are apparently from large sea-turtles though the species was not identified (Lothrop 1942:35.) Whether these shells were used as receptacles or represent a meal for the deceased is a matter for guesswork. They were apparently unmodified. The graves which have turtle shells are the richest - an association which suggests that the animal was held in special esteem (it certainly figures prominently in the symbolism.) The lower level of Grave 1 had as many as nine whole shells.

STONE ARTIFACTS

The lithic inventory recovered from the surveyed region in 1969-71 can be split into seven broad categories: polished tools, ground tools, chipped tools, whetstones, utilised pebbles, river stone manos and ornamental stonework. (Distribution by site and level is recorded in Table 16.)

Polished tools:
Eighty-nine fragmentary and complete examples of polished stone were recovered from the field, and a further thirty-three studied in \_Local collections. All the recognisable tools represented in this sample would fall within the general category of "celt." Their morphology is varied: traditional jargon would label them "awl," "chisel," "adze," and "axe." The material used in most cases is a fine-grained, weathered andesitic volcanic, with minute phenocrysts of altered feldspar, though some examples from NA-8 are heavier-grained basalts with prominent phenocrysts.

Awl:

Plate 37,i. Found in probable association with skeleton A-4 at AG-3. It is 6.5 cms. long, about 2 cms. thick, and lanceolate in profile with a round Cross-section. Only the tip, which is brought to a sharp point, is polished.

Chisels:

Plate 37, h & j-1. Eleven complete examples or fragments of chisels were recorded. Eight of these — four from AG-3 and one each from NA-7, NA-8 and NA-21 — are of the same general shape as Plate 37,h: lanceolate in profile, round in cross-section, with one end tapering to a slightly rounded, narrow working edge. Only the tapering part and the tip are fully polished. Very similar chisels are illustrated by Lothrop from FN-5 (Lothrop: 1937: fig. 57.) Another chisel from NA-7 is considerably narrower and longer, and the tapering part begins half-way down the body, (Snyder's collection.) Two ovate chisels are illustrated in Plate 37, k & l. k was found in direct association with skeleton A-4 and l in probable association with A-1 and/or A-2.

Microcelts:

A number of very small polished implements found in the Canal Zone
Region have been labelled "microcelts" by Wallace Snyder and a similar example found on the surface at NA-29 is in Plate 37, f. It is 4 cms. long, by 2 cms. wide and has polishing only on the cutting edge.

Small wedge-shaped adzes with squarish cutting edges:

Plate 37, a - e. These range in length from 5 - 7.5 cms. and are thin and flattish in profile. a and b have one side noticeably flatter than the other, so that the profile is asymmetrical. Lothrop suggests that these celts (which were common at PN-5) were hafted transversely, and used as adzes (op.cit.; 93; examples similar to those in Plate 37 are illustrated in figs. 55, c & e and 56.) All the adzes in Plate 37 were found in probable association with skeletons at AG-3: a - c with A-1 and/or A-2, and d & e with A-4. I have seen one example in a private collection which has a noticeably curved profile, which would facilitate the gouging of wood.

Squat adzes with rounded cutting edges:

Plate 37, m-p. These are similar in shape to the squared adzes, but are thicker in profile and have rounded cutting edges. All are from AG-3 except Plate 37, p, which is from PN-11, pit G, level IV, the only whole example of polished stone recovered from the site.

Pear-shaped axes with polished blade and tapering, unpolished butt:

Plate 38, i. Only two examples of this shape, which was very common at PN-5, were recovered in the field, one from AG-3, the other from NA-8 (surface.) These have rounded cutting edges, polished polls and long, thin butts, which are roughly chipped. Lothrop illustrates similar examples (op.cit. fig. 53.) Two examples in private collections are from PN-1 and PN-4. The latter is very large, measuring 22 cms. long, by 12 across at the widest point.

Heavy-bodied axes with polishing over most of the surface:
Plate 38, a - h. This type, which was rare at PN-5, (there were only four examples out of a listed 158 celts), is well represented at A-8, where at least twenty-one have been found, all from the surface. Three complete examples were excavated at AG-3, two (Plate 38, f & g,) in direct association with skeleton A-4. Lengths range from 8 to 12 cms. and profiles are thick, from 3 - 4 cms. at the widest point. Most examples are polished all over, those which are not probably being half-finished. The cross-section and outline are ovaloid. The butt ends of Plate 38, b,c,g & h show signs of pounding. If the tools were hafted across the horizontal plane, they might well have served as double purpose - bashing on one end, and cutting on the other.

Axes with diamond cross-section:

Two half-finished tools, from NA-13, pit B (Plate 38,j,) and NA-8, surface, show signs of having a sharp medial ridge with polishing on four faces, creating a diamond-shaped cross-section, like that illustrated by Lothrop (1937: fig. 54,d.) The NA-8 example, which is broken at the poll, has a large blade taken off the butt - perhaps used for one of the modified tools in Plate 40.

Because of the scarcity of polished stone, especially from the excavated sites, little can be said about possible chronological divisions within the types outlined above. All the shapes except the awl appeared at Sitio Conte (PN-5.) The rarity of the heavy fully-polished type at PN-5 is interesting as it is the commonest shape on the surveyed sites, especially NA-8, and two examples were buried with skeleton A-4. It might be that we have here a link between morphology and age. Polished stone is rare in the Phase IV levels of both AG-3 and PN-11. At the former site, only two small fragments (edges) were found below 60 cms., in pits B and D, and one whole example and two edge fragments in the entire
deposit at FN-11. At AG-2, polished stone was found in some quantity, but none of the examples had clear cutting edges according to Ladd, though that in 1964: plate 21,c, is of the pear-shaped variety. It was found in pit 2 at 210-220 cms. Polished tools with shapes similar to those described above are found all over the Pacific littoral of Panamá.

Ground stone:

Ninety-four fragments or complete examples of tools of ground stone were recovered in the field, and a small metate and mano and an unprovenienced bread-board metate studied in local collections. Tools represented are: manos, metates, either with or without legs, and a ring-shaped object which is perhaps a net sinker. The stone utilised for ground tools is always either a highly weathered igneous rock or a lava in varying degrees of alteration: weathered andesites, leucocratic tuffaceous pumices etc.

Manos:

The twenty-two mano fragments all have the outline and cross-section indicated in fig. 149, and Plate 42, c & g. The pristine utensil would have been cylindrical in shape, with truncated ends and a slight bulge in the centre. The only mano which preserves its original length measures 13 cms. The grinding action - in all but two examples on one side only - renders the final cross-section semi-circular. The manos were probably discarded when they had reached this state. Diameters of the cross-section fall into two size groups: 51-57 mms. and 64-72 mms. All examples have been neatly pecked into shape and some rudimentarily smoothed on the unworked surface, though the ends are left mis-shapen and crudely finished. Striation marks along the grinding surface are always across the horizontal plane. One example, from McGimsey's collection from NA-3, has the ends thicker than the central part, indicating that the mano extended beyond
the limits of the metate table. The teeth of the individuals buried at AG-3 are badly worn, and the attrition was probably accelerated by the inclusion of grit from the grinding instruments in the "nixtamal" though, of course, foods other than maize may have been prepared by grinding. A mano fragment from PN-11, pit C, level V, was analysed in thin section by Dr. Andrew Wight, of the University of Bristol, and gave the following results:

An altered lava, fairly basic; medium - grained; plagioclase and diopsidio augite patchy, perhaps due to alteration; pyroxene not noticeably altered.

The only manos illustrated by Lothrop are of the same thin, cylindrical shape (1937: fig. 62)

**Legged metates:**

Four fragments of metates with legs still attached were found at AG-3, another two were recovered from surface collections, and an example with three small nubbin legs, from a grave at PN-4, studied in a local collection. The legs of the AG-3 examples are conical in general shape, and measure 7, 7.5, 9.5 and 10 cms. respectively, and diameters at the junction with the surmounting table, 6.6, 6.5 and 8 cms. respectively. The leg of one example broadens increasingly on the inner side to give a "pistol handle" profile (see fig. 149). This last has a table 1.3 cms. thick, to which the leg was affixed at right-angles. The legs of the other examples join the tables at slanting angles and presumably had bowl-shaped working surfaces above. A much taller conical leg (more than 12 cms.) was found at NA-28 and another "pistol handle" type at NA-30. The complete metate found in a grave at PN-4 - associated with Girón Banded Lip, Crosshatched Variety and Conte Polychrome vessels - has an ovaloid table 20 cms. long by 25 cms. wide, and 2.8 cms. thick. The three legs are about 4 cms. tall, and are
also shaped like truncated cones. The rim of the table is flat on top, and thinned at the bottom, and curves upwards slightly from the centre of the bowl. It would be my guess that some of the table fragments from AG-3 are from examples with very similar shapes and dimensions.

Fragments of metate tables:

Forty-one fragments of metate tables were recovered from AG-3, five from PN-11, and one from NA-13. Few fragments are large enough to permit reconstruction of total shape. Rims are illustrated in fig. 149, and fall into five groups:

a.) slightly uppourving, with a ski-tip lip (fig. 149,a.)
b.) slightly uppourving with a thinned and pointed lip (fig.149,b.)
c.) flat on top, and thinned beneath, also with a ski-tip lip(fig.149,o.)
d.) flat on top and beneath, with a slightly rounded lip, and two grooves out around the circumference (fig.149,d.)
e.) as d, but without the grooves

Three corners were found at AG-3, two rounded, presumably from an ovaloid table, and one squared, from a rectangular table. The curvature of Plate 42, a, from PN-11, indicates an ovaloid shape. A very coarse fragment, also from PN-11, pit H, level II, was about 5 cms. thick, and was probably part of a simple boulder-basin grinding stone. The thickness at the thickest point of the AG-3 examples ranges from 0.8 to 3.1 cms., with an average of between 2.0 and 2.5 cms. One of Dade's workmen has in his possession three-quarters of a flat table, with a 3 cms. high wall running along the long edges (like a bread-board.) It is about 60 cms. in total length, by 30 cms. wide, and was supposedly found at NA-31. This is the only example of a bread-board metate known to me from Coclé.* It was without supports of any kind.

Four of the metate fragments from PN-11 were analysed in thin section by Dr. Andrew Wight and gave the following results:

1.) Ground-mass biotite; good flow texture; plagioclase orientated; large phenocrysts of quartz rolled by flow; the originally hexagonal biotite is completely altered; quartz 2%. Probably an altered andesite.

* A "bread-board" metate from Veraguas is illustrated by Biese (1967: fig.5)
2.) Ground-mass with high % quartz, very altered in patches; unusual inclusions of other material in patches, e.g. ignimbrite or tuff.
An acidic lava.

3.) Ground-mass pyroxene - plagioclase, low % quartz, relict biotite, replaced by chlorite; curiously, the pyroxenes are unaffected by alteration.
A basic lava.

4.) Ground-mass biotite, no quartz, augite or aegirine - augite; phenocrysts of plagioclase; pseudomorphs of augite filled with hematite.
Possibly lava.

At AG-3, the metates of weathered andesite have a very lustrous finish indeed, and it is my impression that they were used for polishing and not grinding, perhaps for adding the finishing touches to celts.

A ring-shaped tool, perhaps a net-sinker:

A solitary artifact made of lava stone from NA-13, pit A (Plate 42, f,) is shaped like a ring, with a wall thickness averaging 3 cms. and a medial hole with a diameter of about 2.5 cms. It is well pecked and smoothed on one side, but irregular and bumpy on the other. The hole has been worked from two ends, so that there is a bevelled ridge at the centre. Lothrop illustrates a series of handled objects from PN-5 which have ring-shaped ends, which he calls "arrow-wrenches" (1937: fig.63.)
However, these are about half the size of the NA-13 object, which might well have served as a net-sinker. The vertebrae of very small fish and a carapace fragment of a tiny turtle were recovered from a flotation sample at the site, so it is likely that some form of trap or net was used by its inhabitants.

Chipped tools:

The most commonly used stone implements in western Coclé are fashioned out of amorphous silica, which is variously described according to the basic colour; jasper for the dull red and brown; chert for the ochraceous; and
igate for the multi-coloured. Some authorities have laid emphasis on the location of quarries of jasper, which is the most commonly used variety all over the Pacific littoral of Panamá. A random collection of stones from the bed of any one of the streams tumbling down from the Cordillera in Coclé will include a considerable number of silica cobbles and boulders with great range in colouration, and these rocky river beds were probably the major source for working stone for those villagers who lived near them. However, as the rivers begin to meander, their bottoms become silty and the inhabitants of AG-3 presumably had to get their stone from some distance away. It is interesting that very few cores were found on the site, indicating that the tools were worked at the stone source. In this context, it is worth mentioning that NA-29, situated up the Rio Caño, near the foothills, had an amazing number of lithic tools, fully and half-made, and working waste. Such a concentration, which consisted mainly of one type of tool, elicits suspicions of more specialised manufacturing localities.

**Pointed instruments with multiple percussion chipping and triangular cross-sections.**

Plate 39, top and middle rows. This characteristic group of tools is described first as it is probably the only one of the chipped category to have chronological significance. Though the size and overall shape of the different examples - and perhaps also their ultimate function - varies considerably, they are all linked by the multiple chipping on two or three faces, and the triangular cross-section. They were probably fashioned out of a thick trifacial blade, struck from a prepared core, examples of which occurred at both AG-3 and NA-29. Some are noticeably curved, as are a few of the completed tools. The jagged outline was subsequently achieved by striking the faces at right angles with a very
hard and sharp instrument, and causing a number of irregularly sized, but always small, flakes to chip off. Three tools (Plate 39, a - c,) and a much larger tool in a private collection from NA-8, have prominent stems. I am inclined to think that these "points" were hafted with the stem thrust into the end of a Canna or other hollow, sturdy twig, and used as engravers etc. But the obviously intentional jaggedness is difficult to justify functionally. The much smaller examples illustrated in Plate 39, second row, are even more of a puzzle: at NA-29 literally hundreds were recovered eroding from the roadway near collection area B, by members of the Isthmian Anthropology Society. They all have a relatively homogeneous shape: from 2 to 4 cms. long, diamond-shaped, sometimes with a small stem, and always triangular in cross-section. Two faces, occasionally three, are worked, the flat third face in the former case being left plain. Some have additional minute flakes chipped off along the edges, which might be intentional retouch or the result of usage. The abundance of these tools at this one site indicates that its inhabitants either indulged in some occupation which required a large number of them, or made them for somebody else. Though they are so small, they fit comfortably into the fingers and could simply be engraving tools: plane - cum - sandpaper - cum-saw. The small serpentine dog from the same site is easily worked with one of the tools.

Prior to this study, the only examples of these jaggedly worked "points" recorded from Coclé were from PN-5. Lothrop illustrates one example (1937: fig. 60,c,) of which four were found in direct association with Grave 54. This grave is isolated and classified as "Late" by Lothrop, but he illustrates no polychrome vessels. The vast majority of the points from PN-5 are unifacial, and have retouch only along the prominent stems; the faces are left unworked. They are of two types - long, and thin
blades), and short and squat (flakes). The points with multiple chipping are extremely common in Veraguas—see Lothrop, 1950: fig. 25 and Wasmén, 1960, fig. 5—and have always been considered to be one of the local aspects of the "Veraguas Culture" which serve to differentiate it from the neighbouring cultures. Similar "points" are recorded from Chiriquí (MacCurdy, 1911: figs, 1-5; Linares de Sapir, 1968: Plate 20, a-d) and from Herrera (Ladd, 1964: Plate 18,1).

Blades and flakes of fine-grained igneous rock:

Another characteristic implement is the long, thinnish blade fashioned out of andesite (Plate 40) which is either a grey or a greenish-grey colour, and is always exceptionally fine-grained, with minute phenocrysts (altered feldspar etc.) That such fine tools could be struck from an igneous rock is testimony to this unusual fineness. No blades approaching the length of Plate 40, a were found in amorphous silica. All but one small example are from AO-3. The blades were struck from a wide platform, at a strike angle of about 75 to 80 degrees from the horizontal plane. Most of the blades have been retouched along the edges. The retouching is executed from the flat underside and, though always precussion-wrought, is generally careful. One or two blades have the percussion bulb deliberately flattened, as though the instrument were pushed into a split stick and hafted thus. Plate 40, c, and another more curved example, which are noticeably thicker than the other blades and are triangular in cross-section, show signs of heavy abrasion along one of the edges, which has been worn down to eliminate all traces of the irregularities caused by the chipping. The tools seem to have been used for scraping, and the use of one side only might indicate that they were backed. Perhaps they were used for curing leather or for putting the final touches to celts.

A few leaf-shaped pointed flakes (Plate 40,1) have been retouched
ong the edges and the base, which on some examples has been slightly
inned to form an apology for a stem.

Dr. John Watkinson, of Imperial College, London, made a thin-section
of one example from AG-3, which gave the following result:

Ground-mass extremely finely grained and badly weathered; minute specks
of magnetite, altered feldspar laths and devitrified glass.
A fine-grained andesitic lava.

Long, pointed blades of andesitic material very similar both in size
and shape to the above examples are housed in the Smithsonian Institution
and labelled "Veraguas" (SI: 403132).

Blades and flakes in amorphous silica:

The chipped stone inventory is completed by a heterogeneous collection
of tools fashioned from jasper, chert and their multi-coloured allies.
Most of these are simple, unifacial flakes, either triangular or vaguely
trapezoidal in cross-section, depending upon the number of faces on the
selected part of the core, but one or two have a length great enough relative
to breadth to classify as blades. Plate 41, a-e, illustrates typical
examples of these blades. a & b are from PN-II and c-e from AG-3. They
are roughly rectangular in shape and between 4.5 and 8 cms. long. They
were struck from a small platform and the strike angle is more perpendicular
than that of the andesitic blades, varying between 80 and 90 degrees. The
percussion bulb is much less pronounced. a, c & e have intentional retouch
along the edges, giving a serrated effect, and a few examples from AG-3, and,
incidentally, a very large percentage of the stone sample recovered at the
Il Cocuyo site, just over the border in Veraguas (see Map I), have intensified
retouch around the base and a rudimentary stem.

Rapidity seems to have been the primary criterion for the manufacture
of chipped tools in western Cocolé. The great mass of flakes recovered
mostly spontaneous implements and very few show signs of intentional touch. Typical worked flakes from AG-3 and PN-II are illustrated in Plate 39 (bottom row) and Plate 41 (bottom two rows). Plate 41, f, g & k e from PN-II, the remainder from AG-3. These are pointed, roughly leaf-shaped in outline, and all exhibit some kind of secondary working, whether the chipping of a few flakes around the base to form a rudimentary stem, intentional thinning by percussion of the basal part, or simple, circumferential chipping. Interestingly, the only flake tool in the sample which has a pronounced stem is "fish-tail" in outline (Plate 41,f), though, of course, the notching has been achieved by percussion. The almost total absence of points with prominent, thin stems from the sample is puzzling:
both long, thin and short, wide points at PN-5 were retouched with a prominent stem (Lothrop, 1937: fig. 64), and stemmed points identical to the PN-5 examples are very common in the Canal Zone area, around Madden Lake (Sander, 1964: Plate I,d & 4, b&d; Snyder, personal information). They also occurred at He-I in association with a collection of predominantly Monte Polychromes (Ladd,1964: Plate 20,1).

In spite of the limited quantitative and stratigraphic evidence, it would be my guess that:

a) The multiple chipped points with triangular cross-sections are late (Phases VI and VII). Linares ascribes her examples to the San Lorenzo Phase, which is coeval with Phase VI in western Coclé (800 - 1100 A.D.) and the apparent rarity of the type at PN-5 and its occurrence in the upper levels of AG-3, in Trench A at NA-8, in late surface collections (NA-8, NA-29) and in the mound at NA-9(?), indicates a late date in Coclé.

b) Unifacially worked points with pronounced stems - either from flakes or blades - are Phase V/VI, to judge from their frequency at PN-5 and their absence in the 1969-71 collections.

Silica cores:

Only six nodules of silica were recovered (all from AG-3) with dimensions that would warrant their classification as cores. Three of these
ave clearly not been used for tool-making, and probably represent material brought back for more minute breakage. The three others have been worked from various platforms. One core is symmetrically polyhedral and has produced a series of long rectangular blades, and one or two pointed leaf-shaped flakes. The other two have been haphazardly bash. One, with a rudimentary oval shape, has been used for pounding along one edge.

Whetstones:
Two nodules of lava have deep random striations cut across them which suggest a sharpening or polishing function (Plate 42, d & e.) Lothrop illustrates very similar examples from PN-5 (1937: fig. 52.)

Utilised pebbles:
Three water-worn pebbles were found in the deposit at AG-3 which had apparently been intentionally broken in half and chipped round the broken end. Identical pebbles are used by contemporary potters for applying the final polish to a vessel both before and after firing, and these examples were probably used for this same purpose. Lothrop illustrates a collection from PN-5 (op.cit.: fig. 50.)

River stone manos:
At NA-8 and NA-13 a number of river cobbles were found which showed signs of usage on one or both sides but never along the edge. The solitary example at NA-13 (pit B) is about 28 cms. long and 12 cms. wide at the widest point, and ovaloid in shape. It has been considerably ground down on both sides, with action moving across the shorter plane, leaving deep striation marks. The five examples from NA-8 are between 8 and 11 cms. wide, and also ovaloid in shape. Three have been utilised on both sides, two on one side only. No manos of this type occurred on other sites.
Ornamental stonework at AG-3 is limited to a necklace of twenty beads of sericite and two other isolated beads of the same material. The necklace, buried in conjunction with skeleton A-4, consists of two shapes of beads: rectangular, about 1.0 cm. long and 0.7 cm. wide, and trapezoidal, about 1 cm. wide on the long edge and 0.7 cm. on the short. The laterally laced holes are very neatly drilled through the apex of the trapezoid and the upper half of the rectangle, probably indicating that the different shapes of bead were strung alternately as in Plate 36, j. Sericite - a secondary uscovite formed by hydrothermal alteration of silicates, especially feldspars - is probably a rare commodity in Panamá (I believe the United Nations Survey team found deposits in the Veraguan part of the Azuero Peninsula), but it is extremely soft and its predisposition to carving was no doubt well known to the Coclé inhabitants: Lothrop records a sericite disk from Grave 29 at PN-5 and mentions a set of sericite pebbles utilised as polishers (1937: 88 & 277). A set of beads with the same trapezoidal shape was found at He-4, in Mound Trench I (find 346-I) along with a Macaracas Polychrome, Pica-Pica Variety owl: Ladd records them as jade, but they are like sericite to the touch. Four other beads - also listed as jade - were found in find 368 at the same site with a large collection of Macaracas Polychromes (Ladd, 1964: I49). A fine necklace in the private collection of M. Jean Canavaggio has trapezoidal beads, probably of sericite, alternating with round gold beads. Of the two isolated beads found at AG-3, the tubular example, which measures 7.5 x 4.5 mms., and is barrel-shaped in outline, has exceptionally thin walls. It was found in pit C at 0 cms. The other bead is circular, with a diameter of 6 mms., a thickness of 5 mms., and a hole diameter of 2.5 mms. It was found in level I2 of pit 9, in the last throes of the occupation, and hence is Phase IV in date. Beads very similar in shape and size to these last two, but slightly larger,
are illustrated by Lothrop from PN-5 (1937: fig. I40, a & c-e).

At NA-29, Mrs. Ruth Stuhl found a pendant representing a dog, carved in serpentine (Plate 36,1), eroding out of the roadway by the second collection area (B). It is only partly finished. The polishing instrument has left quite pronounced striations and the marks of the cutting are very clear where the anatomical features were being roughed out. The dog is considerably more stylised than the typical "curly-tailed" examples from PN-5 (op.cit.: Plate II), but this might be due to the incompleteness of the carving.

A finely wrought polished agate pendant was found at NA-8 by Luís Calvo (from the surface). It is 5.5 cms. long and 1.5 cms. wide and morphologically identical to examples from PN-5 (op.cit.: Plate III, a & 1-k).

Quartz crystals:

One quartz crystal was found at AG-3. It is unworked. Dade found a large collection of quartz crystals in Burial 18 at PN-I7 (1960: fig. 19,1). They were frequently encountered at PN-5, but only one showed signs of working (Lothrop, 1937: figs. 181, a & 189). Calvo records having found a group of quartz crystals in apparent association with a small celt, eroding from the flat land near PN-1 (personal information).
CHAPTER 7

ANALYSIS OF THE KITCHEN REFUSE AT AG-3, NA-8, AND NA-13

The excavations at AG-3 and, to a far lesser degree, those at NA-8 and NA-13, uncovered a quantity of faunal and floral remains, partial analysis of which has provided some interesting information about the diet and eating habits of the prehistoric inhabitants of western Coclé. The mere occurrence of animal bones and plant fragments in an archaeological context does not indicate unequivocally that they are the remnants of ancient meals, but, at least at AG-3, the quantity and taxonomic heterogeneity of the sample, coupled with its direct association over most of the site with pottery of a presumably functional nature, imply a culinary deposition. Unfortunately, the information contained in this chapter cannot yet be considered complete: the author, who undertook a large part of the identifications, particularly the mammals, is by no means a trained osteologist, the collections housed in the British Museum (Natural History) - especially of the fish and reptiles - are lacking several genera and species which one would logically expect from a midden sample, and, notwithstanding the aid given by a number of experts, there are several recognisable bones which will remain unidentified until a complete disarticulated sample of the Coclé fauna has been collected.* Nevertheless, though incompleteness precludes a detailed statistical analysis, enough evidence is already available to warrant the formulation of certain preliminary conclusions. This is particularly true of the Phase IV levels at AG-3, whence came the bulk of the material. Most of the basic separation of the bones - at least to Classes, and, in the case of the mammals, as far

* The author is in receipt of a grant from the University of London Central Research Fund for the acquisition and preparation of such a sample.
as Species - has been done.

Acknowledgement must be made to the following experts who have helped with the identifications:

**Mammalia**

Dr. Juliet Clutton-Brook  
Mr. M. Sheldrick  
Dr. Edwin L. Tyson  

British Museum (Natural History)  
British Museum (Natural History)  
Florida State University, Canal Zone, Panama.

**Aves**

Dr. Alexander Wetmore  

Smithsonian Institution, Washington, U.S.A.

**Reptilia and Anura**

Dr. Gareth Underwood  
Mr. A. Stimpson  

British Museum (Natural History)

**Pisces**

Dr. Horace Loftin  
Dr. H.B. Greenwood  
Mr. Gordon  

Florida State University, Canal Zone, Panama  
British Museum, Natural History  
British Museum, Natural History

**Flora**

Dr. Sidney McDaniel  

Dept. Botany, Mississippi State University, U.S.A.

**Kitchen refuse at AG-3**

Most of the meal remains from AG-3 were recovered from the Phase IV levels of Pits B, D and E (i.e., below 55 cms.,) and it is these which provide the safest criteria for interpretation. There was also a dense lense of bones in good state of preservation, and apparently undisturbed, beneath and to the western side of skeletons A-1 and A-2. The pottery associated with this lense was primarily Phase IV and it is probable that the burials in question were in fact laid to rest upon a layer of kitchen debris which is contemporary with that beneath 55 cms. in pits B, D and E. Fragments of bones and shell were also recovered from the uppermost levels of pits B, D and E (0-55 cms.), and in most of the levels of pit A, but their assignation to a particular phase is made impossible by the compression
of ceramic stratigraphy and the intrusion of burials. In pits B, D, and 
I, the amount of disturbance above 55 cms. seems to have been negligible .
As even those bones found near the surface are in a pristine state. The 
precise stratigraphic location of all bones identified to date, by 
taxonomic unit, is contained in table 13.

The amazing compression and concentration of kitchen refuse and 
potsherds is the characteristic feature of the Phase IV levels of the site. 
That so many broken fragments of pottery and the remains of the food they 
previously contained could be crammed into such a small volume surely 
testifies to the function of this particular section of the site for the 
duration of the phase. In some cases, enormous sherds of Esocotá Type 
flare-collared urns (see fig. 38 a-f), were recovered with literally 
handfuls of bones within them. The densest piles of bones occurred with 
the densest concentrations of sherds. There was a tendency for the 
material to cluster in isolated groupings of, say, fish bones, shells, or 
deer bones: in Level VI of pit B, for example, most of the 375 fish 
vertebrae and sundry piscine components were recovered massed into an 
area of some 9000 cubic cms., while in pit D, Level III, the 69 Pitar 
shells were similarly concentrated, as a culinary "cache". The clinging 
of hard concretions of debris to the inside walls would indicate that some 
vessels were sometimes discarded with the remnants of the meal still within. 
The presence of large amounts of wood carbon within the sherds implies the 
use of wood for cooking, but rather surprisingly, an insignificant 
percentage of the bones - about one fragment every two hundred - was 
burnt. The only large stones present in the entire deposit were badly 
shattered and had probably been used as pot-boilers. Large river cobbles, 
of the type encountered in the "kitchen piles" at NA-8 and NA-13, which 
could have been used for hearths, were not found at AG-3.
These factors - the dense concentration of bones and sherds, the probable use of pot-boilers, the surprisingly small amount of charred bones - suggest that the animal components of the diet were cooked in one big "sancocho" (soup), presumably in the Escota Type flare-collared urns, which are very apt for such a purpose: the pear-shaped body, often with a medial bevel, coupled with a tall neck and restricted orifices, would ensure maximum retention of heat. The shape, too, is ideal for cooking over an open fire without supports.

The inhabitants of AG-3 during phase IV do not seem to have been particularly selective in their dietary habits. Though large, nutritious animals such as White-tailed Deer, turtles, snook and Anadara shells were frequently eaten, the presence of tiny, bony fish, turtles with a probable carapace length of about 6 cms., and large numbers of frogs and toads, imply a degree of eclecticism. Within the present limits of identification, the complete faunal list for the Phase IV deposits contains:

- Dasypus novemcinctus
- Odocoileus virginiana
- Herpailurus yagouaroundi
- Homo sapiens
- Nasua narica
- Rodentia
- Brotogeris jugularis
- Dendrocygna viduata
- Birds, misc. spp.
- Ameiva lizard (borreguero.)
- Iguana iguana
- Turtles
- Anura
- Ariidae
- Catfish
- Centropomidae
- Characidae
- Cichlidae
- Pimelodidae
- Scoliidae
- Tetraodontidae
- Anadara grandis
- Natica unifasciata
- Ostrea spp.
- Pitar tectuosus
- Boapharca tuberculosa
- Strombus peruvianus

As a gourmet's catalogue, the list holds few surprises: a "coclesano" farmer today would eat all of the listed species with the exception of Man (one hopes,) Jaguarundi, Ameiva lizard (Borreguero,) and the frogs and toads. The human bones - one molar and a femur - were found in a culinary context mixed with deer and fish bones. Both are from relatively
young individuals. The tooth, of course, could simply have fallen out.

he femur, which has the head and distal condyles missing, perhaps snapped off, shows no signs of scratching or usage. One bone and one tooth are not conclusive proof of cannibalism, but there were no signs of burial disturbance in pits B, D, or E. The Jaguarundi bone (innominate) was found in two pieces, one in Pit E, the other in Pit D (Level III). This little cat is not common in the province today but would be killed instantly as a chicken-thief. Whether the Phase IV inhabitants would have eaten one is a matter for speculation. Two other Felid bones, an incisor and a calcaneum, from pardalis, wiedii or tigrina (Ocelot, Margay or Tiger-Cat,) were also recovered from the Phase IV levels. The "borreguero" lizard is very common today and, to my knowledge, is not utilised for food by "cocolasanos", though it grows up to about 80 cms., and is probably as edible as iguana. It thrives in disturbed conditions and was no doubt a plentiful beast around the village. The ubiquity of Anura (frog and toad) bones presumably means that they were utilised for food, though certain species of toad in Panamá are toxic and could have been used for poison or coveted for their supernatural powers. The Rana species are a favourite bait for fishing today. Unfortunately, identifications of Anura have not yet progressed beyond the Order stage. Seven families are found in Panamá, and three - Bufonidae, Leptodactylidae, and Ranidae - are probably represented in the sample. The morphologies of the diagnostic bones are extremely varied, and identification at least to genus should be possible. To judge from the size of the urostyles, animals of all sizes were taken, ranging from tree-frog to North American bullfrog in dimension.

The most popular mammalian food animal was obviously the White-tailed Deer. Animals of all ages were taken. Out of 101 bones with ageing
Criteria, 55 are juvenile and 44 adult. Some of the juveniles are very small deer and were presumably killed with the mother. Some of the long bones appear to have been deliberately snapped off beneath the heads (to extract the marrow?) and one or two have deepish cut marks, presumably executed with the typical jasper knife of the Phase. Tools - awls and the like - were made from the split metapodials, and one tibia fragment has been neatly severed beneath the tuberosity, the shaft being reserved, no doubt, for an artifact. A fragment of antler shows definite signs of polish. (See Chapter 6 for a detailed analysis of bone artifacts). The less diagnostic and the fragmentary deer bones do not exclude the possibility of Mazama's being present in the deposit. None of the diagnostic adult bones, however, are from this species.

Aside from the deer and the Felids mentioned above, other mammals which occur in the Phase IV deposits are the Nine-banded Armadillo, Coati-mundi, Agouti and rodents. The armadillo is prized for food all over the Americas and can still be seen in Coclé. The coati and agouti are no longer common, though "náque" will turn up from time to time on restaurant menus. The two bones definitely identified as rodent (mandibles) are probably from individuals of the genera Oryzomys and Nyctomys, of which the former has a good deal of meat. A number of long bones and vertebrae are almost certainly from rodents. Most are identifiable to species. Small animals one would expect to occur are: Marmosa mexicana; Sciurus variegatoides; Sciurus granatensis; Heteromys desmarestianus; Oryzomys talamancae; Oryzomys tectus; Tylomys watsoni; Sigmodon hispidus; Proechimys semispinosus. One of the Femora recovered was morphologically very similar to Marmosa mexicana and another to Sigmodon hispidus. Bones from medium-sized mammals of undetermined species occur scattered throughout
he deposit. Some of the several phalanges recovered are probably procyonid, in one case matching *Procyon lotor*, and one complete sacrum of a Canid: it is, in fact, almost identical to *Dusicyon gracilis*, a fox which does not now occur north of Venezuela.

The most conspicuous mammalian absentees from the list are the peccaries, *Tayassu tayacu* and *Tayassu pecari*. None of the identified bones belongs to these species, though a calcaneum is perhaps from the White-lipped variety (*pecari*). It is, of course, possible that some of the fragmented large mammal bones are pig, but the absence of diagnostics in the sample is puzzling. At PN-5, peccary teeth were commonly utilised for ornaments and Lothrop records the occurrence of *pecari* bones in the midden deposits (1937: 16). "Zahinos" were certainly common when the Harvard team were excavating and they can still be seen on the thorn-covered slopes of Cerro Zuela. It would be tempting to speculate wildly about their absence, but the sample at hand is not colossal, and it might be a matter of chance.

The Tapir (*Tapirus bairdii*) is not present and was probably not found in the region. The only other sizeable mammal one might find is the Howler Monkey (*Alouatta alouatta*). *Didelphis marsupialis*, *Sylvilagus brasiliensis*, *Urocyon cinereoargenteus* and *Agouti paca*, which were surely utilised, are found in the developed polychrome phases of the site. Other medium-sized mammals one would expect to encounter but which are apparently absent in Phase IV are: *Philander opossum*, *Cebus capucinus*, *Ateles geoffroyi*, *Tamandua tetradactyla*, *Potos flavus*, *Bassaricyon gabbii*, *Eira barbara*, *Galictis allamandi*, and *Lutra annectens*.

Bird bones are none too plentiful at AG-3, but it must be remembered
hat, especially as regards the smaller species, they are extremely
fragile and the Order is perhaps disproportionately represented. All
occurrences of bones belonging to bird in the sample are listed in Table
13. In the Phase IV levels, the only species definitely identified (by
Dr. Wetmore), are Brotogeris jugularis, the little Orange-chinned Parakeet,
and Dendrocygna viduata, the White-faced Tree-duck. The parakeet is one
of the most destructive birds on the Pacific littoral today and is commonly
kept as a pet by local people. Dendrocygna viduata is absent from the
region today, though it is quite probable that it has been shot out in
recent years and was formerly quite common. Eisenmann and Loftin give
only two records for Panamá (1967: 5). Of the other bird bones, one
coracoid, with the distal end broken, is probably from a duck sp., being
morphologically similar to that of Dendrocygna, though a trifle smaller
(perhaps autumnalis?), and an ulna and tibio-tarsus, presumably of the
same bird, are from a very large bird, perhaps a Cracid (? curassow).
The size range of the other bird bones is variable.

Of the reptiles, turtles were commonly taken in Phase IV and were one
of the four major food resources, along with deer, fish and frogs and toads.
Most of the carapace and plastron fragments and the long bones in the
sample are probably recognisable to species. On the Pacific coast of
Panamá today, sea turtles are very rare, but representatives of
Dermochelyidae and Cheloniiidae were once prized food animals. Of the land-
and river- species, Kinosternidae and Emydidae, Podocnemis expansa may be
included within the sample: a humerus and a few dorsal scutes seem to
match this species, which does not now occur in Panamá, though turtles
from the Phase II site, Monagrillo, in Herrera, were tentatively identified
as this species (Willey and McGimsey, 1954: 151). Two of the turtle
umeri recovered from Phase IV deposits were from very small animals, with carapace length of about 5-6 cm., to judge from examples in the British Museum.

Aside from the "borreguero", *Ameiva ameiva*, already mentioned, the only lizard species definitely identified for the Phase is *Iguana iguana*, one example of which measured at least 1 m. This had an osteological anomaly in the fusing of the transverse processes of the sacral vertebrae, a characteristic which was absent in similar sized examples from the London collection. Iguanas have recently suffered from over-shooting in Coolé (a "guardia" who watched the excavations had one in his shoulder-bag, recently shot), and were presumably a prominent aboriginal food source. A number of lacertilian vertebrae and two haemal arches, of indeterminable species and varying size, were also recovered from the Phase IV levels.

The most frequently utilised food source of the Phase IV inhabitants was fish. Hundreds of bones occurred in the deposit, with sizes ranging from miniscule, under 5 cm., to very large, 0.1 m. As stated in the introduction to this chapter, fish identifications are still in a very preliminary stage and some of the assignations to taxonomic units will require checking against local representatives of the Class.

Dr. Horace Loftin has kindly provided a list of the freshwater fishes known today from the Santa María basin of Panamá:

<table>
<thead>
<tr>
<th>Pimelodidae:</th>
<th>Imparales sp.; Rhamdia wagneri; Pimelodella chagresi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pygidiidae:</td>
<td>Pygidium striatum</td>
</tr>
<tr>
<td>Loricariidae:</td>
<td>Placobdus plecostomus; Sturisoma panamenense</td>
</tr>
<tr>
<td>Characidae:</td>
<td>Curimata magdalenae; Compusa gorgonae; Cheirodon affinis; Gephyrocharax intermedius; Astyanax ruberrimus; Hemibrocyon dariensis; Roeboides occidentalis; Ctenolucius hujeta; Hoplias microlepis.</td>
</tr>
<tr>
<td>Stenarchidae:</td>
<td>Hypopomus occidentalis</td>
</tr>
<tr>
<td>Poeciliidae:</td>
<td>Brachyrhaphis sp.; Priapichthys dariensis; Neoheterandria tridentiger</td>
</tr>
<tr>
<td>Cichlidae:</td>
<td>Aequidens coeruleopunctatus; Cichlasoma seboldi</td>
</tr>
</tbody>
</table>
Unfortunately, the British Museum collections are defective in a large number of the genera of both freshwater and marine fish likely to occur in the deposit at AG-3. Of the fish identified to date, the most commonly taken Family seems to be Ariidae, marine catfish, whose skull fragments and spines occur plentifully. There are a few auricular fragments of river catfish (*Pimelodidae*) but the Museum collection lacks the genus *Imperialis*, which should occur. The Loricariids, also river catfish, look too bony to be worth taking when *Ariidae* are so common. There are certainly no skull fragments in the AG-3 sample. A number of catfish vertebrae and vomera of indeterminable Family were recovered. The Centropomids, snooks, are commonly caught today, and are much prized by "Coclesanos". They occur well up the rivers, at least as far as the New Highway bridge on the Rio Chico, in front of NA-8. Some of the vertebrae from Phase IV levels are from very large fish. Meek and Hildebrand (1928: 429), list three genera as coming up the rivers beyond the tide streams in the Pacific: *Nigrescens*, *Unionensis*, and *Animatus*. Rabalito also occurs on the Pacific side. The British Museum lacks specimens of these genera, and the assignation of vertebrae and jaw fragments to the Family is based on comparison with other genera, and warrants confirmation with locally caught material.

Of the Characidae and Cichlidae, the two Families of freshwater fish most likely to occur, jaw fragments of the toothed genera of the former are quite common in the Phase IV levels. The nearest equivalent in the London collection is the genus *Hoplias*, one representative of which occurs in the Santa María river (*microleosis*). A pharyngeal plate from level VI is perhaps from the genus *Cichlasoma* (*Cichlidae*). I would guess that the majority of the very small vertebrae encountered, especially those in large concentrations, are from fish of this family, (e.g. *Astyanax*) which
are plentiful today. The Sciaenid jaw fragments and vertebrae are from large fish. Meek and Hildebrand (1923-1928), list as many as 16 genera of the Family from Panamá, and it is tempting to believe that the fish represented here is the delicious "corvina" (White Sea-Bass) so prized in Coolé restaurants. Sciaenids do not, to my knowledge, enter very far up the rivers.

The complement of identified fish bones is made up by bony plates of Tetraodontidae, puffer-fish, two of which occurred in Phase IV levels, though several more were recovered from other parts of the site. The Tetraodontids are apparently quite common along the Pacific coast today. There are five genera in Panamá, Lajaephalus, Spheroides, Guentheridia, Canthigaster and Tetraodon. The most likely candidates for the beaks in question are Guentheridia formosa, Spheroides annulatus and Tetraodon hispidus. Meek and Hildebrand say of Spheroides annulatus:

"This puffer is extremely abundant on the Pacific coast of Panamá, ascending up the tide-streams to fresh water. Gilbert and Starks (1904) report that the species occurred frequently in the Panamá City market. (1928: 817). Guentheridia formosa is also common. Puffers are sluggish swimmers and, when inflated, float on their backs on the surface, so presumably they are rather easy to catch. If physical appearance is any indication of gustatory excellence, these puffers must be foul.

Mollusca and Crustacea complete the faunal composition of the Phase IV meal refuse. The most favoured mollusca are: Anadara grandis (Giant Ark-Shell); Pitar tortuosus (a small clam); Scapharca tuberculosa (a small ark-shell); and Ostrea spp. (oysters). Smaller amounts of Strombus peruvianus (Stromb); Natica unifasciata (Moon-Shell); Terebra ? robusta (Auger-Shell), and Thais haeomostoma (Mangrove Snail) were also recovered. The total quantity of shells is small, in no way comparing with the density at NA-8, but some of the shells are very large, an Anadara grandis from
pit B, level VIII weighing 14 ozs. These shells occupy about three different niches along the coast: Anadara grandis thrives in deep water where it can be found when the tide is well out on sandspits and mudbars; Thais haemostoma, Scapharca tuberculosa, Natica unifasciata and at least one species of Ostrea (mexicana) live in mangrove swamps and murky water; Pitar tortuosus is common on mud-flats, and Strombus peruvianus and Terebra robusta like similar, shallower conditions (Greengo, 1954: Table 8; Morris, 1966). The shell sample from Phase IV possibly includes fragments of Protothaca grata ("concha prieta"), and Tagelus spp., which were not isolated from the original sample. Protothaca was quite common at NA-8. A number of crab dactyls were also found.

The only macrobotanical remains so far identified for AG-3 are charred fragments of maize (Zea mays), and seeds of Hymenea courbaril (in Panamá, algarrobo, elsewhere in Central America, copal). The maize is under analysis in the U.S.A*. Pollen cores, taken at 20 cms. intervals from the walls of Pit B to a depth of 120 cms., are being studied at Delta University, Mississippi. The maize fragments were all from the flotation levels of Pit E - i.e., Phase IV - while one of the Hymenea seeds was found underneath Skeletons A-1 and A-2 and is probably of the same age. Hymenea is drunk today by courageous "coolesanos" as a laxative, while Standley reports that the bark is used for making canoes and varnish (1928: 202). The "copal" gum is commonly used for incense throughout Middle America, and a number of incense burners were recovered at AG-3.

**Phases V-VII**
The following were recovered from the developed polychrome levels of the

*By Dr. Hugh Cutler of the Missouri Botanical Garden*
Of these, *Agouti paca*, *Didelphis marsupialis*, *Sylvilagus brasiliensis*, *Urocyon cinereoargenteus*, *Ara chloroptera*, *Boa constrictor*, and *Boa constrictor* did not occur in the Phase IV levels. *Didelphis*, the Virginia Oppossum, is still quite common in Coolé and several individuals executed themselves in the trenches of PN-11. Local inhabitants will eat it, with some misgivings. *Sylvilagus brasiliensis* is not common today. *Urocyon* seldom appears in mammalogist's lists from Panamá as the collectors head for the jungles where the fox does not live. It is, in fact, quite common in the western "Llanos" and is well adapted to a scavenging existence around human settlements (Tyson, personal information). The macaw (*Ara*) was found buried on top of the tibiae of skeleton A-4. The skeleton is not complete, though all the long bones are present, if somewhat fragmented. The head and feet are missing. There is nothing on the bones to suggest modification and the positioning of the bird on the skeleton offered no clue as to possible function, whether pet or artifact. The species does not now occur in the region—it has in fact probably been extirpated in the Republic—but it may have been more widespread in former times. It is essentially a mature forest species, but macaws are colourful birds and were no doubt carried round quite a bit in prehistoric times, so that its presence at AG-3 can in no way be taken as indicative of environment. The site:

<table>
<thead>
<tr>
<th>Animal</th>
<th>Phylum</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agouti paca</td>
<td>Mammalia</td>
<td>Dasyproctidae</td>
</tr>
<tr>
<td>Dasyprocta punctata</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dasyprocta novemcinctus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Didelphis marsupialis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Odocoileus virginiana</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sylvilagus brasiliensis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urocyon cinereoargenteus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ara chloroptera</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boa constrictor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelecanus occidentalis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iguana iguana</td>
<td></td>
<td></td>
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<tr>
<td>Lizards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turtles</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Anura

Ariidae

Catfish

Centropomidae

Characidae

Sciaenidae

Tetradontidae

Anadara grandis

Natica unifasciata

Ostrea spp.

Pitar tortuosus

Scapharca tuberculosa

Strombus peruvianus
bone flute made from the humerus of a Brown Pelican (*Pelecanus occidentalis*) was also buried with skeleton A-4. It is described in Chapter 6. This pelican is still one of the commonest marine birds along the Pacific and nests on the Farallón de Chirú in Cocolí. The *Boa constrictor* vertebrae were from individuals with a length of about 2.75 ms. to judge from specimens in the British Museum. The Tropical Survival School in the Canal Zone gives lessons in the digestion of *Boa* meat, and a snake of this size is probably a perfectly reasonable dish. It is still common all over Panamá.

B. Kitchen refuse at NA-8

Faunal remains from the trench at NA-8 are much more scanty than those at AG-3, and are more fragmentary. The following have been identified:

<table>
<thead>
<tr>
<th>Species</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Didelphis marsupialis</em></td>
<td></td>
</tr>
<tr>
<td><em>Felis onca</em></td>
<td></td>
</tr>
<tr>
<td><em>Odocoileus virginiana</em></td>
<td></td>
</tr>
<tr>
<td><em>Ameiva ameiva</em></td>
<td></td>
</tr>
<tr>
<td>Turtles</td>
<td></td>
</tr>
<tr>
<td>Anura</td>
<td></td>
</tr>
<tr>
<td><em>Ariidae</em></td>
<td></td>
</tr>
<tr>
<td>Pimelodidae</td>
<td></td>
</tr>
<tr>
<td><em>Sciaenidae</em></td>
<td></td>
</tr>
<tr>
<td><em>Anadara grandis</em></td>
<td></td>
</tr>
<tr>
<td><em>Natica unifasciata</em></td>
<td></td>
</tr>
<tr>
<td><em>Ostrea spp.</em></td>
<td></td>
</tr>
<tr>
<td><em>Pitar tortuosus</em></td>
<td></td>
</tr>
<tr>
<td><em>Scapharca tuberculosa</em></td>
<td></td>
</tr>
<tr>
<td><em>Strombus peruvianus</em></td>
<td></td>
</tr>
<tr>
<td><em>Thais haemostoma</em></td>
<td></td>
</tr>
</tbody>
</table>

The only animal not occurring at AG-3 is *Felis onca*, the Jaguar or Tigre, a phalanx of which appeared in Level I. It is highly polished and was perhaps used as an artifact. Jaguars have now vanished from the area presumably through the agency of man. Of the four deer bones liable to ageing, three are adult and one juvenile. A large number of fragments of mammalian long bones are probably from this species. The frog humerus appears to be of an animal which does not occur at AG-3. Many more shells were recovered from the site than at AG-3. They were nearly all concentrated in the first fifteen cms. of the deposit, mixed with large stones which formed part of a "kitchen pile". *Anadara grandis*, *Scapharca*,
uberculosa and Protothaca grata are the most popular species, and Thais aemostoma is much more common than at AG-3. Nearly all the bone fragments came from the lower 15 cm.s of level I and are hence probably Phase VII in age. A greater percentage of bones was charred than at AG-3. The basin hearth dug through the red clay beneath level III contained a nearly complete pot with fragments of Pimelodid auriculars.

C. Kitchen refuse from NA-13

A nearly complete vessel of Cortezo Red-Buff Ware, which was found upended in pit B amidst a pile of large stones (perhaps an intentional hearth), contained a very small quantity of meal refuse in a flotation sample - nine vertebrae from small fish about 8 cm.s long, a fragment of carapace from a tiny turtle, fragments of charred maize and a seed (these last also under analysis in St. Louis). A few shells of Anadara grandis and Strombus peruvianus were mixed in with the refuse of the "kitchen pile." NA-13 is quite a distance from the sea (see Map I) and it is interesting that the inhabitants presumably made forays to the coast to collect these extremely heavy shells.
ANATOMICAL DESCRIPTION OF IDENTIFIED BONES FROM ARCHAEOLOGICAL DEPOSITS

Scientific nomenclature follows that of Bennett (1968) for mammals; Meek and Hildebrand (1923-1928) and Loftin (1965) for fish; Eisenmann (1965) for birds; and Keen (1958) for shells. Vernacular names in Spanish are those commonly used by country people in Coclé today and are not Academy names.

A: AG-3

MAMMALIA:

Agouti paca
Paca / Conejo pintado


Dasyprocta punctata
Agouti / Ñeque

Pit B, Level IV: 3: Thoracic vertebrae, all adult
Pit D, Level II: I: Incisor, adult

Dasypus novemcinctus
Nine-banded Armadillo / Armado

Pit A, Level IV: I: Ulna, proximal end, adult
Pit A, Ext. A, Level VIII: I: Astragalus
Pit B, Level VI: I: Ulna, proximal end, juvenile
   Level XI: I: Innominate, adult
Pit E, Level II: I: Calcaneum

Didelphis marsupialis
Virginia opossum / Zorra

Pit A, Level III: I: Humerus

Felis ? sp. (tigrina, pardalis or wiedii)
Ocelot, Tiger-Cat or Margay / Tigrillo

Pit B, Level IX: I: Calcaneum, matches tigrina
Pit D, Level II: I: Canine, adult, matches pardalis
Earpailurus yagouraoundi
Yagourundi / Gato Negro o Comepollos

Pit D, Level III: 1: Innominate, fragment
Pit E, Level II: 2: Innominate, fragments
(From the same bone)

Homo sapiens:

Man: isolated bones amid kitchen refuse assumed to be non-funerary

Pit D, Level I:
  Level III: 1: Molar, juvenile
  Level V: 1: Femur, juvenile
  1: Molar, juvenile

Nasua narica

Coati-mundi / Gato Solo

Pit B, Level VII: 3: Thoracio vertebrae, all juvenile
Pit D, Level IV: 1: Thoracio vertebra, juvenile

Odocoileus virginiana

White-tailed Deer / Venado Rabiblanco

Pit A, Level I:
  1: Metatarsal, detached epiphysis
  2: Molar, adult, fragment
  3: Ulna, distal end, fragment
  Level II: 1: Astragalus
  Level III: 5: Astragalus
  Humerus, shaft only
  Metatarsal, proximal end, adult
  Molar 2, adult
  Phalanx, intermediate, adult
  Level IV: 2: Radius, distal end, adult
  Thoracic vertebra, adult
  Level VI: 1: Patella
  Level VIII: 2: Caudal vertebra, adult
  Level IX: 1: Mandible, fragment, teeth missing
  Level X: 1: Phalanx, ungual, adult
  Extn. A, Level III: 5: Astragalus
  Femur, fragment, condylar end
  Lumbar vertebra, adult
  Phalanx, proximate, adult
  II/III Carpal
  Extn. A, Level IV: 1: Metatarsal, proximal end, juvenile
  Extn. A, Level VI: 2: Femur, head, juvenile
  Phalanx, intermediate, adult
  Femur, adult
  Femur, fragment
  Innominate, fragment, juvenile
  Lumbar vertebra, juvenile

cont/....
Pit A, Ext. A, Level VII:  
(continued)  
- Molar, fragment  
- Phalanx, proximate, adult  
- Tibia, detached condyle, juvenile  
- Tibia, proximal end, adult  

Pit A, Ext. A, Level VIII:  
- 2: Femur, isolated condyle  
- Molar, fragment  

Pit B, Level II:  
- 4: Metatarsal, proximal end, adult  
- Molar 2, adult  
- Phalanx, intermediate, adult  
- Phalanx, proximate, adult  

Level III:  
- 2: Metatarsal, proximal ends, 2 bones  

Level IV:  
- 6: Calcaneum, fragment  
- Caudal vertebra, adult  
- Molar 1  
- Paraoccipital process  
- Phalanx, ungual, adult  
- II/III Carpal  

Level VI:  
- 10: Cervical vertebra, juvenile  
- Lumbar vertebrae, 2 juvs., 2 adult  
- Molar, fragment  
- Radius, juvenile  
- Scapula, 2 frags.  
- Thoracic vertebra, juvenile  

Level VII:  
- 39: Antler shaft, 2 frags.  
- Calcaneum, fragment  
- Cervical vertebra, juvenile  
- Femur, proximal end, adult  
- Femur, 2 broken condyles  
- Femur, broken head  
- Humerus, trochlea and medial epicondyle  
- Humerus, broken condyle  
- Innominata, adult  
- Innominata, 8 frags., at least 2 juv.  
- Lumbar vertebrae, 5, 3 juvs., 2 adult  
- Mandible, condyle  
- Mandible, fragment, teeth missing  
- Metacarpal, adult  
- Scapula, coracoid process only  
- Skull, mandibular fragment  
- Skull, cranial fragment with burr of antler, broken off at first time  
- Sternum, fragment  
- Thoracic vertebrae, 5, all juveniles.  
- Tibia, detached condyle, juvenile  

Pit B, Level VIII:  
- 27: Antler, burr end  
- Antler, shaft  
- Femur, condyle, adult  
- Femur, distal end, adult  
- Humerus, distal epiphysis  
- Humerus, broken trochlea  
- Lumbar vertebrae, 3, 1 adult, 2 juvs.  
- Mandible, fragment, adult, with dentition: M 1, 2, 3, P 4, 3, 2.
Pit B, Level VIII:
(continued)
Phalanx, intermediate, adult
Phalanx, proximate, juvenile
Phalanx, ungual, adult
Radius, 2, juven., different animals
Sacrum, frag.
Skull, 2 frags.
Sternum
Sternal bone
Tibia, proximal end, juvenile
Tibia, distal end, juvenile
Thoracic vertebrae, 4, all juven.
Astragali (2)
Calcaneum
Femur, whole, adult
Innominate, whole, adult
Innominate, fragment
Metatarsal, juvenile
Metatarsal, fragment, artifact
Patella
Radius, juvenile
Skull, crown and burr of antlers
Skull, parietal fragments, (2)
Skull, fragments, (2)
Thoracic vertebrae, (2, 1 adult, 1 juven.)
Level X:
Femur, distal end, condyle snapped off,
adult
Femur, proximal end, juvenile
Humerus, distal end, adult
Humerus, greater tuberosity only
Innominate, fragment, juvenile
Lumbar vertebra, juvenile
Mandible, with dentition: $P_2$, $P_3$, adult
Molar, $M_3$, adult, isolated
Radius, proximal end
Radius, fragment of shaft
Skull, fragment with lachrymal fossa
Pit D, Level I:
Femur, condyle detached, juvenile
Molar 2, adult
Phalanx, intermediate, adult
Radius, distal end, adult
Radius, proximal end, juvenile
Thoracic vertebrae, 2, juvenile
Level II:
Metatarsal, distal fragment
Phalanx, intermediate, adult
Level III:
Astragalus
Cervical vertebra, juvenile
Lumbar vertebra, juvenile
Metatarsal, proximal end, adult
Metatarsal, proximal end, artifact
Metatarsal, two fragments of hinge-joints
Sacrum, adult
Level IV:
Calcaneum, adult
Lumbar vertebra, juvenile
Metacarpal, juvenile
Metarsal, minus hinge-joints, artifact
Pit D, Level IV: Scapula, fragment
(continued)
Thoracic vertebrae, 4, all juvenile
Level V:
Lumbar vertebra, juvenile
Scapula, fragment
Level VI:
Humerus, distal end
Innominate, fragment
Mandible, fragment
Molars 2, 3, isolated, adult
Molar, fragment, isolated
Phalanx, intermediate, adult
Phalanx, ungual, adult
Level VII:
Femur, proximal end, adult
Lumbar vertebra, adult
Molar 2, adult, isolated
Paraoccipital process

Pit E
Cervical vertebrae (5, 2 adult, 3 juvs.)
Femur, broken head of
Humeral, distal ends, 3 separate bones
Innominate, acetabulum only
Innominate, fragment
Lumbar vertebrae (3, 2 adult, 1 juvenile)
Metatarsal, split, only one hinge-joint, artifact
Molar 3(2) both juvenile
Phalanx, ungual, juvenile
Thoracic vertebrae, 2, juvenile

Rodentia
Rodent spp. / Espp. roedores

Pit B, Level VI: 1: Mandible, possibly of Oryzomys spp.
Pit D, Level VI: 1: Mandible, possibly Nyctomys sumichrasti

A number of complete limb bones listed under small mammal are almost certainly Rodentia spp., but identification cannot be certain until a complete disarticulated sample is acquired.

Sylvilagus brasiliensis
Forest Rabbit or Tapiti / Conejito de Monte

Pit A, Level III: 1: Mandible

Urocyon cinereargenteus
Grey Fox / (Zorro gris - not recorded officially from Coolé)

Pit B, Level IV: 1: Complete pelvis

Miscellaneous mammal bones
Small approaching Rodentia spp. (except Agouti and Dasyprocta), Marmosa etc.
Extn. A, Level VI: 
1: Femur
2: Vertebra, frag. adult
4: Femora (2)

3: Tibia
4: Tibia

Pit B, Level V: 

Level VI: 
1: Tibia
2: Femur
3: Femur

Vertebra, fragment

Pit D, Level II: 

Level VI: 
1: Femur
2: Femur

Vertebra, fragment, juvenile

Level VII: 
1: Tibia

Level VIII: 
1: Femur
2: Femur

Level IX: 
1: Femur

Level X: 
1: Femur

Medium

Size approaching Procyonid, Canid, small Felid.

Pit A, Extn. A, Level VI: 
2: Phalanx ? Procyonid

1: Vertebra, frag. adult

3: Phalanges

Pit B, Level II: 
1: Innominate

Level III: 
1: Scapula

Level VI: 
2: Phalanx

Vertebra, fragment

Level VII: 
1: Radius, proximal end

Level VIII: 
1: Radius, proximal end

Level X: 
1: Radius, proximal end

Pit D, Level I: 
5: Metapodial ? Canis or Urocyon.

Sacrum ? Canis (similar in size and morphology to Dusicyon gracilis)

Tibia, young animal

Vertebrae (2)

Level III: 
1: Phalanx

Level VI: 
3: Phalanges, possibly Procyonid

Level VII: 
2: Cranial fragment

Carnassial

Pit E: 
2: Phalanges, one probably Procyonid,

? Procyon lotor

Large

Pit B, Level VIII: 
1: Calcaneum, possibly Tayassu pecari

Mammalian rib fragments:

Mostly probably Odocoileus
AVES

Ara chloroptera

Red-blue-and-green Macaw / (Guacamayo - not known at present from Coclé)


There are no obvious indications on the bird skeleton to indicate whether it is an artifact or not. All the long bones and the coracoids are present, though not always complete; the head and feet are missing. None of the bones exhibits any signs of intentional modification or scratching, though some fragments appear to be gnawed in the manner of several bones from NA-8 (perhaps by rodents). The bones appeared to be heaped up randomly over the tibias of the dead man.

Brotogeris jugularis

Orange-chinned Parakeet / Perico Piquiblanco

Pit A, Extn. A, Level VIII: 1: Shaft of humerus, fashioned into a flute

Miscellaneous bird bones, unidentified as to family

Pit A, Extn. A, Level VI: 1: Coracoid, head only

Dendrocygna viduata

White-faced Tree-Duck / (Jacamillo is the name given in Wetmore, 1965) The species is not now known from the Province.

Pit D, Level III: 1: Coracoid

Pelecanus occidentalis

Brown Pelican / Pelícano or Cuaco

Pit A, Extn. A, Level VIII: 1: Shaft of humerus, fashioned into a flute
Pit B, Level III: 1: Femur, distal fragment
   3: Femur, distal end only, small bird
   Level VII: 3: Femur, distal end only, small bird
   1: Vertebra, large bird
   Level VIII: 1: Right ulna, distal end only, very small bird
   Level IX: 1: Cervical vertebra, large bird with a long neck
Pit D, Level I: 1: Coracoid, distal end broken. Size and morphology very similar to Dendrocygna viduata. Probably this species, or autumnalis
   Level II: 1: Metacarpus
   Level VI: 3: Left ulna and right tibio—tarsus of the same bird (?) Very large, size probably near that of Curassow (Crax rubra). Cervical vertebra, perhaps of same bird.
   3: Humerus, distal end only
   Left ulna, proximal end only
   Tibiotarsus, fragment.

REPTILIA

Ameiva ameiva
Called locally "Borreguero"

Pit D, Level VII: 1: Left mandible

Boa constrictor

Boa constrictor / Boa

Pit B, Level IV: 2: Vertebrae
   Level V: 1: Vertebra

Vertebrae probably from same animal. Comparisons with material in the British Museum (Natural History) indicate a length of about 2.75 ms.

Pit A, Exttn. C, Level IV: 1: Vertebra, length comparable to above example

Iguana iguana

Iguana / iguana

Pit B, Level II: 1: Left mandible, large animal
   Level VII: 1: Lumbar vertebra, large animal
   Pit D, Level IV: 2: Lumbar vertebrae, large animal

The last probably measured over 1 m., to judge from the example studied in the British Museum. An osteological difference between the excavated animal and the London example is that the former had the final two vertebrae with the transverse processes fused together.
Lizard

Pit A, Extn. A, Level VII: 2: Lumbar vertebrae, large animal
Pit B, Level VI: 1: Caudal vertebra of animal about 1 m. long. Almost certainly Iguana iguana
Level VII: 1: Vertebra, large animal
Pit D, Level I: 1: Lumbar vertebra, medium-sized animal
Level IV: 2: Lumbar vertebrae, different animals one medium-sized, one small
Level VI: 1: Lumbar vertebra, small animal
Level VII: 2: Lumbar vertebrae, large animal
Pit E: 3: Caudal vertebrae, 2, animal about 1 m. long; lumbar vertebra, 1, very small animal

Two haemal arches - Pit B, level 7 and Pit D, level 2 - are probably from lizard spp.

Turtle

Fragments of carapace and plastron were recovered as follows:

Pit A, Level I: 4
Level II: 22
Level III: 41
Level IV: 16
Level V: 8
Level VI: 0
Level VII: 1
Level VIII: 2
Level IX: 0
Level X: 0
Pit B, Level I: 0
Level II: 24
Level III: 27
Level IV: 17
Level V: 3
Level VI: 12
Level VII: 5
Level VIII: 5
Level IX: 2
Level X: 12
Level XI: 0
Level XII: 0

Pit A,
Ext. A: Level III: 14
Level IV: 2
Level V: 4
Level VI: 6
Level VII: 2
Level VIII: 7
Level IX: 0
Pit D, Level I: 12
Level II: 4
Level III: 4
Level IV: 2
Level V: 0
Level VI: 20
Level VII: 0

Location of post-cranial bones:

Pit A, Level V:
Level VI: 1: Scapula
Pit B, Level VII: 2: Humerus
Ext. A, Level VII: Innominate
3: Humeri, 2, one possibly Podocnemis sp. expansa
Ext. A, Level VIII: Soapula (1)
1: Humerus. A very small animal with carapace about 6 oms. long
Pit B, Level VII: 1: Innominate, small animal
AMPHIBIA

Anura

Frogs and toads / Ranas y sapos

Pit B, Level VIII:

2: Radius (1)
   Scapula (1)

Pit D, Level I:

8: Humeri, 3, probably different animals measuring from c.20-25 cms., according to carapace length.
   Innominate, 2, different animals
   Scapula (2)
   Ulna

Pit D, Level III:

1: Humerus

Level VII:

2: Humerus, very small animal with carapace length of about 6 cms.
   Innominate

AMPHIBIA

Anura

Frogs and toads / Ranas y sapos

Pit A, Level V:

Ext. A, Level III:

1: Urostyle, very large animal

Ext. A, Level IV:

2: Urostyles

Ext. A, Level VI:

1: Urostyle, possibly Bufo app.

4: Humerus
   Tibio-fibulae (2)
   Lumbar vertebra, final, next to u-style (probably Rana sp.)

Ext. A, Level VII:

2: Urostyles

Ext. A, Level VIII:

4: Radius-ulna, probably Rana sp.
   Urostyles (3)
   Urostyle

Ext. A, Level IX:

1: Urostyle

Pit B, Level II:

Level III:

6: Humeri, 4 different individuals
   Radius-ulna
   Urostyle, possibly Leptodactylus sp.

Level V:

1: Tibio-fibula

Level VI:

3: Humerus
   Lumbar vertebra
   Urostyle

Level VII:

8: Humerus
   Urostyles (6)
   Vertebra

Level IX:

2: Urostyle
   Vertebra

Level X:

1: Tibio-fibula

Pit D, Level I:

4: Tibio-fibula
   Urostyle
   Humeri (2)

Level II:

6: Humeri, 3, two individuals
   Tibio-fibula
   Vertebra (2)

Level III:

7: Humeri, 4, different individuals
   Tibio-fibulae, 2, different individuals
   Urostyle
### PISCES

#### Ariidae

Armoured catfish / Conoora

| Pit D, Level IV:          | 11: Humeri, 2 different individuals 
|                          | Radius-ulna, probably *Bufo maximus* 
|                          | Tibio-fibula 
|                          | Vertebrae: 3, one final, two medial 
| Level V:                 | 1: Urostyle, probably *Bufo maximus* 
| Level VI:                | 7: Humeri, 3, two individuals 
|                          | Radius-ulna 
|                          | Urostyles: 2 
|                          | Vertebra, final 
| Level VII:               | 2: Radius-ulna, possibly *Bufo maximus* 
|                          | Urostyle 
| Pit B:                   | 2: Urostyle 
|                          | Vertebra, final 

### Pit A, Level III:

| Pit A, Level IV:          | 1: Skull fragment 
|                          | 2: Dorsal spine 
|                          | Skull fragment 
| Level V:                 | 2: Dorsal spine 
|                          | Skull fragment 
| Level VII:               | 1: Dorsal spine 
|                          | Skull fragment 
| Level VIII:              | 2: Pectoral spine 
|                          | Skull fragment 
| Level IX:                | 1: Dorsal spine 
| Level X:                 | 1: Pectoral spine 
| Extn. A, Level III:      | 1: Dorsal spine 
| Extn. A, Level VI:       | 2: Pectoral spine 
|                          | Skull fragment 
| Extn. A, Level VII:      | 7: Dorsal spines (2) 
|                          | Pectoral girdle, fragments (2) 
|                          | Skull fragments (3) 
| Extn. A, Level VIII:     | 17: Dorsal spines (4) 
|                          | Skull fragments (13) 
| Extn. A, Level IX:       | 1: Dorsal spine 
| Pit B, Level II:         | 1: Skull fragment 
| Level III:               | 4: Dorsal spine 
|                          | Pectoral spine 
|                          | Skull fragments (2) 
| Level IV:                | 3: Skull fragments 
| Level V:                 | 26: Dorsal spines (4) 
|                          | Pectoral girdle fragments (7) 
|                          | Pectoral spine (1) 
|                          | Skull fragments (14) 
| Level VI:                | 32: Dorsal spines (8) 
|                          | Pectoral girdle fragments (5) 
|                          | Pectoral spines (9) 
|                          | Skull fragments (10) 

<table>
<thead>
<tr>
<th>Level</th>
<th>Catfish</th>
<th>Pit A, Level II:</th>
<th>Pit B, Level X:</th>
<th>Pit D, Level I:</th>
</tr>
</thead>
</table>
| Pit B, Level VIII: | 39: Dorsal spines (4)  
| | | Pectoral girdle fragments (6)  
| | | Pectoral spines (3)  
| | | Skull fragments (26)  
| Level IX: | 8: Dorsal spines (2)  
| | | Pectoral girdle fragments (1)  
| | | Pectoral spines (2)  
| | | Skull fragments (3)  
| Level X: | 5: Pectoral girdle fragment  
| | | Pectoral spine  
| | | Skull fragments (3)  
| Level XI: | 2: Dorsal spine  
| | | Pectoral girdle fragment  
| Level XII: | 3: Pectoral girdle fragment  
| | | Skull fragments (2)  
| Pit D, Level I: | 4: Pectoral spines (2)  
| | | Skull fragments (2)  
| Level II: | 11: Dorsal spines (2)  
| | | Pectoral girdle fragments (4)  
| | | Pectoral spine  
| | | Skull fragments (4)  
| Level III: | 8: Dorsal spines (2)  
| | | Pectoral girdle, fragment  
| | | Pectoral spines (2)  
| | | Skull fragments (3)  
| Level IV: | 9: Dorsal spine  
| | | Pectoral girdle fragments (3)  
| | | Pectoral spine  
| | | Skull fragments (4)  
| Level V: | 2: Dorsal spine; pectoral girdle, fragment  
| Level VI: | 20: Dorsal spines (4)  
| | | Pectoral girdle fragment  
| | | Pectoral spines (3)  
| | | Skull fragments (12)  
| Level VII: | 5: Dorsal spine  
| | | Pectoral girdle fragments (3)  
| | | Pectoral spine  
| | | Dorsal spines  
| | | Pectoral girdle fragments  
| | | Pectoral spines  
| | | Skull fragments  
| Catfish | 2: Proximal vertebrae  
| | | 1: Vomer  
| Pit A, Level II: | 1: Vomer  
| Level X: | 1: Vomer  
| Extn. A, Level VI: | 1: Proximal vertebra  
| Extn. A, Level VII: | 1: Proximal vertebra  
| Level V: | 1: Proximal vertebra  
| Level VI: | 8: Proximal vertebra  
| Level VII: | 13: Proximal vertebra  
| Level VIII: | 15: Proximal vertebra  
| Pit B, Level X: | 1: Vomer  
| Pit D, Level I: | 1: Proximal vertebra  
|
B. Vomers
2: Skull fragment
2: Proximal vertebra

C. Centropomidae
Snooks / Robalos

D. Pit E, Level VII:
1: Proximal vertebra
1: Proximal vertebrae

E. Pit F:

F. Characidae

G. Possibly Hoplias sp. ? microlepsis

H. Pimelodidae
River Catfish

I. Pit B, Level VI:
1: Auricular fragment
1: Auricular fragment
1: Auricular fragment
**Ostariophysi**

### Osteonidae

- ** PIT A, Ext. A, Level VII:**
  - 1: Vertebra
  - 2: Vertebra
- ** PIT A, Level VIII:**
  - 1: Dentary fragment
- ** PIT B, Level V:**
  - 1: Dentary fragment
  - 5: Vertebrae
- ** PIT B, Level VI:**
  - 3: Dentary fragments
  - Premaxillae (2)
- ** PIT D, Level VI:**
  - 1: Premaxilla

**Tetraodontidae**

### Puffer-fish

- ** PIT A, Level IV:**
  - 1: Bony plate, fragment
- ** PIT B, Level IX:**
  - 3: Bony plate, fragments
- ** PIT D, Level I:**
  - 3: Bony plate, fragments

**Fish**

Totals of dorsal and pectoral spines, jaw fragments and vertebrae per levels:

#### Dorsal spines:

<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level III:</th>
<th>Pit B, Level IX:</th>
<th>Pit D, Level I:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level IV:</th>
<th>Pit B, Level X:</th>
<th>Pit D, Level II:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level VI:</th>
<th>Pit B, Level IX:</th>
<th>Pit D, Level III:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level VII:</th>
<th>Pit B, Level VIII:</th>
<th>Pit D, Level IV:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>3</td>
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#### Pectoral spines:

<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level VIII:</th>
<th>Pit B, Level X:</th>
<th>Pit D, Level V:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>4</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level IX:</th>
<th>Pit B, Level VI:</th>
<th>Pit D, Level VI:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>5</td>
<td>2</td>
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</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level VII:</th>
<th>Pit B, Level VII:</th>
<th>Pit D, Level VII:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>29</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level VIII:</th>
<th>Pit B, Level VIII:</th>
<th>Pit D, Level VIII:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>8</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>Level</th>
<th>Pit A, Level IX:</th>
<th>Pit B, Level IX:</th>
<th>9</th>
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</table>
Miscellaneous spines with articular ends missing:

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<tr>
<th>Pit A, Level I:</th>
<th>2</th>
<th>Pit B, Level VIII:</th>
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<tbody>
<tr>
<td>Level VIII:</td>
<td>1</td>
<td>Level IX:</td>
<td>1</td>
</tr>
<tr>
<td>Level X:</td>
<td>1</td>
<td>Level XI:</td>
<td>1</td>
</tr>
<tr>
<td>Ext. A, Level III:</td>
<td>1</td>
<td>Pit D, Level I:</td>
<td>2</td>
</tr>
<tr>
<td>Ext. A, Level VI:</td>
<td>2</td>
<td>Level II:</td>
<td>1</td>
</tr>
<tr>
<td>Ext. A, Level VII:</td>
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<td>Level III:</td>
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<td>Ext. A, Level VIII:</td>
<td>6</td>
<td>Level IV:</td>
<td>7</td>
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<tr>
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<td>Level V:</td>
<td>1</td>
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<tr>
<td>Pit B, Level VI:</td>
<td>3</td>
<td>Level VII:</td>
<td>1</td>
</tr>
<tr>
<td>Level VII:</td>
<td>1</td>
<td>Pit E:</td>
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Jaw fragments:

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<tr>
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<th>Pit B, Level VIII:</th>
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<tbody>
<tr>
<td>Level IV:</td>
<td>1</td>
<td>Pit D, Level I:</td>
<td>1</td>
</tr>
<tr>
<td>Ext. A, Level VI:</td>
<td>2</td>
<td>Level II:</td>
<td>2</td>
</tr>
<tr>
<td>Ext. A, Level VIII:</td>
<td>2</td>
<td>Level IV:</td>
<td>1</td>
</tr>
<tr>
<td>Pit B, Level III:</td>
<td>1</td>
<td>Level V:</td>
<td>1</td>
</tr>
<tr>
<td>Level IV:</td>
<td>1</td>
<td>Level VI:</td>
<td>3</td>
</tr>
<tr>
<td>Level VI:</td>
<td>3</td>
<td>Pit E:</td>
<td>2</td>
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Vertebrae

<table>
<thead>
<tr>
<th>Pit A, Level II:</th>
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<th>Pit B, Level VIII:</th>
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<tbody>
<tr>
<td>Level IV:</td>
<td>2</td>
<td>Level VIII:</td>
<td>74</td>
</tr>
<tr>
<td>Level VIII:</td>
<td>4</td>
<td>Level IX:</td>
<td>4</td>
</tr>
<tr>
<td>Level X:</td>
<td>1</td>
<td>Level X:</td>
<td>6</td>
</tr>
<tr>
<td>Ext. A, Level III:</td>
<td>2</td>
<td>Pit D, Level I:</td>
<td>19</td>
</tr>
<tr>
<td>Ext. A, Level V:</td>
<td>3</td>
<td>Level II:</td>
<td>20</td>
</tr>
<tr>
<td>Ext. A, Level VI/VI:</td>
<td>44</td>
<td>Level III:</td>
<td>54</td>
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<tr>
<td>Ext. A, Level VIII:</td>
<td>93</td>
<td>Level IV:</td>
<td>17</td>
</tr>
<tr>
<td>Pit B, Level II:</td>
<td>7</td>
<td>Level V:</td>
<td>8</td>
</tr>
<tr>
<td>Level III:</td>
<td>3</td>
<td>Level VI:</td>
<td>209</td>
</tr>
<tr>
<td>Level IV:</td>
<td>9</td>
<td>Level VII:</td>
<td>56</td>
</tr>
<tr>
<td>Level V:</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level VI:</td>
<td>375</td>
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</table>

Mollusca

Shells of the following species and genera were recovered from AG-3. Weights of samples are given where possible, in lbs. and ozs.

Anadara grandis
Natica unifasciata
Ostrea spp.
Pitar tortuosus
Scapharca tuberculosa
Strombus peruvianus
Terebra ? robusta
Thais haemostoma
nadara grandis

Pit A, Level I: 5 ozs., fragments
Level II: 1½ ozs., fragments
Level III: 2 ozs., fragments
Level X: 7 ozs., 1 shell (6½ ozs.), and fragments
Extn. A, Level III: 10 ozs., 3 shells and fragments
Extn. A, Level VIII: Fragments

Pit B, Level I: 3 ozs., 1 shell
Level III: 7 ozs., fragments
Level IV: 2 ozs., fragments
Level V: 1 oz., fragments
Level VI: 1 lb. 9 ozs., 4 shells
Level VII: 2 lbs., 5 shells and fragments, 1 shell weighing 14 ozs.
Level VIII: 7 ozs., 1 shell and fragments
Level IX: 13 ozs., 1 shell and fragments
Level X: 7½ ozs., 2 shells
Level XI: 1½ ozs., 1 shell and fragments

Pit D, Level I: 5½ ozs., 2 shells
Level III: 2 lbs. 2½ ozs., 8 shells and fragments
Level IV: 11½ ozs., 3 shells and fragments
Level V: Fragments

Natica unifasciata

Pit B, Level III: 1 shell
Level VI: 1 shell and fragments
Level VII: 1 shell and fragments
Level VIII: 2 shells
Level IX: Fragments
Level X: 9 shells (½ oz.)

Pit D, Level II: 5 shells
Level III: 3 shells
Level IV: 3 shells

Ostrea spp.

Pit B, Level III: Fragments
Level IV: 1 shell
Level V: Fragments
Level VI: 7½ ozs., fragments
Level VII: 2 lbs. 6 ozs., fragments
Level VIII: 11½ ozs., fragments
Level IX: 9 ozs., fragments
Level X: 13½ ozs., fragments
Level XI: Fragments
Level XII: Fragments

Pit D, Level I: 3 ozs., fragments
Level II: Fragments
Level III: Fragments
Level IV: 1 lb. 8 ozs., fragments
Level V: 1½ ozs., fragments
**Part tortuosa**

| Pit A, Extn. A, Level III: | 1 shell |
| Pit B, Level III: | 1 oz., fragments |
| Level IV: | 1 oz., fragments |
| Level V: | Fragments |
| Level VII: | Fragments |
| Level VIII: | Fragments |
| Level IX: | Fragments |
| Level X: | Fragments |
| Pit D, Level I: | 1 oz., fragments |
| Level II: | 1 shell |
| Level III: | 8 oz., 69 shells |
| Level IV: | 2 shells |
| Level VI: | Fragments |

**Scapharca tuberculosa**

Sample probably includes fragments of *Protothaca grata* which were not isolated from total count

| Pit A, Level VII: | Fragments |
| Pit VIII: | Fragments |
| Extn. A, Level IV: | Fragments |
| Extn. A, Level V: | Fragments |
| Extn. A, Level IX: | Fragments |
| Pit B, Level III: | 11/2 oz., fragments |
| Level IV: | 2 oz., 2 shells and fragments |
| Level V: | 1 oz., 1 shell |
| Level VI: | 1 oz., fragments |
| Level VII: | 2 oz., fragments |
| Level IX: | 3 oz., fragments |
| Level X: | 1 1/2 oz., fragments |
| Level XI: | Fragments |
| Level XII: | Fragments |
| Pit D, Level I: | 1 oz., fragments |
| Level II: | 1 1/2 oz., fragments |
| Level III: | 1 oz., fragments |
| Level IV: | 3/4 oz., fragments |
| Level V: | 3 1/2 oz., fragments |
| Level VI: | Fragment |

**Strombus peruvianus**

| Pit A, Level I: | Fragment |
| Pit B, Level II: | Fragments |
| Level V: | 6 oz., 1 shell |
| Level VIII: | 5 oz., 1 shell |
| Level X: | 4 1/2 oz., 1 shell |
| Pit D, Level III: | 4 1/2 oz., 1 shell |

**Terebra ? robusta**

| Pit B, Level VII: | 2 oz., fragments |
CRUSTACEA

Crab

Fragments of crab claws were recorded as follows:

Pit B, Level VI:
Level VII: 7 dactyls
Level VIII: 7 dactyls
Level IX: 5 dactyls
1 fragment
Pit D, Level I:
Level II: 1 dactyl
Level III: 2 dactyls
Level VII: 1 dactyl
Pit E:
32 dactyls

FLORA

Hymenaea courbaril

Pit A, Extn. A, Level V:
Extn. A, Level VIII:
1 seed
2 seeds

Ze a mays

Pit E:
1 charred fragment

MAMMALIA

Didelphis marsupialis

Level I: 2, humeri

Felis onca

Level I: 1, Phalanx I, pes, polished, presumably artifact

Odocoileus virginiana

Level I:
8: Metatarsal, proximal end
Molar 2, isolated, adult
Patella
Phalanx, proximal, 2, one adult, one juvenile
Tibia, 2 fragments
Miscellaneous mammal bones

Small:

Level I: 3: Scapula
Vertebrae, (2)

REPTILIA

Ameiva ameiva

Level I: 1: Mandible

Turtle

Level I: 16: Fragments, plastron and carapace
Level II: 1: Fragment, carapace
Level III: 1: Fragment, carapace

AMPHIBIA

Anura

Level I: 2: Humerus
Urostyle

PISCES:

Ariidae

Level I: 12: Dorsal spine
Pectoral spine
Skull fragments (10)

Level II: 1: Skull fragment

Level III: 1: Skull fragment

Pimelodidae

Level III: 1: Auricular fragment

Tetraodontidae

Level I: 1: Bony plate

Sciaenidae

Level I: 1: Dentary

Miscellaneous unidentified fish-bones:

Level I: 25: Pectoral spine (1)
Miscellaneous spines (6)
Jaw fragment (1)
Vertebrae (17)

Level II: 2: Miscellaneous spine
Vertebra
Level III:  

1: Vertebra

MOLLUSCA

Shells of the following species and genera were recovered at NA-8:

Anadara grandis
Natica unifasciata
Ostrea app.
Pitar tortuosus
Scapharca tuberculosa
Strombus peruvianus
Thais haemostoma

Anadara grandis
Level I: 17 lbs. 7½ ozs.
Level II: Fragments

Natica unifasciata
Level I: 4 ozs.

Ostrea app.
Level I: 1 lb. 5 ozs
Level II: Fragments

Pitar tortuosus
Level I: 3 lbs. 2 ozs.
Level II: Fragments

Scapharca tuberculosa
Level I: 1 lb. 6½ ozs.
Level II: Fragments

Strombus peruvianus
Level I: 1 lb. 10½ ozs.

Thais haemostoma:
Level I: 1 lb. 14 ozs.
Level II: Fragments

C: NA-13

REPTILIA

Turtle

Trench B: 1: Fragment, carapace
**Fish**:

**Trench B**:

9: Pectoral spine fragment  
   Miscellaneous spine, articular end missing  
   Vertebrae (7)

**MOLLUSCA**

Anadara grandis

Strombus peruvianus

1 lb. 14 ozs.

**FLORA**

Zea mays:

**Trench B**:

1 fragment, charred.
CHAPTER 8

he archaeological chronology of the western Coclé Province of Panamá

Chronologies of the excavated sites:

3-1 (Cerro Mangote)

When the publication of the first (1955) season at Cerro Mangote appeared, there seemed little doubt that the site was pre-ceramic, containing a predominantly lithic assemblage noticeably different from that of any other site in Panamá except Monagrillo. Though five sherds had appeared in the excavations, four of these were definitely superficial, and one was considered by the author to have been knocked into its deep position by workers climbing in and out of the pit (1956: 159). The cogent argument initially put forward by McGimsey for a relative date considerably anterior to Monagrillo, an early ceramic site, was later corroborated by a radio-carbon date of 4853±100 B.C. (McGimsey, 1958: 434). None of the twelve burials recovered during the season was unequivocally associated with an artifact. In the subsequent (1956) season, the excavations were enlarged, and several more burials were encountered. Immediately beneath one of these (31, D) was a carved shell pendant which "falls unmistakably into the tradition of the so-called curly-tailed monkey (Lothrop, 1937: I77-I83, fig. I7I)" (McGimsey, Collins and McKern, 1966: 9). The presence of the monkey, coupled with the discovery of twenty-five more sherds and a fragment of polished celt, jeopardised the site's original claim to absolute pre-ceramic age and presented the possibility that some at least of the burials were not contemporaneous with the deposition of the midden (op.cit.:20). The variety of funerary practices also indicated that the site may have been utilised by more than one social group, at least in its function as a burial ground (op.cit. IO).
The uncertainty of the dating of the Cerro Mangote burials is unfortunate, as a considerable amount of information about physical types, variety of burial customs and osteopathology was obtained. The correlation of syphilitic infections of the bone with a midden deposit 7000 years old is an extremely exciting possibility. However, for the purposes of physical anthropological study, the authors were forced to treat the skeletal sample as a single population. They were unable to make telling correlations between the different cultural entities on the site - between burial modes and physical type and stratigraphy, for example - and there was no archaeological means of dividing the deposit into chronological units.

Two major burial types occurred at the site: secondary burial in bundles, and primary flexed burial, on the back or face, with the arms tucked tightly along the sides. Nine of the secondary bundle burials had been disarticulated and nine had cut marks or scratches on the bones that did not occur on the other types of burial. Eleven of the flexed skeletons were found buried in a multiple, closely-packed group. Two other skeletons were more tightly flexed with the legs at right-angles to the vertebral column. Four skeletons which had been partially disarticulated - with the articulated segments retained - might simply have been partially prepared bundle burials. Twenty-two other skeletons gave no clues as to their arrangement. Between twenty-seven and thirty-two skeletons were orientated with the head to the north; five to the east; three to the south; and one each to the west, south-west, south-east and north-east.
Unfortunately, there is nowhere near enough documented evidence at hand to enable chronological deductions by extrapolation from Cerro Mangote's burials to those of other sites in Panamá. Venado Beach and PN-5 (Sitio Conte) have provided the statistical requirements for correlation between burial habits and other cultural factors, but at the former site, which has revealed the greatest variety of burial modes, the sequential deposition of both living and funerary deposits has never been worked out. In the author's opinion the site is of a very long duration, which quite possibly explains the variety of burial customs. All the features of the Cerro Mangote burials— with the exception of defleshing by animals and birds, if we accept McGimsey's hypothesis (1966:24) — occur at other sites along the Pacific littoral: bundle burials, disarticulation, defleshing, presumably by human agents, and tight flexing on the back at Venado Beach (Lothrop, 1954;) multiple burial at Venado Beach, Sitio Conte and, probably, AG-3. At Venado Beach and Sitio Conte there is also considerable variation in the orientation of the head. Three burial modes which occur elsewhere and are absent from Cerro Mangote are: extension, either prone or supine; tight flexing on the side; and urn burials.

If outside areas do not help us with interpretation, McGimsey, Collins and McKern make a valiant attempt at emphasising both the contemporaneity of the different burial modes and their association with the original midden deposit. In their peroration, they suggest that the apparent disparity in burial styles seems less if the basic concept of burial—placement of the body on the back in a flexed position—is seen as similar in both the primary and the secondary burials. That is, that the secondary burials are making a rather clumsy effort at imitating the primary, flexed burials. Personally,
I do not find the suggestion that "death away from the site provides
the most ready explanation" for the secondary burials very convincing
(op.cit.: 25.) Fourteen deaths away from the site out of a total
of forty-five skeletons recovered with known positions, seems a
rather large percentage. Besides, what did they die of? The
argument that the population could be homogeneous as the variations
in osteology and skeletal morphology occur in the same proportion in
the burial groups as in the whole population, is a little tenuous, as
if syphilis were there 7000 years ago, it was presumably there when
the "intrusive" population - of Phase IV or V date - climbed up the
hill. A better case for contemporaneity is provided by the possible
correlation between the burials and the areas of midden with the high-
est density of stone artifacts and animal bones, suggesting that the
group or family responsible for the refuse buried their dead through
the floor of their dwelling. The digging record also suggests that
burial 20 and burial group 22 were placed in pits which began well
down the profile, in stratum D.

The interpretative thorns in the flesh at the site are
undoubtedly the potsherds and the curly-tailed monkey, for, as the
authors state, if they had never been found, few would have doubted
the contemporaneity of the funerary and domestic deposits. That
sherds of the Aristide Group Polychrome - tentatively identified by
McGimsey as Escotá Type, though there was no sample available for
direct comparison - should have been found on top of the hill is
utterly reasonable: Cerro Girón (AG-2), a predominantly Phase IV
site, lies immediately to the west. The paucity of the potsherds,
however - thirty sherds scattered over an area of 134 sq. ms. and mostly
concentrated within 5 sq. ms., perhaps coming from as few as two
pots - indicates that the Cerro Mangote was not a major
population centre during the period, especially when one considers the extremely dense concentration of pottery in the Phase IV deposits at AG-3. Though no burials of unequivocal Phase IV age have been discovered as yet in Coclé, it is strange that out of twenty-five burials (assuming that the flexed burials, among which was burial 31 which contained the monkey, are later than the secondary burials) none should have been accompanied by offerings of ceramics. The concept of placing pots with the dead had certainly arrived in western Panamá by Phase IV, as the burials of the "Scarified-Guacamayo" tradition, Phase III, all have ceramic funerary offerings.

There can be no reasonable doubt about the age of the midden deposit into which the burials were placed or dug. Though five distinct strata were evident at the site - determined primarily by the statistical frequency of the mollusca and crustacea they contained - no patterning of artifacts was visible within the strata, except in the final stratum, E, which was nearly pure oyster shell and had noticeably fewer artifacts (McGimsey, Collins and McKern, 1966:22.) The artifactual assemblage, apart from the sherds and pendant already mentioned and other shell artifacts accompanying the dead, is homogeneous and simple, consisting of a variety of crude stone implements: choppers, chopper-grinders, one-hand manos, boulder metates, a stone disc, nutting stones, a fragment of cobblestone bowl, and river pebble pounders, along with a multitude of flakes, all basically fashioned and lacking secondary chipping. Polished stone, apart from the solitary celt fragment, and ground stone are absent from the sample. Non-lithic implements are rare. Bone tools are limited to deer antlers which show signs of polishing, a faceted tooth, and five fish vertebrae worked down to discs, one of which is perforated.
The total lithic assemblage of Cerro Mangote is very similar that of the early ceramic site Monagrillo in Herrera which has been dated by radio-carbon to about 2000 B.C. The characteristic pebble inders and choppers which occur commonly at Monagrillo are apparently even more common at the Coclé site. McGimsey suggests that this artifact might be typical of cultures that depended upon shellfish for their subsistence (1956: 156). Oval pebble (or, more correctly, cobble) tools are found on late sites in Coclé - NA-8 and NA-I3 - but they have the flat part and not the edge ground down (see p.308). Monagrillo has other artifacts which are not present in the Cerro Mangote assemblage: pastles, rectangular flakes and well chipped flakes. The percentage of stone artifact excavated unit is far greater at Cerro Mangote than at Monagrillo, more stone coming from 30 cu.ms. at Cerro Mangote than from 700 cu. ms. recovered from the Herrera site (op.cit.: I54).

An artifactual assemblage which apparently has affinities with both the Cerro Mangote and Monagrillo assemblages has recently been reported from the western Chiriquian Cordillera by Ranere, from cave shelters which may date from even further back in the sequence (Linares, personal information). Stone inventories from later sites in Panamá differ completely from those summarised above, and until the Chiriquian sites are published, the only material comparable to that of Cerro Mangote is that found at Monagrillo. Any argument that might be put forward in favour of a differential function - that the site was a shell-fishing station used by a ceramic-making group - can probably be dispelled for reasons of topography. During the fifth millennium B.C., when the midden deposit was laid down, the sea might have been considerably closer than it is now, and the land surrounding the Cerro Mangote occupied by a shallow lagoon (Willey and McGimsey, 1954: 29-30; McGimsey, 1956: 160). This would mean that the hill was an ideal location for a sedentary group making sorties to the shallow water around the island.
to collect their staple food. With the receding of the sea to a
distance of some ten kms., Cerro Mangote's functional possibilities
diminish. It is steep, stony, and at present is covered with an
insalubrious thorn scrub. Flood-waters from the Santa María river
do not reach the higher parts of the nearby Cerro Girón (AG-2,) where
a group of Phase IV-VI people made their homes, and there was presumably
never the necessity to move up the Cerro Mangote to live, as there no
doubt was on Cerro Zuela, further to the east. There is no foolproof
evidence to show unequivocal association between the burials and the
midden and they are probably left at present with McGimsey's phrase:
"if any of the burials is intrusive, they all may be" (1966:27.)
Further investigations may well enable us to incorporate the very
interesting funerary and pathological evidence from Cerro Mangote
more accurately into the Panamanian sequence. At the present time,
however, it is probably wiser to consider the AG-1 site as a midden
deposit dating from about 5000 B.C. with burials of an unknown date.

AG-2 (Cerro Girón)

AG-2, which is situated only 300 ms. from AG-1, on the slopes
of a small hill near the Santa María river, was initially excavated
by Willey, McGimsey and East in 1952 with three stratigraphic pits,
two of 3 x 3 ms. and one of 1 x 1 m (Pits I - III,) the results of
which have been published by Willey and Stoddard (1954) and Ladd (1964.)
In 1955, McGimsey returned to the site and excavated a further six pits
(IV-IX,) details of which are contained in Chapter 3.

The site consists of three major concentrations of refuse -
potsherds and shell - scattered around the base of the hill: the first,
adjacent to the riverbank, measuring only 10 x 20 ms., the second, on
higher ground about seventy ms. north-west, measuring 50 x 60 ms., and
the third, over 200 ms. east, extending in a circle with a diameter of
of about 100 ms, around the easterly base of the hill. Pit I was put down in the riverside concentration; pit II 40 ms. west and 5 ms. from the riverbank; and pit III in the second concentration (Ladd, 1964: Map 2 and I54.) McGimsey's I955 pits were scattered over the site, in the north-western and downriver refuse piles, and on the southern slopes of the hill. Burials were encountered in pits VI and IX.

The physical stratigraphy of the site, best represented in pits I, III and VI, falls into four basic strata (Ladd, 1964: I55-6 & fig. 58,) and to judge from the graphic representation of the sherd total of pit I, the peaks of occupation coincide with the middle point of each of the top three strata. Stratigraphic analysis of the artifacts is only available for pits I and III, where the ceramic sample consists primarily of Aristide Group Polychromes. Ladd's "Azuero Group" and "Coclé" polychromes occur only in the top five levels of pit I (0-50 cms.)

The Aristide Polychromes fall off noticeably in the upper level of the site and are commonest in the sandy, second level, where they comprise 22.37% of the ceramic total. Comparing the absolute totals of the Aristide Polychrome Types and Varieties in pit I at AG-2 and pit B at AG-3, we find the following results:

<table>
<thead>
<tr>
<th>Type</th>
<th>AG-2</th>
<th>AG-3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GIRON BANDED LIP:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Banded (residual)</td>
<td>II4 (1%)</td>
<td>278 (37%)</td>
</tr>
<tr>
<td>Chevron Lip</td>
<td>I2 (2%)</td>
<td>6 (0.8%)</td>
</tr>
<tr>
<td>Circumbanded</td>
<td>9I (16%)</td>
<td>4I (5%)</td>
</tr>
<tr>
<td>Crosshatched</td>
<td>82 (14%)</td>
<td>I40 (19%)</td>
</tr>
<tr>
<td>Radial Banded</td>
<td>I73 (30%)</td>
<td>I70 (23%)</td>
</tr>
<tr>
<td>Scalloped</td>
<td>II2 (19%)</td>
<td>III (15%)</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>584</td>
<td>747</td>
</tr>
</tbody>
</table>

| **ESCOTA TYPE:**          |       |       |
| Black-on-Buff             | 3I3 (47%) | 653 (51%)       |
| Black-on-Red              | 153 (24%) | 47I (37%)       |
| Crosshatched              | 192 (29%) | 165 (12%)       |
| **TOTAL:**                | 658   | 1289  |

| **INTERIOR BANDED:**      |       |       |
| Girión (including both Cocóbó and Talingo Types:) | 256   | I8I   |
| Cocóbó                    |       |       |
| **TOTAL SHERDS OF ARISTIDE GROUP:** | 1500  | 22I6  |

(Statistics for AG-2 from Ladd, 1964: I58.)
Bearing in mind that there is a relatively large sample of indeterminable (Black Banded) sherds at AG-3, the percentages of the different Varieties of the Girón Banded Lip are close, though the circumbanded Variety is three times as popular at AG-2 than at AG-3. Of the Escota Type, the relative popularity of the Crosshatched and Black-on-Red Varieties is reversed at the two sites, and the Black-on-Red is noticeably more popular at AG-3 than the Crosshatched. Interior Banded sherds are also more frequent at AG-2, but it is not certain how many of these would fall into my Talingo, and hence post-Phase IV category. Beneath the first 40 cms. (level I) there is little indication of any temporal preference for the various Types of the Group.

The "Coclé" (Phase V) Polychrome sherds — all except one from plates or bowls — were found above 50 cms. in pit I and represent only 0.64% of the sample. The Azuero Group Polychrome sherds also occurred only above 50 cms. and comprise 3.19% of the sample, consisting almost entirely of Macaracas Polychrome, Pica-Pica, Cuipo and Higo Varieties. The only non-Macaracas sherds are of the Yampí Variety of the Parita Type, "a minimal representation through a few sherds" (Ladd, 1964: 81).

The ceramic record of pits I and III would indicate a continuous occupation of the site from the beginning of Phase IV through to Phase VI. Noticeable by their absence are El Hatillo Type sherds, and the few Yampí examples might be from plates with upcurving rims and unmodified, rounded lips, which — on purely stylistic grounds — might prove to be earlier than the flat-lipped plates which have been included within the Mendoza Polychrome as Variety D. As at AG-3, the post-Phase IV occupation is limited to the uppermost 50 cms. only. The Phase V occupation seems to have been particularly light, certainly lighter than that of AG-3. The selected sample from McGimsey's excavations in the University of Arkansas Museum contains neither Conte, Macaracas nor Mendoza Polychrome sherds.
The Phase IV occupation - below 50 cms. to the base of the deposit in pit I and all levels in pit III - probably equates directly with that of the deposit below 55 cms. in pits B and D at AG-3, and should be placed in the earlier half of the Phase, A. Aristide Polychrome sherds from AG-2 would be indistinguishable from AG-3 sherds were the two lots mixed together. As noted above, the discrepancies between the percentages of the various Types and Varieties of the Aristide Group in corresponding pits at the two sites are few. The Interior Banded (Cocobó) and the Crosshatched Varieties of both the Escotá and Girón Types - which are virtually absent from PN-II - are well represented. The typical Escotá Red-Buff plastic modes - deep incised decoration on flat lips, fine parallel line incision, cuneiform pinching etc. - are commonest in the lower half of the deposit of pit I and occur in similar quantities in pits B and D at AG-3. Only one sherd with this type of decoration was found at PN-II. Red Line (Guácimo Red-on-White-Slip) pottery is mentioned by Ladd from the site but not included in the analyses of the ceramic stratigraphy. McGimsey's selected sample from pits IV to IX includes Guácimo sherds from the last gasp of the deposit, at 210-215 cms., but no deductions can be made about the relative frequency of the Ware, which was very rare below 60 cms. at AG-3. McGimsey's sample also has a sherd of Corotú Polychrome, indicating an occupation at the tail end of Phase IV, B. It is from pit VII at 40-70 cms. The only hints of an earlier occupation are references in McGimsey's field notes to some "Sariguá-like" sherds in the red clay at the base of pit VI. As McGimsey was one of the original excavators of the Sariguá site, his opinion should be respected, but some Escotá Red-Buff sherds have the thin fluting characteristic of the Sariguá Ware. The composition of the ceramic assemblage of the Phase IV levels should, by analogy with AG-3, indicate that the site was occupied at least before 300 A.D.
Three skeletons were encountered by McGimsey in the 1955 dig, two extended, one flexed in a foetal position. The two extended burials, one prone and the other supine, appeared at depths of c. 40 and 50 cms. respectively, and presumably date from after the Phase IV occupation, though no datable artifacts were found, the only burial goods being two "stone tools" associated with the supine individual. The deepest skeleton, found in the 190–200 cms. level of pit VI, likewise was unaccompanied by funerary offerings. As has already been indicated in the discussion of Cerro Mangote's burials, there is, as yet, not definite link between chronology and burial mode in western Coclé, though it is interesting that the two uppermost burials were extended and the lower, flexed. AG-2 thus provides another hint that extended burials might post-date flexed burials in western Coclé.

AG-3 (Sitio Sierra)

Of the five pits dug at AG-3 by the author, three - B, D and E - showed no signs of burial disturbance. Pit E was dug for reasons other than the acquisition of stratigraphic data, so pits B and D serve as the paradigms from the occupational history of the site. None of the pits possessed a physical stratigraphy, except for a slight greying of the humic top 30 cms. The remainder of the soil profile was homogeneous in colour, and, generally, in texture, though the levels below 60 cms. of pits B and D were much looser and sandier than the levels above 60 cms.

Pit B, dug in 10 cms. arbitrary levels to a depth of 125 cms., can be divided into two halves: below 60 cms. the pottery consists solely of Aristide Polychrome and other Phase IV wares, without a single sherd of developed, Phase V-VII polychromes, while the levels above 60 cms. witness the introduction of Phase V-VII wares in a very compressed stratigraphy.
The appearance of the Phase IV deposit was heralded by a very dense and compact "floor" of large sherds at about 55 cms., beneath the more fragmented and loosely packed refuse of the levels above. This lens appeared in pit D at a slightly lower level, c. 60 cms. As pointed out in Chapter 7, the amazing concentration of kitchen refuse - both ceramic and faunal - indicates that the area through which pits B and D were dug was a major zone of domestic activity during Phase IV. Pit B had two peaks of sherd density, at levels 6 to 8 and again at level 10, but the latter peak was not as marked in pit D. In both pits there was a considerable diminution of sherds as the base clay was approached, but sherds were often well bedded into the clay.

The predominant pottery categories found beneath 60 cms. in these pits are Escotá Red-Buff and Aristide Polychrome, with smaller amounts of Tonosí Polychrome, Corotú Polychrome, Guácimo Red-on-White-Slip and Smoked Ware. Out of 14,707 sherds recovered from these levels, 2,943 (20%) are Aristide Polychrome, 18 (0.12%) Tonosí Polychrome, and 7 (0.05%) Corotú Polychrome. Of the Non-Polychrome Ware rims, 913 can be classified as Escotá Red-Buff, 10 as Guácimo Red-on-White-Slip, 1 as Red-on-Cream Ware, and 1 as Smoked Ware. Two more are unclassified.

60 cms. is obviously too shallow a deposit to enable a temporal breakdown of the various Types and Varieties within the Aristide Polychrome, within the duration of the Phase at the site. Only the Cocobó Interior Banded Type dwindles steadily throughout the profiles of pits B and D, a trend which corroborates the impression from PN-11 that the Type disappears during the Phase (see Tables 2 and 3.)
The comparison between the Aristide Polychrome Types and Varieties in corresponding pits at AG-2 and AG-3 has already been given and suggests that the preferences for the different categories were similar at the two sites, and I would advocate contemporaneity of the - 60 cms. levels at AG-3 and the - 40 cms. levels at AG-2 (physical strata II and III). A statistical breakdown of the Types and Varieties of the Aristide Group at AG-3 and PN-II is given in Table 3. Noteworthy absentees at PN-II are the Black-on-Red and Crosshatched Varieties of the Escotá Type, while the Cocobó Interior Banded is represented by only four unequivocal sherds, these probably associated with Girón Banded Lip vessels, and the Girón Type, Crosshatched Variety by only five sherds. As argued in Chapter 4, I do not think that these differences are simply local. Girón Banded Lip Crosshatched sherds occur in some quantity in the refuse of PN-5 and examples of both the Escotá Black-on-Red and Crosshatched Varieties are illustrated for the same site, and, though no Cocobó vessels have ever been recovered from east of the Santa María, similar pottery occurs at sites to the east of Coolé and the Type ought to be found more commonly in the Province in the future. The lack of these decorative varieties at PN-II, plus the paucity of rim variation of the Girón Banded Lip Type and the ascendancy of the Guácimo Red-on-White-Slip Ware — where it represents 24.4% of the Non-Polychrome rims below 30 cms. as opposed to 1% below 60 cms. in pit B at AG-3 —, indicate that the Phase IV deposit of PN-II is later than most of that at AG-3, and argues for the splitting of the Phase into two, AG-3 belonging to Phase IV, A and PN-II to Phase IV, B.
A sample of wood carbon recovered from level 7 of pit B has given a date of 310±90 A.D.* It was taken from about ten centimetres below the "floor" of hacked and massive sherds and should mark more or less the end of the major Phase IV occupation at the site. This would place the half-way point of the Phase at about 350 A.D., a date which complies well with the previous relative estimates in the literature. The finding of 18 Tonosí Polychrome sherds below level 6 in pit B and level 2 in pit D should establish the contemporaneity of the Tonosí and Aristide Polychrome Groups.** Ichon has obtained carbon-14 dates of 450 A.D. and 390 A.D. for the El Indio Phase (the latter from a "transitional context") and preliminary analysis of some of the Tonosí Polychrome sherds from AG-3 has shown that they "could be from the Tonosí region." A date from the very bottom of the site would provide a most welcome link with the plastically decorated red-buff sherds that are probably the remnants of the Pacific coast pre-polychrome traditions. (Wood carbon was collected from the last throes of pits B and D but has not yet been analysed).

Though the levels above 60 cms. in pits B and D present a very compressed stratigraphy, the statistical analysis of the pottery provides some definite clues to the post-Phase IV occupation of the site. The first Conte Polychrome sherds appear in both pits at about the level of the "floor" (level 6 in pit B and level 2 in pit D), concomitantly with an increase in Guáxico-Red-on-White-Slip and Corotú Polychrome sherds. 22 Guáxico rims were recovered from levels 5 and 6 alone in pit B while only four were found from 60 - 120 cms. Levels 4, 5 and 6 have 39 out of a total of 44 Corotú sherds for the pit, 20 of them in level 5. This clustering of the Corotú Polychrome above the "floor" and before the major deposit of Conte Polychrome sherds (66 - 1.2% - in level 4) substantiates the indications of a transitional position between Phases IV and V gleaned from other sites. The excellent preservation of kitchen

*Gif: 2346
**Though see pp. 475-477 for comments on the relationship between the two Groups.
refuse above and below the Phase IV levels suggests a minimal disturbance of the site at this point, a fact corroborated by the definite stratification of the polychromes in spite of the compression of the material: it is interesting that the Corotú, Conte and Macaracas Polychromes each reach their peak representations in pit B, in successive levels, one above the other.

The identification of the developed polychrome (Phases V-VII) sherds from a fragmentary sample is sometimes difficult. Differentiation between Conte and Macaracas sherds was easier than that between Macaracas and Mendoza Polychromes, so a residual category ("Mendoza or Macaracas Polychrome") was established for this site.

Pictorially and morphologically, Conte Polychrome sherds at AG-3 are readily identifiable. Most of the designs can be duplicated almost exactly with funerary examples from PN-5, indicating contemporaneity with that site. A list of these duplications is contained in Chapter 4. Macaracas Polychrome sherds can be assigned to the Pica-Pica, Higo and Cuipo Varieties of Ladd, as defined for Herrera. A breakdown of the shapes and varieties of the Mendoza Polychrome is contained in Table II. In pit B, out of 440 developed polychrome sherds, 170 are either Mendoza or Macaracas (38.9%), 145 Conte (33%), 104 Macaracas (23.6%), and only 21 Mendoza Polychrome (4.7%).

The above figures indicate that the site was probably fairly heavily occupied during Phases V and VI, but only lightly occupied during Phase VII. However, more Mendoza Polychrome sherds were found in pit A than in pit B (47 as opposed to 21) and it might be that the final deposits of pit A are later than those of pit B. Erosion of painted surfaces might well have accounted for a number of Mendoza sherds, and the percentage is perhaps exaggeratedly small. Only one sherd of Olá Ware, Colonial or Modern, was found, in level 2 of pit B. The only other modern artifacts recovered were some glass fragments in the top 10 cms. of pits A and B.
Thirteen skeletons were encountered in pits A and C at AG-3. Five of these were completely excavated and removed as were the remains of another two with defective anatomies. Six others, apparently in pristine state, were found protruding from the walls of the pits and left in situ.

The four complete skeletons in pit A were discovered with skulls at depths of 50, 52, 80 and 93 cms. (A-1 - A-4,) while the protruding skeletons were found at 90 (A-5,) 73 (A-6) and 85 cms. (A-7.) In pit C, a complete skeleton (C-1) was encountered at 55 cms. along with a mutilated skeleton above (C-2) and the remains of the unexcavated examples at between 55 and 65 cms. (C-3 - C-5.) As far as could be seen, all of the undisturbed skeletons in both pits were lying face down, with heads directed approximately to the south-east.

Unfortunately, in none of the burials could any signs of disturbance or intentional pitting be discerned. The only indications, in fact, of disturbance connected with them, were flecks of greyish clay around skeletons A-3, A-4 and C-2, which had presumably been scratched up during the internment of the bodies. The questions obviously, which have to be asked are: with which occupation of the site do the burials relate? Are they contemporaneous? Why are they apparently buried in a long line, pointing approximately in the same direction, with their faces in the dirt?

The first two burials encountered (A-1 and A-2) had presumably been interred together to judge from the sexy position in which they were laid. (see Plate 5.) They were treated as anomalies in the refuse, and after their extraction, the deposit beneath them was excavated, still in arbitrary levels, until the grey clay was reached at between 70 and about 95 cms. in Extension A.
At 90 cms., to their east, skeleton A-4 was encountered, lying right upon the grey clay. The position of A-1 and A-2 above A-4 could indicate that they were interred after A-4, but just how long after is impossible to say. The left arm of A-4 seemed to have been disturbed subsequent to burial; which might indicate a succession of burials somewhere to the east beyond the pit walls. Beneath skeletons A-1 and A-2 was about 25 cms. of deposit with a large number of animal bones, in well preserved state. This fact, coupled with the large percentage of Conte and Aristide Polychromes and the rarity of Macaracas Polychromes, would suggest that A-1 and A-2 were laid to rest upon a lense of kitchen refuse belonging to Phase IV or V, or both. Skeleton A-3 was likewise laid to rest upon the grey clay, and the twenty cms. or so of cultural deposit east of A-3 and A-4, i.e. in the fill between the deeply sloping grey clay and the pit wall, contained only Conte, Corotú, Tonosí and Aristide Polychromes, without Macaracas or Mendoza material. It is, of course, impossible to rely on artificial stratigraphy in deposits which have obviously been churned; nevertheless, a glance at Table 2 demonstrates that the ceramic percentages follow quite closely those of the undisturbed pit B: Conte Polychrome reaches its ascendancy in the middle of the deposit, Aristide Polychrome at the bottom, while the Mendoza sticks fairly well to the top. In pit C there seems to have been far greater mixing of material, but the sherd totals beneath 30 cms. to the bottom of the pit at c. 80 cms. are very low; kitchen refuse is absent, and it might be that that part of the site had only a light occupational scatter during the initial phases of occupation.
The artifacts buried in association are of a rather ordinary nature. The dead concerned seem not to have been prosperous, and may have been buried in a hurry as the grave goods appear to have been simply tossed in with little regard for accurate placement with the deceased. The only pot associated with skeletons A-I and 2—a small buff collared jar—spans a long period of time in Cochlé and is certainly not diagnostic of age; A-3 was buried with a ceramic "axe" (or the handle of an incense burner) and a small red tecomate and a pedestal pot stand, which are also poor indicators of relative age. Skeleton 4 fared a little better; his sericite necklace has a parallel in that found at He-4 in Mound I, Trench I, find 346-I in conjunction with a Macaracas Polychrome, Pica-Pica Variety vessel (Ladd, 1964: 244 and SI: 437756) and the pelican bone flute is somewhat similar to a fragment found at He-4 in Mound 3 (SI-437922) apparently without datable associations in ceramics. Mound 3 seems to have been constructed for Phase VII burials as El Hatillo, Parita and Calabaza vessels are found buried into a Phase VI fill (op. cit.: 38 and Plate I9,h). Of the ceramics associated with A-4, the most distinctive is the largish red jar with medial bevel and everted collar. The shape is similar to some vessels from PN-5 (for example, the Panelled Red Jar in Lothrop, 1942: fig. 296), but the PN-5 examples have a shelf at the junction of the collar with the body. The rim type is commonly found on Cortezo Red-Buff vessels east of the Santa María. The closest parallel I have found from elsewhere is from Bull's Mound 2 (Ladd's Mound VI) at He-4, apparently from burial 4, which contained pottery similar to Ladd's Parita Type, Ortiga Variety and Calabaza Type (Bull, 1965a: 59 and Plate 7, a–d & f). So—if we can make such an extrapolation—the red ware jar with A-4 possibly dates from Phase VII. In pit C, skeleton C-I was buried with a small plate with
Horizontal loop handles and a small collared jar, a Smoked Ware effigy vessel and part of a large pedestal or-pottery drum of Mendoza Polychrome. A ribbon for dating was found beneath the broken pieces of the drum. The small red plate is identical to a collection illustrated by Bull from PR-I (He-4) which was found in Mound 2 (Burial 3) in association with a single jar similar to Ladd’s Calabaza Type (Bull, 1965: Plate I, g & 7,b & 8,b). The drum—with its geometric arrangement of the design and the "Greek Key" scrolls—must date from Phase VII. The rim of the Smoked Ware effigy vessel is the class ‘c’ rim of Ladd’s Red-Buff Ware from He-4, also found in small quantities in the superficial levels of AG-3 (Olivo Red-Buff, fig. 96,a-f and Table 8). This rim also occurs on Parita Polychrome vessels in Herrera and is almost certainly Phases VI/VII. The monkey appendage is unparalleled as far as I know.

If the artifacts suggest a late date for the burials, contemporaneity of the different interments is implied by the mode of burial: what the line of face-down dead looks like is a retainer burial for some potentate buried in the immediate vicinity. The relative pristineness of the deposit beneath the skeletons, at least in pit A, suggests that the dead were laid into a kitchen deposit of earlier date, perhaps when the site was not occupied. This would explain the lack of mixing in the stratigraphic columns.
Sites in the vicinity of the town of Natá

Three archaeological sites within the immediate environs of Natá de los Caballeros have been excavated to date: NA-7, NA-8 and NA-9. All three sites were tested by McGimsey in his 1955 campaign, while NA-8 was probed with a trench of 4 x 1.3 ms. by the author in late 1970. As Natá was the chief centre for the Coclé Indians when Badajoz and Espinosa began their predatory "entradas", its archaeological history is of special relevance to the Province. The three sites have by no means provided startling finds, but enough information has come out of them to corroborate the historical assertion that Natá was an extensive settlement in the centuries immediately preceding the Conquest. The cultural material from the excavations at all three sites is predominantly from Phase VII. Deposits at the living sites, NA-7 and NA-8, are not very deep, and the general suggestion is that Natá was not heavily occupied in either Phase V or Phase VI. The artifactual assemblages from the three sites are logically very similar and they are doubtless coeval.

NA-7

The four pits dug by McGimsey reached sterile orange clay at between 50 and 65 cms. No absolute quantitative data is available for the artifactual assemblage from the pits, but the selected sample housed in the University of Arkansas Museum consists solely of Phase VII wares: of the twenty-one polychrome sherds, 16 and probably 17 are assignable to the Mendoza Polychrome (Varieties A, B and C are represented;) two are Becerra Painted Lip; one sherd has an Ortiga-like design with traces of purple on the exterior of a ? jar; (and there is also one "Triangle" pedestal sherd, rather eroded.) All sherds of the non-polychrome categories are either Mendoza Red or Cortezo Red-Buff, except for one Smoked Ware hollow mammiform leg,
and one Smoked Ware groove-lip rim (c.f. fig. 133, g.) Rim forms of the Cortezo Red-Buff comprise those illustrated in figs. 84-86 and 90. Mendoza Red dishes have the typical s-shaped rim profile. Modes comprise three short bases of type C (one from a Mendoza Polychrome dish; one pedestal fragment with an incised fillet appliqué decoration on the base; a heavy horizontal strap handle; an abstract lug; two sherds with modified ribbed fillet beneath the collar of a large jar (c.f. Plate 50,a;) an appliqué zoomorphic nubbin (perhaps associated with modified ribbed fillet;) a loop handle with round cross-section and notched ribbed spine (c.f. Plate 54,j,) and a sherd with zig-zag fillet appliqué (c.f. Plate 52, b,d.) These are all typical "Cortezo" modes. Surface collections made in the vicinity of the pits - from a pile of refuse apparently dug out of the "potrero" to the east of the cemetery - and also from a field between the road and the river, gave percentages of 6.4% Mendoza Polychrome, between 0.8% and 1.0% Macaracas Polychrome; and 0.8% Conte Polychrome. The only non-polychrome rim not assignable to Cortezo Red-Buff was a Conte Red groove-lipped sherd.

NA-8

The excavation of Trench A and the 1970 surface collections indicate that aboriginal NA-8 was occupied from Phase V through to Phase VII, with the major occupation occurring in the last phase. In 1955, McGimsey excavated two pits within the confines of some presumably post-Conquest houses at the southern boundary of the site, and it may be that the uppermost levels of the occupation, especially those which relate to the piles of sherds, shell and stones, (about twelve of which were present in 1955,) are in fact Colonial in date.
Trench A was dug to a depth of about 70 cms., when the sterile red clay was reached. The strata of the trench fall into three well defined units, which correspond more or less to the relative frequency of the polychrome categories: level I had 0.22% Mendoza Polychrome, 0.044% Conte Polychrome and 0.015% Becerra Painted Lip and "Triangle" pedestal; level II had 2.17% Mendoza Polychrome, 0.14% Macaracas Polychrome, Conte Polychrome and Girón Banded Lip and 0.07% Becerra Painted Lip and "Triangle" pedestal; level III had 2.50% Conte Polychrome, 1.15% Mendoza Polychrome, and 0.28% Macaracas Polychrome, Escotá Black-on-Buff and "Triangle" pedestal (Table 4). Rim sherds of Guácimo Red-on-White-Slip increased in the lower two levels, while heavy rims from collared jars of Cortezo Red-Buff Ware (figs. 84 & 85, m-p) declined sharply, from as many as 275 in level I to only 10 in level II (Table 10).

The 1970 surface collections were made from squares over three types of deposit: squares A and B, collected from two different shell-piles, had only 0.41 and 0.64% respectively of Mendoza Polychrome sherds; squares C and F, made over brown clay with a dense sherd cover had 1.86 and 11.5% Mendoza Polychrome; and squares D and E, also made over brown clay, but with more scattered sherds, had 7.2 and 2.4% Mendoza Polychrome. Percentages of other polychromes over the squares were all under 1.0%, except for Conte Polychrome at square F which mustered 1.5%. There was no notable discrepancy between the various rim forms and vessel sizes over the six squares (Tables 4 and 10).

It seems likely, then, that the brown clay of the collection squares should correlate with level II of Trench A, and squares A and B with level I. McGimsey excavated two pits in two small mounds of shell and sherd in 1955, one of which (pit II) passed through as much as 1.25 ms. of cultural
deposit and it may be that the Nestlé land alteration before 1970 as skimmed the tops off the shell mounds in the northern part of the site. McGimsey noted that the shell in these pits was dense from 0-30 cms. and that the soil texture changed little until 60 cms., in spite of a lessening in the density of the shells. At 60 cms., the soil turned into the light brown clay of my Trench A, Level II, and became spotted with grey at a metre. No ceramic totals are available for McGimsey's pits, the only reference to ceramic content in the field notes being to "El Estillo-like" sherds (which could be either Macaracas or Mendoza) in pit II, below 80 cms., and to spindle whorls in pits I, II and IV.

Of course, the refuse piles might differ from the second, shell-less brown clay deposit in function only. (At NA-I3, there was an oval pile of dense refuse, though with little shell, and there were signs of similar piles having been destroyed at NA-6). Nevertheless, I feel that the poor representation of Mendoza Polychrome sherds, and the presence of three Olá Ware rims and several probable body sherds in Level I of Trench A (0-20 cms.) argue for at least a partially post-Conquest date for the refuse piles.

NA-9

At NA-9, McGimsey dug four pits in and around the largest of three burial mounds which are situated immediately south-east of NA-8 and probably relate directly to that site. A selected sample from pit I, which was put down at the base of the excavated mound, had an Olá Ware "pie-dish" rim (c.f. Plate 49,f) in level 0-10 cms.; level 60-65 cms. contained another Olá Ware rim, and three Cortezo Red-Buff rim sherds: a thick "tecomate", a collared jar with modified fillet appliqué below the rim (c.f. Plate 50,d) and a pedestal with appliqué decoration on the base. Level 65-70 cms. had a Mendoza Red a-shaped dish rim; a coarse Cortezo Red-Buff "tecomate"; and one plain buff
dish of Mendoza shape. Level 70–85 cms. had one rim of a thick Cortezo Red-Buff collared jar; two rims from unidentifiable bowls, and a Mendoza Red dish rim. The red hardpan was reached at about a metre.

The pits dug into the large mound revealed a single burial at a depth of about 1.90 ms., lying on an area of burnt earth and sherds, a little above the natural land surface. The excavator could not be certain of the relationship of the burial to the overlying mound and suggests that it might be just one of a large number of burials in the mound. Unfortunately, the only artifact indubitably in association was a spindle whorl, placed under the femora, and a small projectile point with a triangular cross-section in the general vicinity of the body. The position of the dead man is, as far as I know, unique in Panama: he was buried on his back, with his head to the north, and his legs folded over his head so the tibiae extended beyond the head. He had apparently not been disarticulated (McGimsey, 1959: 351-2). The only slight cue to the age of the burial is the projectile point whose trianguloid cross-section is perhaps indicative of a late date (see Chapter 6). The brick fragments in the first 50 cms. of the site, at least in pit I adjacent to the mound, and the presence of Olá Ware sherds to 65 cms., suggests a post-Conquest occupation at this point. At 50 cms. in pit II (in the mound), a fired floor was discovered without traces of brick, but this was absent in pit III. The deposit below, until another floor at 145 cms., was almost devoid of cultural material, but the deposit between the second floor and the base clay contained sherds. This suggests a two-tiered construction of the mound, with two separate floors and intervening fills, but the full history will not become apparent until the entire mound is stripped. The only sherds in the selected sample of pit III were not diagnostic of relative age.
NA-13

No sherds of Aristide or Conte Polychrome were found at NA-13, though three eroded "droop-lip" rims from pit A are presumably from Phase V vessels. 14 sherds of Mendoza Polychrome were recovered from pit A (1.2%) and 7 from pit B (0.4%). One "Triangle" pedestal was also recovered from pit A as were three rounded lip plates, with slightly up-curving rims, and traces of Macaracas designs (?Pica-Pica). The "Triangle" pedestal could also be from a Macaracas vessel. Out of 748 recognisable non-polychrome rims from both pits, as many as 671 are assignable to Cortezo Red-Buff; 4 to Applique Red-Buff; 57 to Mendoza Red; and three to Olá Ware. No Guácimo Red-on-White-Slip sherds, in pristine state at least, were present; and no diagnostic Escotá Red-Buff or Conte Red (flat- or groove-lip) rims. A very large proportion of the Cortezo Red-Buff rims are of the "raked-back" collared vessel type - 214 rims - a percentage which conforms with NA-2 and NA-6. NA-13 in fact provides the most complete sample of the gamut of Cortezo Red-Buff shapes. The make-up of the appendage modes corroborates suggestions of a late date: 21 tall pedestal fragments; 28 ring-bases of type B; and 31 heavy round handles. No shallow ring-bases of type A were found.

Pit A had cultural material only to a depth of 25 cms. before the sterile red hardpan was reached, and modern debris in the form of glass and porcelain was present to at least 15 cms. Pit B, put through the ovaloid mound of densely packed refuse, had about 40 cms. of material at the deepest point (see fig. at the base of Map 3). The potsherds were amassed in incredible density. There was no evidence whatsoever of any layering in the pile and the material vanished quickly at the approach of the laterite. The impressive homogeneity of the ceramic sample, especially in pit B
which contained only Mendoza and Cortezo pottery — apart from a Smoked Ware Gourd Effigy vessel (Plate 64) and the strange incised Smoked Ware rim in Plate 52, and the absence of Aristide and Conte Polychromes and Guácimo Red-on-White-Slip, except perhaps for the eroded "droop-lips", out of a total of 2920 sherds, together with the extreme shallowness of the deposit, must preclude a significant occupation of the locality at least before Phase VI. The Macaranas sherds were found in the last throes of Pit A, just before the red hardpan, and were it not that the precise relationship between the Cortezo Red-Buff and Phase VI polychromes has not been determined in the region, I would suggest a Phase VII date alone for the major occupation.

I imagine that the "kitchen pile" represents the refuse of a small group of people, perhaps a single family. The area around pit A was apparently occupied by a "ranchería" a few years previously which would account for the presence of modern debris at that spot.

**NA-3I**

Only eight sherds with diagnostic features (Mendoza Polychrome and Cortezo Red-Buff) were recovered from the excavation of the stone pile at NA-3I, from a very meagre sample (100 sherds.) It is the author's opinion that the several piles visible at the site are domestic rather than funerary artifacts, and the comparison with one of the stone piles found at PN-5 by Lothrop was quoted in Chapter 3. The sherds found in between the stones indicate a late (Phase VII) date.
Sites excavated by A. Hyatt Verrill in 1925-6

The depressing feature of Verrill's energetic campaigns in Coclé is that he found innumerable sites - some obviously very rich and chronologically inestimable - excavated vast amounts of material, and then dangled the evidence tantalisingly above the archaeological establishment without ever making that final snap of the string. The only site which can be located with certainty today is the Temple Site (NA-20,) and it is extremely doubtful whether any of the others will be re-found, except by accident. To judge from the collections housed in the American Museum of Natural History and the Museum of the American Indian, Heye Foundation, Verrill came across every single known category of pottery in western Coclé, and a few anomalies besides. One has to admire his amazing energy. Nothing can, of course, be reconstructed of the internal chronologies of his sites, but the material he recovered, though incompletely provenienced and hopelessly documented, does benefit Coclé archaeology in two respects: it has augmented the sample of non-Conte Polychrome sherds and helped us appreciate the diversity of Coclé ceramic history; and, by the number of unusual styles tucked away in dusty drawers, it has given us a hint of what to expect in the future and prevented us from becoming complacent. Five sites are included in the notes left by Verrill and rough appreciations of their artifactual components and chronologies will be considered here, on the off chance that one day some, at least, will be rediscovered.

NA-20 (The Temple Site)

Verrill's excavations at the Temple Site were reported briefly in three short articles (1927a, 1927b, and 1928,) the second of which has subsequently appeared in modified form (1953 and 1963.)
The "Temple of the Thousand Idols," even though it might not be the "vast prehistoric place of worship" that Verrill calls it (1953: 76,) was certainly of enough importance to the local inhabitants to justify considerable labour in transporting carving and erecting in regular layout the vast numbers of columns that it contains. A map of the Temple (1953: 77,) shows that the excavated area consisted of a central column, surrounded by four idols, bounded to the east and west by parallel rows of columns, either left plain, or carved with human or animal features. In addition, there were two carved altars, one apparently representing a lizard and one a human figure. This inner temple was surrounded on all sides by rows of "immense hand-cut (?) stone monuments or phallic columns placed in an almost geometrically perfect quadrangle" (op. cit.: 76.) The quadrangle covered an area of about 300 x 700 ft.

I do not think anyone can doubt the existence of the "ceremonial centre," "Temple," or what you will. In 1969-71, the author found very few obvious traces of any structures apart from a few shattered hexagonal basalt columns, which are well known to visitors. Slides taken by McGimsey in 1962 show columns still in situ, but the whole area has recently been intentionally ploughed up by a tractor driver looking for gold, and reliable sources tell me he destroyed anything that might have remained intact. Nevertheless, the area was under thick "farraga" grass, and there might be some parts which missed the tractor driver's greed. Some low mounds, in a haphazard arrangement, are still visible. They are liberally spread with cultural material and were surface-collected by the author, who is ignorant of their function.
Verrill frequently mentions the density of the layers of refuse overlying the Temple and makes the following reference to the physical stratigraphy of the site:

"Superficially there is a layer of leaf mold and decayed vegetation, from eight to ten inches thick which grades into a true mold extending to a depth of about two or three feet in thickness; under this is a layer of loose sand, from a few inches to several feet thick; and still lower is the deposit of sticky blue or yellow mud extending to unknown depths. The potsherds and other remains occur from near the surface to the mud stratum, but are most numerous in the upper stratum of hard clayey soil. Originally, the lower end of every column and sculptured figure was embedded in the tenacious mud below the sandy strata, but many of those still standing are buried so deeply that their tops are now from three to seven feet below the surface." (1927a: 60.)

A sketch of some of the columns, which corresponds to the above notes, was left by Mr. Verrill in the Museum of the American Indian and has been reproduced in fig. 146. The indications are that the columns, buried into the clay hardpan, had collapsed before the superimposition of debris, and that there may have been a period of little activity while the somewhat sterile sandy layer was built up. Elsewhere, Verrill refers to from "four to twelve feet" of soil accumulation over the site (1953:73.) The river is about 600 ms. to the east, but the area is at present inundated during the wet season and the accumulation may have been accelerated by annual flood deposits. Guacamayo is certainly not a volcano with a "broken down crater raw and burned" which "rumbles and emits steam and hot water from its fumeroles," (op.cit.: 74,) and Verrill's "volcanic ash" is merely degraded tuff from El Valle, redeposited as white clay.

Verrill is adamant in his belief that the Temple had been destroyed at some time. He states clearly that several of the columns had been intentionally broken off and scattered around the site. If the Temple was being used as a regular place of worship, I feel it unlikely that such a dense layer of refuse would have accumulated while it was in service, and I suggest that the major accumulation - that is,
the hard clay layer with numerous sherds - occurred after the abandonment of the site as a Temple. It may or may not have been destroyed but perhaps we should give Verrill a little honour after all the vitriol and, while refuting his "vulcanomania", take his word for the signs of destruction he observed.

The iconography of the sculptured columns unfortunately offers us no clues as to their relative age. Suffice it to say that they are unique in Panamá. The only other massive sculptures known to me, from Barriles, in western Chiriquí, are iconographically quite distinct.

The pottery collected by Verrill from the vicinity of the Temple Site is varied. Sherd lots seen by the author in the American Museum of Natural History (30.1.873/9 & 30.1.952/4) and in the Heye Foundation, Museum of the American Indian (13/1797, 14/5173, 14/6073/7, 14/6551, 14/7808/8 & 14/7798) include Mendoza Polychrome; Macaracas Polychrome (Higo (?) Variety; ) Becerra Painted Lip; Conte Polychrome; White-and-Black-on-Red Ware; rims assignable to Guácimo Red-on-White-Slip and Cortezo Red-Buff; Snake Effigy Ware sherds; a set of mammiform legs, some with rattle pellets; a pottery stamp; a spindle whorl; and a strange little figurine. The Mendoza Polychrome sample comprises sherds of Varieties A - E, as well as angled-shoulder jar fragments and "Farita"-like designs. Sherd s from the Verrill collection at this site included herein are: fig. 5, c & e; 16, a, c & d; 17, a; 19, b & d; 21, a; 26, b & d; 27, d and 28, a, d & e. A Becerra Painted Lip sherd is illustrated in fig. 74, g. Whole vessels illustrated by Verrill comprise: Conte Polychrome plates and bowls (Verrill 1927a: fig. 24; 1963: Plate XIII, a-b & f - i;) Conte Polychrome jars (1963: Plate XIII, k- m;) a White-and-Black-on-Red (?) turtle effigy bowl (1963: Plate XIII, e;) a spouted Conte Polychrome
afe (1927a: fig. 23); a "Panelled Red" rectangular dish (1927a: 22); and three exotic vessels (1963: Plate XIII, a, d & j).

Of these last (Plate XIII, j), a vessel with tripod legs and ee or four anthropomorphic lugs, is intriguing. The design layout and scroll motifs of two of the illustrated Conte Polychromes re somewhat different from known material from Coclé (Plate XIII, & m). Three sherd fragments of effigy jars illustrated by othrop are also anomalous (1942: fig. 421). Lothrop makes written references (p. 212) to whole examples similar to his figs. I, 90 and I (Conte Polychrome droop-lip plates); I78,b, a Conte Polychrome arafe which seems to represent the beginning of the geometricisation f the claw-motif and hence is transitional V-VI; 20I and 213, Conte polychrome effigy jars; 287, a White-and-Black-on-Red Ware turtle effigy essel (probably that illustrated in Verrill, 1963: Plate XIII, e); nd 318, a Smoked Ware vessel with a sharp medial bevel.

A surface collection made by the author from the mounds to the est of the Temple area in 1970 gives polychrome percentages as:
endoza 3.6%; Becerra Painted Lip 2.6%; Macaracas 1.6%; Conte 1.6%; ether Macaracas or Conte 10.9%; and Escota 0.0%. Out of 182 ecognisable non-polychrome rims, 4 are Mendoza Red s-shaped dishes; 6 Cortezo Red-Buff; 70 Guácomo Red-on-White-Slip; and 42 Conte Red, incuding 28 "droop", 15 "flat" and 9 "groove" lips. The function f the mounds is not known, though they might well be burial mounds, nd the chronological mixing of the surface sample might be the result f the erosion of the fill.

The fact that most of the complete vessels published from the emple Site have Conte Polychrome affinities suggests that the site as only utilised for funerary purposes during Phase V. Doyle ug a small tomb near some stone columns, which contained a single skeleton, accompanied by "Early Coclé" vessels, and two "tumbaga"
Nevertheless, it was obviously tied with cotton string (1960). Nevertheless, it was obviously tied upon in some density right up to the Conquest, as evidenced by a very large and varied sample of Mendoza Polychrome sherds. The stratigraphic sketch left by Verrill — reproduced in fig. 146 — shows that a considerable amount of refuse piled up over the Temple columns, presumably while the site was no longer in use as a ceremonial centre, and I cannot believe that the "packed masses (of sherds) around every column and idol" are only the "results of periodic pot-smashing rituals" (1953: 83). The rarity of Aristide Group sherds suggests a sparse occupation during Phase IV. But if the site were truly ceremonial, the lack of pre-Phase V sherds would not necessarily indicate that it was not in use at that time. It would be useful to know exactly what material came out of the "sticky clay" at the base of the columns. Verrill claims that the lowest pottery he found — from ten to twenty feet beneath the present surface of the earth (surely an exaggeration) — as of a "crude, plain type, with little embellishment, and usually decorated, if at all, with simple incised designs or rudely modelled ornaments in the forms of animals or human heads" (op.cit.: 83). It could be fascinating to prove the existence of an early tradition of monumental sculpture in Panamá on a Late Formative time level, equating perhaps with Barriles. The lack of any sculptured columns at Sitio Conte raises one's eyebrows.
Other sites excavated by Verrill, whose precise locations are unknown

Apart from the Temple Site, six sites were apparently excavated by Verrill, but there is some confusion over their nomenclature. Sherds lots in the American Museum of Natural History are labelled Ancón; Banks of the Río Grande; Barrancos Grave; Espinosa Burial Mound; Lieson Grave (thus written on the shelf label, but apparently Limón;) and Río Grande Village site. Ancón is a prominent landmark in the Canal Zone some 120 miles to the east, and I cannot believe the sherds which bear that label actually came from there. Verrill's correspondence with his sponsors was conducted from the Tivoli Hotel in Ancón, and perhaps the names got mixed up. Ancón could be Antón, a large settlement along the Inter-American Highway, east of Penonomé, but Verrill's sketch map (fig. 147) makes no reference to any investigations that far east.

**Espinosa Burial Mound**

By far the most interesting and varied sherd lot left by Verrill is that from this romantically named site. Nobody in Coclé knows where such a mound might be and the person who invented the name either had a perverted appreciation of Panamanian history or was just plain awkward. Lothrop (1942: 213) thinks it was near the Sitio Conte, presumably because of similarities in the material found at the two sites.

However, the sherd samples from the Burial Mound surpass even those of PN-5 in variety and interest and it looks as if the site once possessed the best stratigraphic record in the Province. Sherds lots at present in the American Museum comprise: Conte, Corotú, Macaracas, Mendoza and Tonosí Polychromes; Girón Banded Lip; Conte Red; Escotá Red-Buff; Guácimo Red-on-White Slip; Talingo Black-on-Red; White-and-
Black-on-Red Ware; Smoked Ware; and "Triangle" Pedestals. There is also a set of interesting and unusual incised sherds. Mendoza Polychrome sherds from the site are illustrated herein in figs. 5,d; 21,c; 26,a; and 28, b & c. Corotú Polychrome sherds are illustrated in Plates 28 & 29. Of these, Plate 29, bottom row, middle, is very similar to sherds of Ichon's Montevideo Polychrome from the Tonosi Valley. The Girón Banded Lip sherds include both Radial Banded and Crosshatched Varieties, and are interesting in both the white-slipped lips and the delineation with a black line of the upper red-painted area on the interior wall. The large number of White-and-Black-on Red Ware sherds in this sample (at least 13) is also interesting. One of the Guácimo Red-on-White Slip sherds has an appliqué frog on top of a flattened, everted collar, which I do not know from other sites. Plate 30 illustrates a set of incised sherds from the Mound. Those in the top row, a & c, are of the same kind as a sherd found by a fisherman in a locality called the Charco de la Casa de Zinc, lower Rio Grande Valley (Plate 58,a.) Another, also from the Rio Grande Valley, excavated by Verrill, is illustrated in Lothrop, 1942: fig. 430,a. "Cañaza" punctation is a common feature in Cochlé and the sherds in Plate 61, i & j, with the punctations on the rim, occur widely. Those examples, however, which combine punctation with relief modelling are more similar to material which is commonly found to the east of Cochlé, especially around Madden Lake, in the Canal Zone. The sherd in Plate 30,g, also illustrated by Lothrop (op.cit.: fig. 430, b,) is carved, a technique otherwise unknown from the Province. The strange pottery drum (op.cit.: fig. 426,c,) which is from this site (two, in fact, were found,) is unusual, though examples occurred in the PN-5 refuse. Dade makes written reference to a similar piece from PN-I7 (1960: 73.)
Three "imported" styles recovered from the mound are mentioned by Lothrop (1942: 213-216) "Macaracas Polychrome-on-Brown" (actually Pica-Pica Variety of Macaracas Polychrome; Espalá Polychrome (Mendoza Polychrome, Variety A;) and "imported Style A" (Macaracas Polychrome, Higo Variety pedestal plate.) Two Conte Polychrome "droop-lip" plates are also illustrated (op.cit.: fig. 423.) An interesting anomaly at the site is the collection of figurines in painted clay (op.cit.: 216 and fig. 427.) One or two solid plain figurines in clay turn up in the Parita Bay area, but I know of no other polychrome hollow and modelled examples from western Coclé.

To judge from the above sample, the occupation of the mysterious mound certainly ran from Phase IV through to Phase VII. Particularly interesting are the Corotú Polychrome sherds which indicate a Transitional IV-V occupation, and the strange "Cañaza – punctate-plus – modelled – relief" sherds. I suspect that the latter might antedate the arrival of the painted pottery tradition in western Panamá, and belong to about the same time level as the Guacamayo "Scarified" ware.(Harte, N: 1966)

The "Ancón" site

The sample housed under the Ancón label is also varied; comprising Aristide, Conte, Macaracas, and Mendoza Polychromes; Becerra Painted Lip; White-and-Black-on-Red ware; Cortezo Red-Buff; Talingo Black-on-Red. A Mendoza Polychrome sherd from this locality is illustrated in fig. 16,e. Aristide Polychromes include Escotá Black-on-Buff and Girón Banded Lip (Crosshatched and Radial Banded Variety.) Occupation seems to run from Phase IV through to Phase VII. Two other sherds of the "Cañaza – Relief" kind were found here.
Banks of the Río Grande

Sherds from this locality illustrated by Lothrop include Conte Polychrome bowl rims and a "Black-line Ware" plate, with drooping lip (1942: fig. 429.) Mendoza Polychrome sherds illustrated in this study are: fig. 5 a & b; 19 a & c; and fig. 30 a. Plates 22-27 comprise a set of very interesting sherds, assignable to the Corotú Polychrome, which were housed together without other varieties. Some of the sherds bear a very close resemblance to material from AG-3 and also to Ichon's transitional Montevideo Polychrome in the Tonosi Valley. The occurrence of so many sherds of this Polychrome in one locality surely indicates that somewhere, some place, we will come across a nicely defined deposit dominated by its as yet naggingly incomplete iconography.

Lisson (Limón) Grave

Stirling (1964a) reported on some shaft-and-chamber tombs in the north of the Coclé foothills, near a locality called El Limón, which contained "Scarified" pottery attributable to Phase III and very similar to that found on the Guacamayo Mountain by the Hartes. A small lot of sherds from Verrill's "grave" - presumably from the same general area - contains a very eroded Phase VI (Macaracas ? Pica-Pica) sherd, and an irregularly shaped spindle whorl or perforated ceramic bead.

Río Grande Village Site (West Bank of the Río Grande.)

The most heart-warming object from the Río Grande village site is a complete but very badly eroded example of a Mendoza Polychrome S-shaped dish with variety C decoration on the interior (see reconstruction in fig. 2.) It is the only complete example known to me (HF: 14/5312.) Also in a sherd lot from this locality is the Mendoza Polychrome sherd illustrated in fig. 8, a, and a number of Corotú Polychrome sherds with the designs illustrated in Plate 29.
Barrancos Grave

The author found no sherd lots under this title. Lothrop illustrates a Smoked Ware jar with a fluted, subglobular body, and a plain clay figurine (1942: fig. 428.)

PN-5 (Sitio Conte)

The Sitio Conte is nodal to any argument concerning the archaeological chronology of western Coclé because it still remains the only site in the region to have provided a substantial sample of complete polychrome vessels and other high quality grave furnishings, which must remain one of the bases for temporal division.

A summary of the process of back-dating the Sitio Conte by extrapolation to and from outside areas was given in the introductory chapter, and at the outset of the 1969 campaign, the lifespan of the site was believed to run from Phase V (about 500 A.D.) through to Phase VI (about 1200 A.D.) that is, from the beginning of the "Early Coclé" to the end of the "Late Coclé" periods. The final occupation was still designated the "Period of Decline" — by all accounts a miserable epoch. The only significant change, from Lothrop's original work was temporal: the original bipartite division of the ceramics into "Early" and "Late" was not altered, though some of Lothrop's Black-Line and Panelled Red vessels were incorporated by Ladd into the newly defined Santa María, and later Aristide Polychromes, and a suggestion was made of an occupation of the site prior to the advent of the "developed" (Conte) polychrome pottery (Ladd, 1957 and 1964.)

To begin this discussion, therefore, let us take a look at the content of the graves, and work outwards from there to include the apparently non-funerary occupation of the site.
Taking the earliest pottery first, the following sherds and vessels illustrated by Lothrop can be assigned to the Aristide Polychrome Group:

Black-line Geometric Ware (figs. 234 & 239,a) to Girón Banded Lip, Crosshatched Variety; Panelled Red Ware with encircling panels (fig. 303,b) to Girón Banded Lip, Radial Banded Variety; Black-line Geometric Ware (figs. 236, 238 and 239,b) to the Escotá Type, Black-on-Buff Variety and (fig. 237) Crosshatched Variety; Black-on-Red Ware (fig. 290,a) to the Escotá Type, Black-on-Red Variety. The precise associations of all the complete Aristide Group vessels and individual graves and caches are as follows:

| Girón Banded Lip, Crosshatched Variety: | Graves 2, 5, 26* (2 exx.) |
| Radial Banded Variety: | Grave 31 |
| Scalloped Variety: | Cache 6, 2* |
| Escotá Type, Black-on-Buff Variety: | Grave 19 |
| Escotá Type, Black-on-Red Variety: | Grave 37 |

(*Not illustrated by Lothrop - PM, catalogue nos.: 33-42-20/240; I220)

In some Graves, for example, Escotá Type vessels were apparently deliberately broken on the floors (Lothrop, 1942: I26).

Jumping forward to Phases VI and VII, two Becerra Painted Lip vessels (Lothrop's Black-line Geometric Ware, fig. 235, a & b) were found in Grave 26. No whole vessels assignable to the Mendoza Polychrome Group were found in the graves, though a whole vessel from Trench XI, Section I, at 70 cms. depth (PM: C-I2599, neg. no. 37-4) is a Mendoza Polychrome s-shaped dish and a miniature jar from Cache 29.3 (PM) C-I2564 and op.cit: fig. 357,e) should probably be classified under this Group (Variety A?) Broken vessels of Style E of the Foreign Style Polychrome (the "Espalá Style") - Mendoza Polychrome Variety A - are recorded by Lothrop for the refuse of Trench X.
This means that, out of a total of 667 complete polychrome vessels found in the graves and caches (Lothrop, 1937: Appendix I), only ten are Aristide (Phase IV) vessels, and only two are Mendoza (Phase VII). (The exact chronology of the Becerra Painted Lip has not yet been worked out). What is more, the Mendoza vessels occurred very superficially in caches and were not connected with the major funerary deposit. I also have a hunch that the Escotá sherds found "deliberately" smashed on the floors of graves might be the remains of earlier interments.

The above figures indicate categorically that the known area of the site was used as a major burial ground only during Phases V and VI. A discussion of the chronologies of the Conte and Macaracas Polychromes is contained on pp. II2-II3, so a repetition of the possible relative ages of the various interments would be superfluous. As regards the three graves assigned by Lothrop to the "Period of Decline," numbers 55, 56 and 58, there is no reason to believe that they are not the latest burials at the site, as Lothrop thought, and, in terms of material wealth, they are pretty miserable considering what had gone before. The sherds found in the shafts of these graves were similar to the Fine Line Style of Grave 5 (that is, Macaracas Polychrome, Pica-Pica and Higo Varieties), indicating that they were dug through a deposit contemporary with or post-dating these styles, and, in this connection, it is interesting that one of the fragmentary Variety A vessels mentioned and illustrated by Lothrop - 1942, I97-8 and fig. 229 - was associated with Grave 56. Frankly, the whole vessels contained in these graves are not diagnostic and if we regard the burials as components not of the grave sequence per se, but of the total history of the site - funerary and occupational - from its beginning to its end, the "Period of Decline" becomes meaningless.
Turning next to the extra-funerary deposit - the three metre deep lens of refuse through which the graves were dug - we find that Aristide and Mendoza Polychrome, Cortezo Red-Buff and Escotá Red-Buff sherds are abundant. The precise stratigraphic position of the Mendoza Polychrome sherds has already been given in Chapter 4. All the Variety A - C examples found by the author are from above 85 cms., and all other categories from above 105 cms. The position of these sherds in the top third of the refuse balances well the position, at the other end of the deposit, of Aristide Polychrome sherds, which - according to Ladd's 1957 analysis - are commonest between 150 cms. and 290 cms. Conveniently filling in the gap in the middle of the deposit in Trench XI are the Coclé (Conte) Polychrome sherds, which muster 14.4% in the 100-150 cms. level and only 1.9% in the top 50 cms. (Ladd, 1957: Table III.)

As Ladd himself states in the introduction to the Trench XI paper, the statistical validity of the selected samples is limited but, though the author does not claim to have seen every single polychrome sherd housed in the Peabody Museum, the ubiquity of the Mendoza Polychrome Group above 100 cms., and of the Aristide Polychrome below 150 cms. surely indicates that the site was used as a living site long before it was adopted and long after it had been abandoned as a funerary centre. It is, of course, quite possible that there are later funerary deposits yet to be recovered from the site (Mason, 1942: 104,) but the little evidence there is points towards a different mode of burial for Phase VII - either in mounds (like NA-9,) or in shaft-and-chamber tombs (for the revered) and urns (for the plebeian.)

As regards the absolute time-span of the burials, it is the author's opinion that, firstly, speculation on the longevity of individual potters and rates of the evolution of style are valueless until the entire site's graves, big, small, old and new, are unearthed,
secondly, that as we have as yet no radio-carbon dates for the 
use V and VI pottery in western Coclé and can only set approximate 
dates to it by making comparisons with outside areas, it is premature 
... not very important to indulge in mathematical permutations. 
Within the limits of our present knowledge, the relative date of the 
burials at the site should extend from about 500 to 1200 A.D. Lothrop 
suggests that three fine deposits of sterile clay and sand at the site 
right relate to a period of abandonment (1937:39) — which would 
indicate disjointed interment — but it is perfectly conceivable that 
they are the results of some of the extremely dangerous dry-season 
flash-floods which can leave a thick deposit miles from the river 
course in a couple of days. (Such a flood in early January, 1970, 
eft an oozy deposit of sand and mud about 6 inches thick near PN-II, 
about three kms. from the living river.) Thus we have no real clue 
whether the site was constantly used for burials or not. After 1200, 
... D., or whatever the date of the site's abandonment as a funerary 
centre, it was certainly lived on for a long enough period of time to 
enable 80 cms. or so of debris to build up, and any "decline" is merely 
one of a change in function. Sitio Conte was probably occupied right 
up until the Conquest as Lothrop initially suggested, but there is no 
evidence whatsoever for the subjugation of its "cacique" by Natá. 
The site is, in fact, only a couple of hours walk from the town of 
Natá and was, in all probability, part of the same general settlement 
of the lower Chico and Grande valleys.

It would be interesting to know exactly when the site was first 
occupied. In my own judgement, the earliest graves at the site are 
the isolated graves, 31 and 32, of which the former contains pottery 
assignable to the Corotú Polychrome and relates to the deep burial
18 at PN-17, and the latter some strange base carvings which do not occur in other graves. Some of the sherds illustrated by Lothrop from the refuse are very similar indeed to plastically decorated Escotá Red-Buff sherds at AG-3 and AG-2, which are perhaps a link between the pre-polychrome traditions, which have as yet been only poorly defined for the Pacific littoral, and the first polychrome (Aristide) traditions. Particularly interesting are the "scarified" vessel in 1942: fig. 346, f; the "drums" (vessels with straight walls) in figs. 346, h, and 349, f, and figs. 349, a – g and h and 350, all of which can be duplicated quite closely with material from the Phase IV levels at AG-3.

The "Scarified" vessel is from Grave 16, which is assigned to the "Early" period and contained a number of typical Conte vessels, but, as we have seen, grave robbing and transplantation of artifacts were common at the site, and mere association of an anomalous vessels within the limits of a grave is not necessarily indicative of age (Lothrop, 1942: 172.)

A number of structural features were found at the Sitio Conte-stone piles, stone columns and altars. The only correlations which can be made between these structures and the "habitation levels" described by Lothrop are between the stone columns and the altars, which were deposited in the second level. This level — which is between the second and third layers of clay and sand — starts at about 1.60 ms. and extends to the next sand layer at about 2.40, so if the post-funerary (Phase VII) occupation is limited only to the top metre of the site, the "temple," or whatever the features are, should date from before that period. Another feature, a pile of stones over an adobe floor — which Lothrop thinks might be a wall fall — was found
80 cms., and should date from the post-funerary deposits. A rather
interesting correlation is between this pile and those at NA-3I,
which, though arranged in a more orderly fashion (compare Lothrop,
37: fig. 25), were likewise composed of rounded river cobbles and
not jagged boulders such as frequently top possible graveyards
elsewhere in the Province. Basalt columns like those of the Sitio
jonte "temple" are found at Verrill's Temple Site (NA-20), near
NA-2I, and also near Cerro La Iglesia (AG-5) and Verrill refers to
several more in his field notes (p. 63 and fig. I47). Whatever
the ultimate function of these stones, the fact that they were
dragged from their source and erected in regular layouts implies a
considerable degree of social organisation and motivation.

To summarise briefly, PN-5 was initially occupied probably at
the very beginning of or even before Phase IV, when plastically
decorated pottery was still popular. There was a fairly dense
population during Phase IV, both during the first half (A) - as
evidenced by Cocobó, crosshatched and black-on-red Escotá and Girón
sherds - and during the second half (B). No burials were apparently
laid down during this Phase, though the presence of Aristide vessels in graves and
in caches - pristine and robbed - and broken on the floors of other graves
indicates that Phase IV burials may have been molested by later interments.
The first large graves - 31 and 32 - contain Corotú Polychrome and Corotú-
like vessels which are indicative of a transition between the Aristide
and Conte Polychromes, but the majority of graves are limited to Phase V,
with a few - 5 and 26, for example - running into Phase VI. By the end
of Phase VI, and the waning of the Macaracas Polychrome, the site was no
longer used as a major funerary centre, but it was lived up on by a fairly
dense population during Phase VII, who left behind occasional caches and one
or two of the most superficial burials. The site was probably abandoned during
the immediate post-Conquest period, and later re-occupied during the Colombian
Civil War as part of the settlement of La Habana (Lothrop, 1937: 39).
PN-6 (Loma de los Muertos)

PN-6 was excavated by Mr. Frederick Johnson of the Peabody Museum expedition in 1931. Four pits of 2 x 4 ms. carried to a depth of just over a metre revealed sherds only in the upper half of the cuts. Sherds were dense in only one of the pits, but three miniature vessels (buff,) three celts, and charcoal were found in another. The material from the site was, according to Lothrop, "similar in clay and type to finds from the Sitio Conte refuse and the Sitio Hector Conte and (included) solid legs, presumably from tripod vessels, a small figure in relief which may represent a frog, an incised lug........and a large strap handle adorned with a crocodile figure modelled in relief." (Lothrop, 1942; 203 and figs. 347, 352 and 399.) He concluded that PN-6 dates from the "Early" period at Sitio Conte.

The sherd lots housed at the Peabody Museum which are labelled as from this site (C-12395 - C 12401) would argue against Lothrop's assertion of an "Early" date. Unfortunately, there seems to be a discrepancy between the labelling of the shelves and the entries in the catalogue. The lots in the shelves which are clearly marked "Loma de los Muertos" are entered under "Hector Conte" in the catalogue; while the shelves labelled "Hector Conte" remain so in the catalogue. The "Hector Conte" sherds in the shelves are very badly worn in most cases and seem to be mostly Phases IV/V, while the "Loma" sherds are well preserved and are without exception either Phase VI or VII. Lothrop mentions that the "Hector" sherds had been corroded (op. cit.: 201,) and so I will stick my neck out and take the sample labelled "Loma de los Muertos" to be from that site, whatever the catalogue says.
Three Mendoza Polychrome sherds (C-12395) comprise a fragment of an angled-shoulder jar with a Variety C decoration in a panel beneath the shoulder, and an eroded Parita-like motif above; an s-shaped dish with Variety C decoration; and a Variety D plate rim. Another plate with worn decoration on the interior may be Macaracas Polychrome. At least two more Mendoza Polychrome sherds are labelled under C-12401, an angled-shoulder jar and Variety D plate rim. According to my own judgement, all the non-polychrome rims represented in these lots are assignable to Cortezo Red-Buff ware except for a couple of Appliqué Red-Buff rims. Rim types comprise those illustrated in figs. 84 - 87, a-h; 88 a-l, 89, 90 and 91. One Appliqué Red-Buff rim is similar to fig. 113 h, the other to fig. 112, j. Modes include: plain strap and round handles; handles with appliqué fillet spines, either notched or plain (c.f. Plate 54, i, d, j;) zig-zag fillet appliqué (c.f. fig. 138 f-i & Plate 52, b-d;) modified fillet appliqué below the junction of collar (c.f. Plate 50;) a mammiform leg with rattle; a Type B ring-base; and a coarse pedestal fragment with fillet appliqué decoration on the foot.

The association of Mendoza Polychromes with Cortezo Red-Buff rims -- especially the diagnostic "zoned" and "straight" collared jar type, (figs. 86 and 87 a-j) -- and a perfect cross-section of "Cortezo" type appendage and plastic decorative modes, indicate a late date for this sherd collection. If it does belong exclusively to PN-6, it suggests that the occupation of the hill at this particular point took place during Phase VII.
PN-7 (Sitio Hector Conte)

PN-7 was also excavated by the Peabody Museum in 1931.

A large number of test pits were sunk. The site consisted of two physical strata - the first, of mixed sand and clay, stretching for about 50 cms., and the second, of mostly sand, from about 50 cms. to a bed of blue-grey base clay. Sherds were dense only in the uppermost stratum, and then principally in the top half. One burial was found at a depth of c. 50 cms., and a few stone columns similar to those at NA-20 (Verrill's Temple Site) were also found (Lothrop, 1942: 200 - 203.)

Ceramic lots studied by the author in the Peabody Museum which bear labels from this site - C-12384, C-12394 and C-12437 - comprise rather battered sherds which are assignable to Conte Red ("groove-lip" rim,) Girón Banded Lip, Guácimo Red-on-White-Slip, and Escotá Red-Buff, c.f. fig. 124. A few eroded "droop-lip" rims were also present. Lothrop refers to an example of Girón Banded Lip, Crosshatched Variety, from the site and two "droop-lip" fragments of Conte Polychrome. The undecorated bowls he illustrates include the typical Conte Red "flat-lip", and "modified recurved lip" types, and also a bowl which looks like Escotá Red-Buff. Two strange red ware vessels were also recovered as were a pottery stamp and a strange pottery drum (op. cit.: figs. 8, 43, 234, 396-398.)

The one burial, a child flexed on its side, was interred with a fish-tail incense burner, and a bowl with a "Cañaza" punctate decoration, medial bevel and a shallow (Type A,) ring-base. Similar bowls were apparently found in Graves 1, 4, 13 and 32 at PN-5.
Taking the rather scratchy evidence available, and bearing in mind the possible confusion of labels and that the author apparently did not see all the collected lots from the sites, it would seem that PN-7 had an occupation of Phase IV-V date. A discrepancy lies in the large number of modelled handles and appendages, which — from the admittedly rather meagre indications of midden deposits elsewhere — are late forms in western Coclé.

PN-II

The quantitative analyses from pits B, D, and G at PN-II indicate a basically two-tiered deposit at the site, with a predominantly Phase IV occupation overlaid by much lighter occupations of Phases V and VII, and perhaps Phase VI. Below 30 cms, the ceramic sample consists solely of Aristide and Corotú Polychromes, Escotá Red-Buff, Guáxamo Red-on-White-Slip and a few Conte Red ("droop-lip") sherds, while the levels above 30 cms. witness the appearance of the "developed"-Conte and Mendoza — polychromes, along with rim and appendage modes attributable to Cortezo Red-Buff Ware.

Eight sherds of Mendoza Polychrome were recovered from the site, representing 0.6% of the sample in Pit B, Level I; 1.7% in Pit D, Level I; 0.03% in Pit D, Level II; 0.6% in Pit G, Level II; and 0.8% in Pit B, Level II (See Tables 1 and 11.) 31 rim sherds are assignable to Cortezo Red-Buff, all from above 30 cms. Three Appliqué Red-Buff sherds came from Pit B, Level II and Pit G, Level I. The 5 Conte Polychrome sherds — including three "droop-lip" rims — represent 0.6% in Pit B, Level III, and 0.07% in Pit D, Level II. The other was found in Pit C, Level II. A good number of the sherds in the first twenty cms. showed signs of recent churning and charring and it may be that many more developed polychrome sherds were present than could be identified. In 1971, a surface collection was made in
an area of some 200 x 100 ms. immediately to the north of the 1970 pits to enlarge the sample. Out of a total of 254 sherds, 4.3% are Mendoza Polychrome, 1.1% Becerra Painted Lip, and 0.4% Macaracas Polychrome. The appearance of the Mendoza and Conte Polychromes in the stratigraphic column coincides with a marked decline in the percentages of Escotá and Girón Type sherds.

Below 30 cms., Escotá Black-on-Buff and Girón Banded Lip Types maintain erratic percentages, though the suggestion is that the Escotá Type becomes less popular relative to the Girón as time wears on. Only four sherds of Cocobó Interior Banded were recovered. Corotú Polychrome sherds occupy the middle of Pits B and G, from Levels VI to IX in B, and from Level V to IX in G, in small percentages. A total of 30 sherds was recovered for the site. Of the Girón Banded Lip Type, the Crosshatched Variety is represented by five sherds. In Pit B, Radial Banded sherds total 47.4% of the Type sample; Scalloped 41.7%; Circumbanded and Chevron Lip 10% and Crosshatched 0.7%. The Escotá Type is represented only by sherds of the Escotá Black-on-Buff Variety. Guáico Red-on-White Slip rims total 24.4% of all rims below 30 cms. in Pit B; 20.7% in Levels I-IV of Pit D; and as much as 45.5% below 30 cms. in Pit G.

Compared with the Aristide Polychrome sample from AG-2 and AG-3, that of PN-11 is very poor both in variety of design and complexity of rim shape. One common variety of the Girón Banded Lip Type - the Crosshatched - is almost absent, while the Black-on-Red and Crosshatched Varieties of the Escotá Type, very prominent at the Santa María sites, do not occur. That the - 30 cms. deposit at PN-11 probably represents the last half of Phase IV (B) before the appearance of the Conte Polychromes - maybe even the Transitional point itself - is substantiated by the occurrence between Level V to IX of sherds
f Corotú Polychrome, a few drooping-lip rims of Conte Red and shallow
rooping-lip rims and type A ring-bases were absent from below 60 cms.
rooping-lip rims and type A ring-bases were absent from below 60 cms.
in Trench XI at PN-5, Red-Line (Guácimo) sherds reach their peak of popu-
ularity in the middle levels, 3 and 4 (4.5 and 5.5% respectively), while
they attain only 0.5% in level 5 and 0.7% in level 6 (Ladd, 1957: 267 and
Table 3). A further factor differentiating the PN-II Phase IV sample from
that of AG-3 is the lack of plastically decorated sherds below 30 cms.
Only five were found — three with "cañaza" punctate, one rim with deep incisions,
and a strange Smoked Ware sherd with "bobbles" (see Table 7). This implies
that the typical Escotá plastic decorative modes had already dropped from
fashion by the time PN-II was occupied. The carbon-14 date obtained for the
top of the major Phase IV deposit at AG-3 would suggest that PN-II was occupied
for the first time after 300 A.D.

Of considerable relevance to the chronology of the site is the
"madre vieja" which runs just to the west (see Map 5). Called, aptly, La
Herradura, it is the tributary of an ox-bow channel of the Río Grande and
probably represents a former flow of the river in a wide arc to the
east. Today it peters out just south-west of the Río Grande village
(see Map I). About 260 ms. north of the excavations, is a fossil
river bar of tightly packed boulders and pebbles, clearly discernible
in the wall of the irrigation channel, against which is piled up about
200 ms. of sterile, silty sand. This bar can also be picked up over
the other (western) side of the Herradura. In 1970, a 1 x 1 m. test,
E, was laid down over the silty fill behind the bar, and though the sherd
sample is small, all the diagnostic sherds in the first 50 cms. were
either Mendoza Red or Cortezo Red-Buff (see Tables 6 & 7). From 50
to 160 cms., only sterile sand was encountered. A collection was
also made from an irrigation trench which had cut through the bar on the other bank of the channel (PN-10.) The sherds seemed to be eroding from the thirty cms. or so of humic material above the bar and they comprised only Mendoza Polychrome (Variety A,) and Cortezo Red-Buff types. The absolute sherd total at PN-11 drops off considerably after about 20 cms., and it seems possible that the site was abandoned when the river changed course eastwards — perhaps in Phase V — to be re-inhabited later when the cultural material of Pit E and PN-10 was deposited over the defunct geomorphological features of the river. A vast Cortezo Red-Buff burial urn found at the top of the sterile sand fill helps to serve as a terminal date. Just north of PN-11 is a large site of probably Phase VII date (PN-14,) and it may be that the late occupation of PN-11 was contiguous with that site.

PN-17 (Rancho Sancho de la Isla)

Rancho Sancho, lying on the eastern bank of the Río Cocle, between the New Highway and the Old, was excavated by Philip Dade, the owner of the property in 1958, and published in preliminary form in Vol. III of the Panamá Archaeologist (1960: 66-87.) That further details of the obviously extensive excavations have not appeared is to be regretted as the site is extremely interesting from the chronological point of view and is — apart from PN-5 — probably the richest burial ground yet excavated in Cocle.

The site consists of a strip of about 550 ft. of midden and burial deposits stretching from the river to the ranch house. The midden deposit is separated from the river by about 150 ft. of sterile alluvial fill and for about 200 ft. east to the burial zone, which in turn extends eastwards for a further 350 ft. (see op. cit.: fig. 17 for details.) The midden deposit was apparently from two to three
feet deep and had "so much sherd material that it was difficult to
dig" (op. cit.: 68.) The excavator made no record of the
stratigraphy of the midden. Three major grave types were encountered:
Shallow (surface to 30 ins.;) Medium (40-50 ins.;) and Deep (60-
80 ins.) Two urn burials were also found, very close to the surface.

The Shallow type graves were about six feet in length and
had been scooped out of the "coquina." Fourteen were found, but
there are no illustrations of the artifacts excavated from them.
The occurrence of pairs of miniatures — especially of painted
miniatures — would indicate that these graves are late, either Phase
VI or Phase VII.

The Medium graves seem to have been the richest. Dade
makes direct comparisons between the vessels found in them and examples
illustrated in Lothrop's 1942 volume on PN-5. According to these
comparisons, the graves contained  (in Lothrop's classification:)
10 Early Polychrome Plates, all with the typical "droop-lip" of
Phase V; 3 Early Polychrome Carafes; 1 Early Polychrome Rectangular
Bowl; 2 Early Polychrome Flaring Bowls; 1 Early Polychrome Cup;
1 Early Polychrome Insloping Bowl; 1 Early Polychrome Spout Handled
Jar; 1 Early Polychrome Bottle; 1 Early Polychrome Effigy Bowl;
1 Black Line Ware Flaring Bowl; 1 Black Line Ware Rounded Bowl; 1
Black Line Bowl (Girón Banded Lip, Crosshatched Variety;) 1 Foreign
Type of Black Line Ware; several examples of Red Line Ware (Guárico
Red-on-White-Slip;) Early Red Ware bowls and cups; 1 late Red Ware
carafe; 1 White-and-Black on Red Ware turtle effigy vessel; 1 Black-
and-White-on-Red Ware Flaring Bowl; Panelled Red Ware vessels, including
two carafes, one Early and one Late; 1 Early and 1 Late Smoked Ware
Effigy Bowls; 1 Late Smoked Ware Spouted Jar; 1 Red-Buff collared jar
with small strap handles; several fish-tail Incense Burners; several
pot covers with lug-zoomorphic and strap-handles; a figurine (or
handle) sitting on a bench; a buff ware vessel with applique animals on the shoulder; a miniature buff ware plate with three mammiform legs; a vessel with a tall collar like Cortezo Red-Buff fig. 86, a & b; a drum with shell edge stamping; and a rope-handled lid.

Of the "Early" polychromes listed, five have counterparts in Grave I at PN-5; five in Grave 32; four in Grave 4; two in Grave 9; and one each in Graves 2, 13, 15, I6 and 17. All the examples would be classified as Conte Polychrome. Grave 32 is perhaps the second oldest interment known from the site and all the others, except 9, are placed low-down in the stratified sequence by Lothrop (1942: 199 and Table VI). Grave 32 has a large number of polychromes with the "snail-shell scroll", which occurs on vessels in graves 4, I3, I5 and I7 also (see p. II5). The only "Late" vessels listed for the PN-I7 sample are a strange "Black-Line" vessel with mammiform feet which is similar to two found in graves 23 and 26 at PN-5, the latter of which is V/VI or VI (op.cit.: fig. 241, a & b); a "Late" Red Ware carafe, similar to an example from Grave 6, which is probably Phase V; a "Late" Panelled Red Ware carafe, also with a counterpart in Grave 6, which is certainly Phase V; and two "Late" Smoked Ware vessels. The pottery "drum" with the shell edge stamping is similar to one found at the Espinosa Burial Mound (op.cit.: fig. 426,c) and is of unknown age. A frog handle to a pottery lid - almost identical to one found superficially at NA-8,- the twisted rope handle, and the rim form of Lothrop, 1942: fig. 408, which is similar to the Cortezo Red-Buff flattened rim type (fig. 86, a & b), would appear on meagre evidence to be late, probably limited to Phase VII. Apart from these three
possible anomalies, the contents of the Medium graves at PN-17 looks Phase V, and early Phase V at that. The large number of Guácomo Red-on-White-Slip vessels found would enhance this claim. However, Dade does refer to "Veraguan" style vessels in the Medium graves, of which five occurred. "Veraguan" to Dade means either Macaracas or Parita, and one of the vessels bore a sting-ray design. Unfortunately, the precise association of this pottery with the other categories found on the site has probably been lost for ever.

Of the three "Deep" graves, two contained "nests" of small pieces, mostly little collared jars of red-buff ware which are similar to those excavated with the burials at AG-3. They are also common at He-4, but are not good indicators of age (1960: fig. 22, a & b). The third "Deep" grave is exceptionally interesting. Labelled Burial I8, it was found by accident in a remote part of the farmhouse, away from the thickest archaeological deposits. Seven unusual polychrome pieces were discovered. Three are illustrated in Plates 17 - 20 of this study, with the kind permission of Dr. Frederick Dockstader, of the Heye Foundation, Museum of the American Indian, New York. Plate 20 and three other vessels are illustrated by Dade (1960: figs. I9, b, c, left hand side, and 20, a & c) (there were two vessels of the type in fig. I9,c). The complement is made up by a turtle effigy bowl similar to one found at the "Coclé village site" of Lothrop (which may, in fact, be PN-I7) and illustrated in I942: fig. 4I3, a & a. The total contents of Burial I8 is listed on p. I75.
Taken together, the contents of Burial 18 form a very
idiosyncratic unit. The only vessel typical of Phase V is
the turtle effigy. The spouted vessel in Plates 17 and 18
is unique in its design and the neck of the collar which has
a medial bevel. The strange fantasmagorical figure on
Dade's fig. 20,a is also most unusual. The incised vessel
in Dade's fig. 20, b, right hand side, which is smoked,
is of a shape and design unknown to me. The tall red-buff
jar in Dade's fig. 19, b, left hand side, has a counterpart
in a jar with an odd-shaped neck from PN-7 which has four
similar tall, vertical loop-handles (Lothrop, 1942: fig.
398,b); Lothrop suggests that the PN-7 piece is "trade" as
it is "non-typical of the vicinity" (op.cit.: 201). Of the
non-ceramic artifacts, stone figurines are not known from
elsewhere in Cocle and the technique of sawing, which fash-
ioned the carapace of the armadillo (Dade, fig. 19,a) was not
found at PN-5 (Lothrop, 1937: 65). Gold-and-copper chisels
were excavated in some numbers at PN-5, though none had been
used as jewellery (op.cit.: 194 & fig. 58).

Burial 18 smacks not only of idiosyncrasy but also of
transition between Phases IV and V. That the seven unusual
polychromes are of contemporary manufacture is implied by
the similarity between the shapes of the collared vessels
and the Guácimo Red-on-White-Slip vessel; by the circum-
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mental banding on the flattened lips of the collars; by
the shallow type A ring-bases; by the use of the snail-shell
scroll filler element; and by the cream-coloured slip and
bright orange pastes. The stylistic links look both back-
wards and forwards: the snail-shell filler, and the spout
of the vessel in Plates 17 and 18 occur on developed Conte
Polychrome vessels at PN-5 (the snail-shell scroll has already
been mentioned as an indicator of early age); the pendant
isoceles triangles, the black dot fill between red lines and
the double parabola are diagnostic of the Corotú Polychrome
(Plates 23, 25, 28, bottom row, centre and 32,1); and the
circumferential banding on everted and flattened lips is a
feature of the Girón Banded Lip Type. The two jars of the
type in Dade's fig. 19, c are almost identical to another
from Grave 31 at PN-5, which contained as many as six vessels
classified by Lothrop as "Foreign Style B" (1942: fig. 226).
These Grave 31 vessels are freer in design, their zoomorphism
is more terrestrial and their composition fussier than on
Conte Polychromes. Their shapes, too, are unusual: the
squat body and straight-walled collar of Lothrop's fig. 226,b
and Dade's fig. 20,a, are not found on Conte Polychromes,
though they are somewhat reminiscent of the Escotá flare-
and straight-collared jars.

Lothrop was sure enough of the strangeness of the Grave
31 vessels to label them "foreign." I think it is more likely
that both Grave 31 at PN-5 and Burial 18 at PN-I7 are represen-
tative of that period in time which was witnessing the gradual
change from the purely geometric Aristide Polychrome, through
perimentation with black-outlined designs and naturalistic

morphism, towards the more conventionalised iconography

: the Conte Polychrome. This change is epitomised by the
Corotú Polychrome, to which Type I would assign all the poly-

chromes found in Burial 18 with the exception of the turtle
effigy.

The archaeological picture to be gleaned from Dade's
excavations at PN-I/7 is one of continual occupation - or,
at least, of continual burial - from the tail end of Phase IV,
B, through Phase V, and probably beyond: the plethora of Conte
and Guácimo vessels recovered from the Medium graves indicates
that the site was most important during Phase V, but Dade's
reference to "Veraguan" vessels with sting-ray designs suggests
the presence of burials of Phase VI or even Phase VII date.
Only one vessel of the Aristide Group was recovered - Girón
Banded Lip, Crosshatched - and the site was probably not occupied
for most of Phase IV.
B. *Chronologies of the unexcavated sites:*

The contents of the surface samples collected from sites in western Coclé are recorded in Table 5 (polychromes by percentage of total sample) and Table 10 (rims and appendage modes of non-polychromes). Only those samples with more than a hundred sherds are included. Surface collections are by their very nature limited in scope and can give false impressions of the relative age, density of population or social function of a particular site; but there has been so much total destruction of archaeological deposits in western Coclé that it is possible to establish reasonably accurately the life-spans of a number of the surface-collected sites.

A glance at Table 5 will show that five sites include Mendoza Polychrome sherds in their samples without any of the three other major Polychrome Groups: NA-6, PN-10, PN-14, PN-20 and LP-3. One site, NA-29, Area B, has a "Triangle" pedestal sherd and no other polychrome sherds and another, NA-16, a minimal representation of Macaracas Polychrome through a few eroded rim sherds. Four sites, NA-2, NA-5, NA-15 and PN-II, have very low percentages of Macaracas compared to Mendoza Polychrome, and no Conte or Aristide sherds, and two sites, NA-7 and NA-8, small samples of Conte and Macaracas and large samples of Mendoza.

Seven of the above sites - NA-2, NA-6, NA-7, NA-16, NA-29, B, PN-I4 and LP-3 - have been completely stripped to the base clay (in most cases a lateritic hardpan) by graders levelling the cane fields and other engineering operations. This has presumably resulted in the churning of the entire archaeological deposit. NA-5 does not seem to have been stripped to the hardpan, but the Río Chico does not flood over this, the western bank, and I would expect a shallow midden. NA-15 has not been stripped and its deposit may be deep. NA-7, NA-8 and PN-II have been treated in the section on the excavated sites. PN-10 gave a small sample eroding from over the fossil bar of the Río Grande (La Herradura); only one
Fendaza Polychrome sherd was present in a Cortezo Red-Buff assemblage. "N-20 was collected before the author's visit by de Brizuela, whose sample includes Macaracas Polychrome, Pica-Pica sherds. I believe that this site has a long occupational history.

The samples from all these sites, with the exception of PN-II and LP-3, are large and in good condition, and the absence or paucity of pre-Phase VII polychromes on those sites which have been stripped to the base clay should indicate a lack of occupation, or at least a light or short occupation before Phase VII. The non-polychrome sherds substantiate the impressions given by the polychromes.

PN-I4 is certainly a cemetery as well as an occupation zone, but most of the graves have either been looted by "huáqueros" or destroyed by road-works. NA-6 probably has burials of Phase VII age within its confines (see Map 3). According to the surface indications, NA-26 is a graveyard of Phase VI or VII age, but this is no more than a calculated guess.

AG-5, on the slopes of Cerro Zuela, is almost certainly a cemetery of Phase VI age: some Macaracas Polychrome sherds were found amidst one of the piled stone grave-markers. The Potrero Riquelme (PN-I6) once possessed, or even still possesses, a graveyard of Phase VI age (some graves were excavated here by Sres. Méndez and Ferrari).

NA-21 and NA-30 are probably mostly Phase V sites, though the former includes in its sample a number of sherds which are either Conte or Macaracas Polychrome. It has only 0.6% Mendoza sherds. NA-30 is dominatd by Conte Polychrome sherds and lacking in Mendoza Polychrome. The presence of Aristide Polychrome and Escotá Red-Buff sherds, in some number, suggests a substantial Phase IV occupation. At both these sites, Cortezo Red-Buff Ware is conspicuous by its absence, while Guáxico sherds are common. NA-I2 and NA-I8 are probably cemeteries of Phase V age. NA-27 and 28, located
quite near each other on the Río El Caño, have both been stripped to the
bare clay at about twenty-five centimetres. They were probably occupied
heavily only in Phase V, though Escotá Red-Buff sherds are present at both
sites and Girón Banded Lip at the former, indicating an earlier occupation,
and Cortezo Red-Buff and Olá Ware sherds at the latter.

PN-I, half-way up the slopes of Cerro Zuela, seems to be of exclusively
Phase IV age. The Aristide is the only Polychrome Group represented, both
in the author's and in McGimsey's 1955 samples. Guácimo Red-on-White-Slip
and Conte Red drooping-lip plates indicate a Phase IV,B occupation. Escotá
Crosshatched and Escotá Black-on-Red are absent, but the Girón Type, Cross-
hatched Variety is present, as are Girón and Escotá Red-Buff bowls with
downward-pointing lips, or lips that are modified on the exterior and the
interior, and Girón designs painted on red grounds, suggesting occupation
in the earlier half of the Phase also. The samples from NA-22 and NA-23
include Girón Banded Lip, Crosshatched sherds, and that from the former
site Escotá Red-Buff and Girón bowls with the inward-and-outward lip, down-
ward-pointing lips and designs on red, indicating occupation throughout Phase
IV. NA-23 also has two Corotú Polychrome sherds, Talingo Black-on-Red,
Conte, Macaracas and Mendoza Polychromes, and it should be a very useful site
to excavate. It would probably fill in some of the gaps missing at PN-II
(which is only a kilometre or so away). Escotá Black-on-Red sherds occurred at
the El Cocuyo site just across the Río Cocobó in Veraguas (see Map I)

A summary of the relative ages of all sites in western Coclé - both
evacuated and surface-collected - is contained in Table II2. It must be
emphasised that, even though every attempt was made at determining the complete
geographical extent of all sites, the ages were calculated in terms of the
available evidence and it is perfectly possible that renewed excavations in
the same areas will disprove the calculations. Further details of the collected
sites are contained in Chapter II.
CHAPTER 9.
The pattern of human settlement in the western Coclé Province of Panamá
Contemporary environment.

Climate and physiography:

The climate of the Republic of Panama is dominated by the Inter-
Tropical Front or Convergence Zone, whose seasonal movements control the
direction of the prevailing winds and hence the amount and intensity of
rainfall. During December through April, when the Front is effectively
south of the Isthmus, the easterly trade winds are displaced towards the
Equator and blow across the Republic from a direction a little east of
north. This results in a marked dry season along the Pacific littoral
and a lessening - though never cessation - of rainfall along the Caribbean
and in the Cordillera Central. In May, when the Front crosses the Isthmus
on its way north, the north-easterly system is broken and the prevailing
wind on the southern side backs to the south-west, bringing with it the
moist air of the Pacific Ocean. A wet period ensues until the following
December, with an occasional lull in late June and July, when the thermal
intensification of the North Atlantic anti-cyclone results in a temporary
downward shifting of the trades and a six-week period of drier weather,
the "veranillo de San Juan." (see Garbell, 1947, for a comprehensive
account of the dynamics of the Tropical Frontal System.)

The duration and intensity of the two seasons varies considerably
from year to year and from region to region. Much of Highland and
Caribbean Panamá, and also the eastern part of the Darien Province and
San Blas Comarca, are excessively wet for most of the year, while along
the Pacific littoral, drought conditions exist for a short period of time,
sometimes extending to as much as five months (December to May) in Coclé,
central Veraguas, and parts of western Chiriquí. The western half of the
Azuero Peninsula receives some rain for most of the dry season, and the narrow coastal strip around the Gulf of Montijo has an anomalously high rainfall at all times. The marked seasonal differences between the Caribbean and the Pacific slopes of the country are honoured in climatological classifications, the former being ascribed to the Afw' type (Tropischeklimate) and the latter to the Amw' type (Periodisch trokene Savannenklimate,) according to the Köppen classification. The western Azuero Peninsula is also typed Afw', while the higher areas of the Cordillera Central are typed Cwa' (Köppen, I923: 138-46; Vivo Escota, 1964: fig. 14.)

Throughout lower Central America, the wet and dry seasons are labelled "invierno" and "verano" respectively and the wetness of a locality is gauged by the amount of "verano" it receives: a man from Aguadulce, for example, will say of Toabré, a settlement on the Caribbean slopes of the Cordillera, - "allí casi no hay verano." This conservatism of the weather vernacular and the generalisations of the great classificatory systems tend to delude the field worker into believing that the wet and dry seasons are constant and clearly defined. Even in the more arid areas of the Pacific coast, this is simply not so, and amounts of precipitation will vary enormously literally from mile to mile, creating a number of microclimates and microenvironments, the appreciation of which is important to our understanding of the human settlement of the region.

In western Coclé, the primary influence upon the local weather is physiography, more precisely the high peaks of eastern Veraguas, the El Valle volcano, and the mountains of the central Azuero Peninsula. Local differences in precipitation are epitomised by the following figures from the recording stations of the Irrigation Project:

Río Chico, Los Limpios
(west of Ola, in the foothills:) 2960 mms. mean annual precipitation
Río Grande, Fraile Dam Site
(north-west of LP-5:) 2940 mms.
Río Guzmán, Guzmán Dam Site
(in the same valley as LP-5:) 2100 mms.
Río Grande, Los Saldaños
(near NA-32/4:) 2540 mms.
Natá
(La Estrella Sugar Estate:) 1472 mms.


Natá - the largest Pre-Columbian settlement in the area at the time of the Conquest - is only 18 kms. due south of the Los Saldaños Dam Site, while the Guzmán Dam Site is only about 7 kms. south of the Fraile Dam Site. Thus we see that the narrow coastal plain (the "Llanos") receives about half the rainfall of the foothills, and the Valley of Guzmán, is the foothills itself, is noticeably drier than the higher land that surrounds it. Natá's lack of precipitation is due primarily to the protection afforded by the above-mentioned high land: as the October and November rains - traditionally the longest and heaviest - are frequently brought in by winds blowing from the Gulf of Montijo, the "Viento Chiricano," much of the moisture has already fallen on the high land of the Azuero Peninsula by the time the weather reaches Natá. Dry season precipitation - or lack of it - is also most constant in this corner of the province. During December through April, perturbations in the notherly trade wind system are sometimes caused by southward movements of cold polar air (Polar Outbreaks) which temporarily disrupt the trade system and create a local front as the cold and warm air meet. These disturbances reach the Canal Zone about three times a year and cause heavy rainfall along the Cordillera Central (Garbell, 1947: 113.) During the author's two field seasons on Coclé, dry season disturbances occurred in late January and early March, 1970, and late February, 1971. Rainfall over much of Coclé during the March, 1970 and the February, 1971, periods was extremely heavy but Natá was spared the worst of the precipitation, which was captured by the northern foothills.
The track of these dry season storms can be easily discerned from the Plains: one builds up over the El Valle Volcano and then moves southwards over Penonomé and Antón, before petering out over the Pacific Ocean; the other forms over the peak of El Castillo in eastern Veraguas, and passes over Santiago de Veraguas, and on down to the mountains of the Azuero Peninsula where it drops most of its load.

The implications of these dry season storms and the local variations in precipitation patterns are twofold: firstly, in only a small area of the Province does an intense rainless period occur; and secondly, even when this south-western corner has a lengthy spell without precipitation, rain falling in the headwaters of the rivers and streams provides an annually constant supply of water to the Plains and presents a serious danger of flash floods and the ruination of riverine crops. To the uninitiated traveller, the aridity of coastal Coclé at the end of "verano" appears obvious - witness the cracked red soils, erosion gullies, parched fodder and dried-up "ciénagas" and "quebradas" - but this aridity has certainly been exaggerated in recent years by human activities, particularly uncontrolled deforestation of hillslopes, cattle ranching and wastage of the soil by monoculture farming.

**Geology and surface configuration:**

Western Coclé forms part of the volcanic province of Central Panamá, and the predominant rocks are lavas, tuffs and ignimbrites, and their sedimentary derivatives. Lack of fossils prevents the dating of these rocks, but it is generally thought that they range from early Tertiary to Pleistocene in age. The survey area belongs to the western half of the major physiographic division which affects Coclé (the "Río Grande Region"), and is older than the eastern half, the "El Valle Region." This division follows approximately the course of the Río Coclé del Sur and meets the
sea just east of Cerro Zuela (see Map 1.) The Cordillera west of this line - rising to about 100 m. near El Copé - is characterised by scarp-and-dip relief, with long hog-back ridges separated by steep-sided valleys. Just to the north of the New Highway, the Cordillera grades into the foothills, which slope gradually towards the sea. The narrow coastal plain - the "Llanos" - is broken by several larger prominences of basalt, ignimbrites and scoria, the remnants of the ancient topography which has been partially buried by the recent alluvial deposits of the "Llanos."

In simplified terms, the rocks of the Cordillera are Miocene in age - mostly acid ignimbrites and lavas; Cerro Guacamaya, and the small hills in the Plains, Cerro Petaca, Cerro Gordo, Cerro Escoria and Cerro Zuela are of Pliocene age; and the area immediately east of the Rio Coclé, which barely concerns us, is composed of the El Valle Pleistocene Tuffaceous deposits which stretch right round the base of the Volcano to Chame and Bejuco in the Panamá Province. These tuffs were subjected to erosion and weathering after their deposition and later redeposited in river channels as sandy or gravelly beds, or in small lakes and ponds as non-laminated silty or clayey beds, often with a chalky texture. The white clays derived from tuffs were coveted for the manufacture of the Conte Polychromes, and also for the preparation of the white slip which is used for the slipping of pottery after Phase IV, A, all over the Province. In addition to clays for pottery, the volcanic geology provided a vast store of workable rock - ignimbrites, lavas and andesites - for the manufacture of ground-polished and flaked tools.

Owing to the nature of the geology, the drainage pattern is dendritic, and innumerable small streams flow down from the valleys of the Cordillera and the foothills to join the three major rivers - the Chico, Grande and Coclé del Sur - which flow together just to the west of Cerro Zuela and form a low-
lying area of mud and mangrove swamps. Not unsurprisingly, the aboriginal population of Coclé seems to have been concentrated along the banks of these rivers, which never dry up during the drought period. The rivers have laid down deposits of recent alluvium in between the older rocks. These deposits may be in part estuarine, as shallow water probably covered the "Llanos" in the early Holocene as high as the 60 ms. contour. Readily visible evidence for this is provided by the accumulations of rounded pebbles one finds at several localities over the surveyed area, as far inland as a small salt-pan - La Salineta - just south of Cerro Muela, near sites NA-28 and NA-29, which today provides the domestic salt for all the villages within a radius of about 15 kms. (Binnie and Partners and Hunting Technical Services Ltd., 1970: Vol III, App.B, Chapter 2.)

Soils:

The surveyed area consists of three different belts of base material of different ages: the first comprises the ejecta from the El Valle volcano and just appears on the eastern edge of the area; the second consists of redistributed material from this same ejecta (the "Older Alluvium;") and the third is a tract of "Recent Alluvium" which forms an extensive coastal belt, and was probably caused by tectonic or eustatic movements. The quality of the soils for agriculture is determined by the nature of the base material, and also by slope, the better drained - and hence more easily worked - soils occurring on the higher land, and the poorly drained soils dominating the depressions. Over most of the surveyed area, the younger soils, the black and the brown, predominate over the older, the red and the grey. Of relevance to an appreciation of ancient settlement pattern is the fact that the series which is considered the best soil today for agricultural systems which lack deep ploughing mechanical aids is the Natá Association Series, which is the major series west of the Rio Coclé.
East of the Coclé, the characteristic soil - the Penonomé Series - is considered to be suitable only for irrigation farming of rice and to have "severe limitations for other crops." The Penonomé soil is dominated by a very heavy grey clay pan and was probably extremely difficult to cultivate by digging-stick or other methods relying on rainfall irrigation, apart from being poor in nutrients. It is the author's opinion that this Penonomé soil belt, which stretches from Antón right into Panamá Province, formed a no-man's land between the dominions of Chirú and Natá at the time of the Badajoz incursions (Binnie and Partners and Hunting Technical Services Ltd., 1970: Vol.III, App.C.)

Vegetation:

The present-day vegetation of western Coclé has been very seriously affected by the activities of man. Exactly what part Pre-Columbian settlement had on the vegetation of the area will be considered more deeply later on in this chapter. The terms "climax", "edaphic climaxes" and other implications of the "pristine" vegetation cover have become so imbued with academic wranglings that they are probably best left aside in an archaeological report. The most recent appreciation of the vegetation of western Coclé is that of Bennett who divides Panamá into phytophysiognomic provinces, based on Beard's 1955 system, but mostly divorced from implications of "natural" climaxes. Bennett synthesises the western Coclé Province into three major units: a thin coastal strip of thorn bush and cactus caused primarily by climatic and edaphic factors though perhaps aided by burning; a more extensive area of "Grass with isolated stands of trees and (often) palms, with marked cultural disturbance; and "Galería Forest," a culturally induced phenomenon being simply uncleared forest remnants. The first belt he limits to a narrow strip running along the coast behind the mangroves; the third to the lower Santa María river; and the second to the remainder of the surveyed area
This is obviously a much simplified approach but acknowledges the uncertainty of the nature of human interference on the vegetation.

To be more specific, there are very few woodland remnants left in western Coclé at the present time. Some of the isolated hills — Cerro Zuela, Cerro San Cristóbal, Cerro Guacamaya etc. — are still covered with a dense thorny scrub (Acacia, Bactris etc.), and parts of the lower valleys of the Grande and the Santa María still preserve the "Galería Forest" cited by Bennett (Anacardium excelsum, Ficus, etc.), but the rest of the terrain, right up to the elevations of El Copé at over 1000 ms., is dominated by grassy plains and scrub trees which are dependant upon soil conditions, regularity of fire and other factors for their dominance—Byrsonima, Curatella, Guazuma, Acacia, Sapindus etc. In the lower valleys of the rivers which have been cleared of forest, especially those subjected to inundations during the wet season, taller and more impressive trees are frequent — Enterolobium, Pithecolobium, Erythrina, Bombax etc., — and provide an aspect of true savannah or parkland. The recent deforestation has progressed at a frightening rate: informants old enough to remember the Colombian civil war of the turn of the century recall deep forests covering large tracts east of Aguadulce and monkeys were found until relatively recently along the lower Santa María river. Introduced cultigens added to the flora since the Conquest — Mango, Coconut, European citrus fruits, bananas and sugar cane — have helped to change the vegetational composition of Pre-Spanish times.

Fauna:

The faunal composition of western Coclé has obviously been affected by the removal of forest cover and the increase in grassy and thorny tracts, which has caused the elimination of some forest animals and the multiplication
of species adapted to cleared conditions. The part played by the Pre-
Columbian population in the dispersal of mammals is discussed more fully
a few pages further on. Of the list given by Bennett (1968: Table 2)
for the mammals known to occur between 80 and 81 degrees west in Panamá,
a rather paltry number can be encountered commonly today in the region.
Saguinus, Tapirus and Mazama have probably always been absent from the
region - at least since the post-Pleistocene period (Bennett, 1968: 79,)
Monkeys and the Felidae, with the possible exception of the jaguarundi,
have been totally eliminated. Ortega - one of the workers of the 1971
season - says that Cebus is still taken around Ponuga, and Bennett records
that this genus, and also Alouatta, were common in the lower Santa María
valley forty years ago and persisted until ten years ago (op.cit.: 85-86.)
The White-tailed Deer (Odocoileus,) was probably the staple mammalian
food source for the Pre-Columbian population, but has dwindled startlingly
over the last decade. Peccary are apparently limited to the dense scrub
of Cerro Zuela and the foothills north-west of Natá, around Olá. In fact,
of Bennett's list, the only animals seen (dead or alive) by the author
during 1969-1971 were Didelphis (common;) Tamandua; Dasypus (common;)
Sciurus; large rodents; Dasypodt; Procyon (common in the mangroves;)
Lutra (quite common;) Odocoileus. Iguana - obviously a staple food at
all times - has also nearly vanished, though a few smaller individuals are
pursued by a barrage of utensils whenever they are seen. Another important
reptilian source of food - the sea turtle - has become extremely rare.

Avian distribution has likewise been affected by deforestation and
shooting, and large Cracids (Crax, Penelope and Ortalis) have probably
either been completely eradicated or will soon suffer that fate. Dendrocygna
- one species of which, viduata, was found in the midden at AG-3 (Phase IV)
- has virtually disappeared from Panamá (Eisenmann and Loftin, 5). On the
credit side, the increase in short grass and the booming cattle industry have added certain species to the avian list for Coclé. *Elanus caeruleus*, the White-tailed Kite, has moved across Pacific Panamá from Costa Rica in the past four years or so in response to the clearing of tree cover which prevents it from hovering for its prey, and is now perhaps breeding (Cooke, n.d.); the Cattle Egret (*Bubulcus ibis*), absent from the American continent until about forty years ago, has become one of the commonest birds. The great flocks of migratory ducks—which no doubt bolstered the Pre-Columbian diet—no longer materialise. Most of the above additions and subtractions are probably the direct result of the fire arm more than anything, and the effect of Pre-Columbian man on the avian fauna was undoubtedly less than that on the mammals. However, it must be borne in mind that a number of species occur in western Coclé which are especially adapted to a dry, grassland environment, and have rather disjointed distributions in Tropical America: *Heterospizias meridionalis*; *Herpetotheres cachinnans*; *Falco femoralis*; *Colinus cristatus*; *Anthus lutescens*; *Leistes militaris*; *Sturnella magna*.

Fish are abundant in the offshore, estuarine and riverine waters of Coclé and have not suffered human deprivations in the same way of the mammals or birds. Large, nutritious fish such as catfish, gars, mullet, small sawfish and sharks, are regularly caught by riverside people today. A Colombian living along the Río Tzaratí, above Penonomé, in the foothills, can still acquire, and virtually gain all his protein from, fish caught with a bow and arrow. Shellfish are common, but are apparently beginning to diminish in size. Along the coast there are several niches which attract a wide variety of species—rocks, mangroves, mud, sandpits etc. It is not surprising that fish and shellfish were probably the staples of the Pre-Columbian diet.
The nature of the prehistoric occupation of western Coclé

Phase I (about 5000 B.C.)

The only site we can assign to a pre-ceramic community is Cerro Mangote (AG-1,) which has been dated by radio-carbon to 4853±100 B.C. There is little reason to doubt the assertion by several geologists that the low-lying areas of the Bahía de Parita were inundated for an unspecified length of time during the post-Pleistocene and that Cerro Mangote was closer to the sea than it is now, perhaps an island in a shallow lagoon. Whether the rise in the sea level was due to uplifting of the land (MacDonald, 1943: 57), subsidence (Wolley and McGimsey, 1954: 29, per Thompson,) or marine transgression (Binnie and Partners, 1970: Vol. 111, App. 11113,) is still a matter for debate. Stewart has recently provided a very interesting account of the rate of the post-Pleistocene rise in the sea level of the Bay of Panamá, based on a series of radio-carbon dates acquired from muck dredged from cores drilled at the seaward end of the Panamá Canal, and suggests that the sea had reached its present-day level by about 2000 years B.P. (1968:71.) This would favour either uplifting (Vinton, 1959) or silting of the lagoon (Willey and Mc.Gimsey, 1954:30) as the most likely causes for the stabilisation of the present-day land levels of the Coclé Plains.

We do not know how many people occupied Cerro Mangote during its lifetime as a settlement. Sixty-seven individual skeletons were found buried at the site, but, unfortunately, the unequivocal association of the burials with the underlying midden deposit cannot be proven. Whatever the depth and closeness of the surrounding water to the site, the hill must have been ideally suited for habitation by a sedentary group making sorties into the lagoon to gather shellfish, and catch game and fish. Mc.Gimsey remarks that the northward orientation of the site would ensure coolness during the
The shellfish – *Ostrea* spp., *Prothaca grata*, *Scapharca tuberculosa*, and a crab, *Menippe frontalis* – are still utilised as food today and are easily obtainable from their respective niches along the coast. There is some evidence for the exclusive selection of certain species at different points in the midden, but this probably represents the vagaries of availability or the predilections of an individual collector. Deer were commonly taken – representing over 40% of the total bone sample – and fishing was a major occupation. The high percentage of bird bones in the sample is interesting, considering the fragility of the avian skeleton. None of the artifacts recovered gives any clues as to the hunting methods employed to take these animals.

The very large stone tool assemblage is simple and consists of chopping, grinding and pounding tools, grinding tables, and stone bowls. Though the excavator suggests that one of the tools – the pebble chopper-grinder – may have been a specialised tool of a shellfish-eating group, the presence of one hand manos and grinding tables implies a reliance on some form of plant food which had a tough skin or shell or could be dried and then pounded to make meal. There is no evidence for agriculture and the plant foods were presumably gathered in a wild state. Very few tools or other artifacts in material other than stone were recovered, and the excavator attributes this lack to cultural choice rather than any accident of preservation. AG-3 – which also had a very large quantity of unworked bone – was sparse in worked bone, which suggests that wood was the preferred non-lithic material for fashioning tools. Some deer antlers at Cerro Mangote show signs of polishing and the excavator suggests these might have been used for working leather (McGimsey, Collins and McKern, 1966: 6 & 21.)

The very high percentage of deer bones in the sample is very interesting as it implies that the surrounding countryside was fairly open by 5000 B.C.
Phase II (about 1000 B.C.)

The only evidence of an occupation in western Coclé on a time level between Cerro Mangote and the period of the "Scarified" ware of Guacamayo is provided by a very small and shallow shell mound on the "alvina" near Aguadulce. Sherds found at the site are similar to the Sariguá Complex which has been assigned a dubious date of 1000 B.C. Willey and McGimsey suggest that the Sariguá site was occupied under similar geological conditions to the Monagrillo site - as a island in a shallow lagoon, before the formation of offshore bars which would have left the site dry (1954: 106.) All seven sites at which the Sariguá Complex is found in Herrera are topographically comparable. Co-24 is similarly situated on an island in the "alvina", and the small size of the midden complies well with the picture farther south - of isolated shellfishing stations used by small parties. Sariguá-like sherds were apparently found at the bottom-most cultural level of the AG-2 site: an interesting location, as AG-2 is at the foot of Cerro Mangote and might well have been right on the edge of the "lagoon" in Sariguá times.

Phase III (c.300 B.C. to c.200 A.D.)

That western Coclé was inhabited during phase III is suggested by the location of several shaft-and-chamber tombs on top of Cerro Guacamayo with funerary offerings consisting of "Scarified" ware goblets. However, the date which has been assigned to these graves (c.300 B.C.) should not be adhered to, and it is possible that the "Scarified" ware will be more accurately isolated chronologically at a further date - probably towards 200 A.D., to judge from evidence from Tonosí. The graves which contain the goblets are very deep - between six and eight feet on top of Guacamayo and eight feet at El Limón - and the diameters of the shafts are extremely narrow, only two or three feet across. It is difficult to envisage an
adult person's descending a shaft of these dimensions, and Neville Harte records that a very small hand-print was impressed upon the wall of one of the Guacamayo grave-chambers. About half way down the shaft, large piles of boulders are encountered, acting as doors to the side-chambers, which are circular, or rounded or elongated ovaloid in cross-section. The doorways leading from the shafts into the chambers are also very narrow - sometimes as little as eighteen inches across - and corroborate the child-labour hypothesis. Harte suggests that small but frequent flecks of carbon found in the shafts are remnants of the wooden torches used to light the way down. The chamber floors are well prepared and covered with a layer of fine dust and carbon. Some of the skeletons were apparently found intact, but no indication is given of their positioning. Some burials were laid onto large stone slabs. Grave offerings in both burial grounds are limited to a couple of pots. The area into which the Guacamayo graves had been sunk was apparently prepared especially for use as a burial ground; Harte records having seen a stone corral about 250 feet in diameter surrounded by a stone wall, which might be man-made, a bush-covered mound, and a triangle of three stone piles enclosing three stone columns, 26 inches long and 6 inches wide (Harte, E, 1958; Harte, N., 1966; Stirling, 1964,a).

Somewhere, some time, the living deposits of these mysterious "Scarified" people will be excavated in western Coclé. A vase from AG-2, which is very similar to the tall goblets from the above sites, was purchased by Willey and McGimsey (Ladd, I964: fig. 65,a), and similar material is beginning to turn up at widely spaced localities in Panamá - eastern Chiriquí, the Valley of Tonosí and Taboguilla. The ubiquity of this ceramic tradition implies a well dispersed population across the Isthmus, but the only concrete statement we can make about their way of life is that they chose to construct, at considerable toil, large graveyards on the tops of remote hills.
Phase IV (200-500 A.D.)

With the approach of Phase IV - whose time limits given above might be too compressed - we begin to acquire a more complete picture of the way of life of the prehistoric Coclesanos. Deposits belonging exclusively to this phase have been excavated at AG-2 and AG-3 along the Coclé bank of the lower Santa María, and at PN-11, on an old channel of the Río Grande. The lowest living refuse at PN-5 (Sitio Conte,) about 4 kms. south of PN-5 can also be attributed to this Phase. Sherds of the Girón and Escotá Types - which might extend slightly beyond the limits of the Phase - have been found at twenty-three located sites in the surveyed area, along the Santa María, Chico, El Caño and Grande rivers, the most northern occurrence being at LP-1. Escotá sherds were also found eroding from an elevated location near El Cocuyo, just over the Río Cocobó from Coclé (see Map 1.) This distribution of the Phase IV pottery Types implies that the area was well inhabited at this time, and that settlements were scattered over the major river valleys in the "Llanos" and probably also in the foothills.

It is impossible to make guesses about the size of population of the villages at the four major sites - AG-2, AG-3, PN-5, and PN-11 - as the small-pit-and-trench system of excavation reveals virtually no data on domestic structures, differential density of refuse over the site and other indications of settlement pattern. The Phase IV refuse concentrations excavated at all these sites are compact and rich in ceramics. We can, however, make some dietary calculations.

The analysis of the kitchen refuse from AG-3 has already been recorded in Chapter 7. From this we can deduce that the villagers utilised a wide variety of animal resources. The species and wider categories which have been definitely identified for Phase IV from AG-3 are: armadillo, jaguarundi, White-tailed Deer, Man, coati, rodents, parakeet, tree-duck and other birds.
of varying sizes, small lizards and iguanas, turtles, frogs and toads, catfish, snooks, weakfish, puffer-fish, various river fish and a variety of shellfish: ark-shells, mangrove snails, oysters andstrombs. Maize was also cultivated, to judge from some small charred kernels and the large number of ground-stone tool fragments (metates and manos) recovered.

As stated in the introduction to Chapter VII, it would be futile to attempt a sophisticated quantitative analysis of the food sources from a sample which has not been completely identified, and it would be equally futile to state that the villagers of AG-3 spent more time hunting and fishing and gathering shellfish than cultivating maize, simply because very few remnants of plant material were found. Both occupations were no doubt equally important. Agriculture was practised in Panamá at least by 2000 B.C.: cultivated maize pollen was present in the muck cores from the Canal Zone by at least 4,200 B.P., concomitantly with a rise in the pollen percentages of weeds and an increase in the amounts of wood carbon (Stewart, 1968: 72).

Deer were obviously caught regularly, both juveniles and adults, and brought back either whole or disarticulated to the site to be distributed. No obvious parts of the anatomy are rare or missing from the sample. Nothing is yet known about the breeding cycle of the species in Pacific Panamá; it is possible that the young are born all the year round (Tyson, personal information). Some of the males were caught with full antlers. The meat was sometimes scraped off with a sharp instrument, probably one of the rectangular blades in Plate 41, a-e. The predominance of proximal and distal ends of the long bones over shafts and whole bones indicates that the bones were crushed for marrow or kept to make tools. Whether the deer were trapped, or speared, or driven, is a matter for speculation.
author does not believe that any of the stone implements in the entire pule from western Coclé is a projectile point, but wood was certainly nd for offensive weapons in immediately pre-Conquest times and no doubt rovided the inhabitants with deer-slaying tools.

Smaller mammals were also taken, adult and young, and the villagers ad no compunctions about eating rice- or vesper-rats. These would surely ave been common around the village and would have presented few problems f hunting strategy.

Iguanas are quite easily caught and the presence of large, metre-long xamples in the kitchen is no surprise. They can be caught while gravid n the sandy beaches, or tumbled from trees. The "borreguero" (Ameiva) izard may have lived in the walls of the houses and there is no reason by its meat should not have been popular; the author sampled one recently n Colombia and found it very good eating. Hunters thwarted by temporary r more long-term lulls in available large game would augment the meat upply with the odd bird and frogs and toads. The presence of a tree-uuck suggests that some sort of water-trap was used, as these birds are ily and would be difficult to catch with throwing weapons. The parakeet ght have been kept as a pet and later eaten. Europeans - or at least he non-Gallic brand - have imposed a culinary embargo on frogs, but several species are eminently edible and their abundance in the kitchen is no surprise. Examples of all sizes and many species were taken, probably with very little trouble. Children are adept at acquiring these smaller items of the diet.

Fishing and the collection of turtles were major occupations, and ish were probably the major component of the animal diet. A more complete picture of the range of hunting methods used and the different niches utilised will appear when a better comparative skeletal sample is obtained, but here is no doubt that the villagers were expert fishermen and connoisseurs of
sine habits and habitats. Catfish were the most frequently caught group.

It is interesting that most of the "cats" already identified are marine Ariids, with the river cats, Loricariids are absent and Pimelodids rare. The Loricariids are very sluggish and can be caught with the minimum of effort, by simply grabbing or clubbing sunbathers around the edges of the mangroves. The Loricariids are extremely bony and unpleasant to eat, and their absence from the sample might be indicative of intentional selection. Puffers are also sluggish and can be caught without undue exertion.

The presence of snook and Sciaenid bones from large individuals - some at least a metre long - indicates that far more sophisticated techniques were also used. Snook come a long way up the rivers of Coclé and are considered a sporting fish by aficionados who catch them with spinners. I could think that they are difficult to catch with a primitive hook - shell or thorn - and they may have been harpooned or shot with arrows at narrower, hallower points of the river. An accurate harpoonist ought to be able to catch snook in this way below PN-5, when the river gets low, but the Santa María is much deeper and ferocious at all seasons than the Grande. Perhaps a weir or stone trap was used. The Sciaenids - weakfish or corvinas - are delicious eating, and do not, to my knowledge, come into the rivers. Some very large bones are in the sample, which suggests that the villagers took to the open sea to catch these fish.

The gamut of tiny fish - most of which are probably Astyanax, the infuriatingly persistent devourer of ticks on human legs - were surely trapped with nets or cane traps. Large numbers must have been caught and brought back to the home at one fell swoop, as digging through the mess we

Though the Cuna eat Loricariids by roasting them whole (Loftin, personal information).
across large concentrations of very tiny fish bones compacted together.

Shellfish and crabs were also taken. Total amounts at AG-3 were small; AG-2, a little further downstream, is a veritable shell pile and its inhabitants must have exploited fully their closeness to the major supplies long the coast. McGimsey's excavations indicate that the different species were popular at different points in the site's history (oysters and bivalves seem to fluctuate with reciprocal popularity). This perhaps relates to the availability of certain species from season to season or to the predilections of an individual collector: at AG-3, a cache of sixty-nine Pitara (small clam) shells was found clustered in a small area and quite likely represents a bag-full of shells gathered by a single search party. The relative paucity of shells at AG-3 should not be considered too significant as one of Sierra's workers told me he had seen a large shell pile in the disturbed area of the site some years back, which has since been eradicated by agricultural activity.

The specific composition at both AG-2 and AG-3 is similar and comprises species from different environmental niches. Coclesanos today are well aware of these niches as, no doubt, were the Phase IV villagers. The collection of shellfish would certainly have presented no problems and they are a very logical component of the diet.

Ceramic technology had reached a fairly sophisticated stage by the beginning of Phase IV. Pottery decorated by plastic means alone - such as the "Scarified" wares and types similar to Ichon's Búcaro Phase pottery - was being replaced gradually by other styles incorporating black painted designs on red or buff grounds, and by the middle of the Phase, about 350 A.D., had almost completely disappeared. The use of a white slip appears slowly during the Phase, first as a rather thin, greenish wash, later becoming a thicker, purer white on the Guácimo Red-on-White-Slip ware. The volcanically derived clays which provided the white slip are common in western Coclé, but I know of no quarries in the immediate vicinity of AG-3.

By the end of the Phase, white had become the dominant colour in pottery-
king, with the appearance of true polychrome painting - utilising 
presentational, colour-filled designs - on the Corotú Polychrome.

A variety of shapes of the Aristide Group includes vessels which 
were obviously used for cooking and storage, eating and drinking, and 
the aptitude of the large Escotá flare-collared vessels for cooking on 
an open fire has already been mentioned. Most of the pottery of the 
Phase, both polychrome and red-buff, is badly made, but better examples 
would no doubt be found were graves of the same age to be located. Into 
the larger pots went the components of the day's meal. The position of 
the bone refuse amidst the sherds at AG-3 suggests that nearly everything was 
thrown in at once. This unsophisticated idea of cooking is that generally 
adopted by groups with mixed economies. Young (1968) reports that the 
Juaymí of Chiriquí will take animals of all sizes, down to humming-birds, 
and there are excellent Colonial accounts of the lack of discrimination 
of the Texcocans when it came to the preparation of food:

"No cría ningún género de pescado, si no es a las bocas de los ríos, 
el agua de los que en ella entran, y esto es poco y pequeño y ruin. Tampoco 
cría ningún género de aves, porque los géneros de patos y ánareas y otras aves 
de agua que en ella hay, vienen, según dicen, de la Florida, y no duran más de 
quinto dura el invierno; pero con toda su maldad, todavía sacan de ella 
los indios sus vecinos muchos y muy ordinarios provechos. Lo primero es la 
mucha caza de aves que toman con redes, y el pescadillo que cogen, de que se 
mantienen todo el año, y un género de comida que llaman "tecuitlatl", que se 
 hacen de unas lamas verdes que cría, de cuales hechos tortas y cocido, queda con 
in color verde y oscuro, que llaman los españoles queso de la tierra. Créa 
un género de comida que se llama "ezauhitli", que hacen de unos gusanillos 
comomíembrices, tan delgados y cuajados por su multitud y espesura, que apenas 
se puede juzgar si es caza viva o no. Y otra que llaman "ahuauhtli", que 
también comen ya los españoles los viernes, y que son unos huevecillos de unas 
mosquillas que se crían en ella; y otra que se llama "michpitlin" y "cocolin"; 
la que obtenemos todas las personas que viven en ella, y no son más de 
lo que pueden comer los sectores pálidos. Y otra que se llama "michpitlin" y "cocolin"; 
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lo que pueden comer los sectores pálidos. Y otra que se llama "michpitlin" y "cocolin"; 
lo que obtenemos todas las personas que viven en ella, y no son más de 
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lo que pueden comer los sectores pálidos. Y otra que se llama "michpitlin" y "cocolin"; 
lo que obtenemos todas las personas que viven en ella, y no son más de 
lo que pueden comer los sectores pálidos. Y otra que se llama "michpitlin" y "cocolin"; 
lo que obtenemos todas las personas que viven en ella, y no son más de 
lo que pueden comer los sectores pálidos. Y otra que se llama "michpitlin" y "cocolin"; 
lo que obtenerm todos los españoles los viernes, y que son unos huevecillos de unas 
mosquillas que se crían en ella; y otra que se llama "michpitlin" y "cocolin"; 
una que las mas de estas no comían ni al presente comen personas principales, 
sino pobres y gente miserable (Pomar, 1941: 54-55).

Whether the inhabitants of AG-3 ate food like worms and moth eggs cannot be said 
from the record we have, but the above account of early post-Conquest Texcoco 
certainly shows that the locals - however "poor and miserable" - were adept at 
exploiting the exigent environment for their survival. Neither do we know what
degree of stratification existed in Coclé during Phase IV, and there is nothing to show whether AG-3 is a "poor", "rich" or "normal" settlement. The presence of seemingly futile or unpalatable elements in the diet need not necessarily indicate that the inhabitants of AG-3 had a hard time surviving; large, nutritious animals were taken from time to time, and the reliance on smaller items suggests an appreciation of every niche and possibility, which is vital to the maintenance of a balanced diet. Europeans brought up on a tradition of husbandry and domestication have learnt to be overly selective in their eating habits.

Apart from the ceramics, we know little of the artistic life of the Phase IV people. A circular sericite bead from the bottom-most levels of AG-3 (Plate 36,h), shows that ornamental stone-working was practised and that the workability of the material, which is not common in Panamá, was appreciated. Polished stone is surprisingly scant and does not yet seem to have attained its apogee. No metal has been recovered from the Phase, but "tumbaga" jewellery is found at Tonosí in the El Indio Phase (c. 400 A.D.) (Ichon, personal information), and knowledge of casting in gold had certainly arrived in Coclé by Phase IV times. The "tumbaga" chisels from Burial 18 at PN-I7 (Dade, I960: fig. 19, A) should date from the tail end of the Phase. Bone was used for the fashioning of tools and, probably, ornaments, and garments were presumably sewn together with a needle such as that in Plate 36, k. Deer metapodials were sometimes perforated through the hinge-joint and maybe used as fasteners or weapon points.

The only evidence we have for funerary customs during the Phase is a flexed burial, on its side, found by McGimsey at AG-2, which is almost certainly from a Phase IV context. It was, unfortunately, not accompanied by grave goods. It is perfectly possible that some of the burials at AG-I (Cerro Mangote) belong to this Phase.
In summary we can envisage a Phase IV settlement pattern of scattered villages, situated along the major rivers, from the coast to the foothills, partly agricultural - cultivating maize at least - and partly hunter-gatherer, though the relative importance of either occupation cannot be determined. The immediately pre-Colonial Coclesanos were avid hunters and there is no reason to doubt that agriculture and more peripatetic food collection were not perfectly complementary in Phase IV times. An advanced hunting and fishing technology is implied by the specific variety and differing environmental preferences of the animals caught. Pollen samples from the Phase IV levels have not been analysed, but we can supposed a fairly open environment, to judge from the high percentages of deer remains.

**Phase V (500-800 A.D.)**

About twenty sites with deposits dating from Phase V have been definitely located in western Coclé, in the lower valleys of the Santa María, Chico, El Caño Grande and Coclé rivers. Conte Polychrome vessels have been looted from a cemetery in the Valley of Guzmán, there are rumours of rich cemeteries of this date in the region of Huacas del Quije in the upper Chico Valley, north-west of Ola, and Stirling has reported ceramics with purple paint from the Río Indio, at El Uracillo, on the Caribbean side, so we ought to bear in mind the possibility of a culturally similar population on both coasts, and in the Cordillera during this Phase (Stirling, 1953:284-5.)

The excavations of Lothrop and Mason have revealed so much data on the artistic life and burial customs of the Coclesanos of Phase V that any comments included herein must be in the nature of a summary. The only additional information provided by this study on Phases V and VI is ecological, and very generalised at that. There is no doubt that the Phase V inhabitants were experts in the ceramic and metallurgical arts, and accomplished carvers
of bone. Phase V heralds the dominance of a pure white slip and colour-filling of designs in pottery making. The naturalistic and ingenuous animals of the transitional Corotú Polychrome have now become stylised and one can assume the iconographic standardisation of a well-defined zoomorphic mythology. It does not require much imagination to recognise a predominantly marine influence in the iconography, which is hardly surprising, considering the width of the Isthmus. Animals most frequently depicted are: crabs, turtles, pelicans and frigate-birds, alligators, sea-scorpions ("alacranes de mar"), snakes and bats. In some cases, a crasis of the original specific attributes of the animals is apparent, resulting in such fantastic beasts as a crocodile - with-feathers and a crocodile-with-antlers. Some animals are anthropomorphised, the turtle, for example. Once the fantastic mythology had evolved it probably remained fairly static, with certain beasts adopting significant postures: frigate-birds looking straight back, hunch-backed pelicans, and standing or squatting, frontally depicted, grinning turtles. Ceramic modelling in the round first appears during this Phase - if we discount the Girón Banded Lip appendages which are presumably "tails" or "wings" - and a variety of animals is thus represented, Felids, humans, armadillos, rays, turtles etc. A new technological advance is suggested in the appearance of the first "Smoked" Wares, though some plastically decorated Escozá Red-Buff sherds may have been intentionally clouded on one side.

No metal was found during the author's field seasons, and the only metal objects to have been reported since Lothrop's and Mason's sojourns are two "tumbaga" frogs from a grave at NA-20, which contained "Early Coclé" pottery (Doyle, 1960,) and three "tumbaga" chisels from Burial 18 (Transition IV/V) at PN-17. (Dade, 1960:fig. 19,a) Gold-working was almost certainly generally practised in Coclé before Root's estimate of 700 A.D. (Root, 1964:255.)
spite of a recent article by McGimsey (1968), a dichotomisation of gold styles in Panamá can surely not be possible until a well provenienced, well sequenced sample from all over the Isthmus has been acquired; until then, it seems that cross-dated pieces such as Stromsvik's "Veraguas" figurine found beneath a stela dated to 730 A.D. at Copán, Honduras, *Pendergast's "Coclé-style" bead from an Early Classic context at Altun Ha, Belize, and Lothrop's figurines from the Cenote at Chichen-Itzá, are of limited value, as nobody has worked out exactly what defines a "Veraguas" or a "Coclé" style piece of goldwork, nor to what extent the "styles" evolved through time in each region. It is difficult to conceive, bearing in mind that the iconography of polychromes evolved considerably over 1500 years, that goldwork did not develop at a similar pace and was not governed by doubtful isolative factors. To label the above objects "Panamanian" is about as far as you can go (Stromsvik, 1942: 71 and figs. 13, b & c; Pendergast, 1969: II7-II8; Lothrop, 1942: 198-199 and fig. 395, a, c & f).

Gold artifacts were recovered from twenty-two of Lothrop's graves at PN-5 and from some excavated by Mason. There are several good summaries and comparative works on "Coclé" and Panamanian gold in print, and the author is neither qualified nor able to make additional statements on the provenience of ores or details of technology. The variety and complexity of manufacturing techniques, and the great range of objects fashioned from the material, are testimony both to the expertise of the jewellers of Phases V and VI and to the cultural importance of gold, which was no doubt limited to the embellishment of important individuals and to funerary practices. Technical variations comprise: "Cire perdue" casting in the round, filigree work, joining by soldering, welding and clinching, hammering, annealing, embossing, engraving and gilding. Gilding was achieved by the interesting "mise en couleur" process, whereby an alloy heavy in copper and

*Thompson (1965: 347) doubts the association of the figurine with the stela. The stela, he believes, dates to 730 A.D. but was dedicated some time later; the cache is at least in part intrusive and found with the figurine were some brass bullet casings. Elsewhere at the site, the Chorti Maya had buried some modern artifacts as an offering, including a metal lion.
light in gold is treated with oxalic acid - probably a herbaceous concoction - so that the superficial copper is dissolved out & the gold comes to the surface. Complicated techniques such as the last suggest either that the goldworker's craft had had a long history of development in western Coclé by Phase V or had been introduced from outside areas in a fully developed stage. Gold was also inlaid into other substances such as resin, wood and ivory, and sometimes set with precious and semi-precious stones (Lothrop 1942, 66-87; Mason, 1940.) Artifacts fashioned from gold vary from symbolical armoury and personal jewellery to more functional objects, such as mirrors. The sight of a Coclesano fully adorned must have been very impressive (supposing, of course, that all these objects were actually worn). Nose-clips and rings and ear-spools and rods indicate that these protrusions were frequently adorned, and the ears were presumably pierced. In this context, though the relative date is too late, it is interesting to compare the little human effigy on the Smoked Ware appliqué vessel in fig. 134, e, who sports an ear-spool. The iconography of the gold objects compares with that of the ceramics, though the metallic medium limits the precision of depiction. (Compare 1937, fig. 84 and 1942, fig. 94; 1937, fig. 85 and 1942, fig. 148; 1937, fig. 90 and 1942, fig. 138.) Some of these objects were found in late graves - 5 and 26 - and are transitional V/VI or VI in date.

Reference has already been made in Chapter 7 to the various bone objects found with the burials. The following animals were utilised to provide the raw supplies of bone and ivory: Sperm Whale, manatee, peccary, jaguar, deer, dog, sawfish and shark and bird. The material from the whale was probably obtained from stranded examples, and manatee bone was certainly acquired from the Atlantic as there have been no manatee on the Pacific at least in recent times (see Chapter 7.) Peccary and dog teeth were commonly used for necklaces at PN-5, an interesting fact, as Tayassu and Canis bones
were absent from the identifiable bone sample at AG-3. This probably means simply that dogs were not eaten, and that peccary happened not to have been caught at the moment of the deposition of the refuse at AG-3, or are present at other points of the site. If peccary were around in Phase V, I cannot conceive they were absent in Phase IV. The peccary requires a considerable amount of cover, which must have been present, and it just manages to survive near PN-5 today. Ichon finds dog-teeth bones at Tonosí which are of the long-faced and short-faced category, comparable in size to Anglo-Saxon greyhound-like and terrier-like dogs (Clutton-Brock, personal information; and dog teeth and bones are very common in burials at Venado Beach, Examples illustrated by Lothrop from PN-5 (1937:fig.129 a-f) are seemingly of the two size-ranges. The most interesting individual association between graves and bone objects is that between Grave 32 and the carvings on vertebrae illustrated in 1937: figs. 192-4. Apparently these carvings occurred only in Grave 32, which I consider to be one of the earliest at the site. The vertebrae are surely too small for deer—are they whale? Whether these carvings are indicative of archaeological age or of the predilections of the individual with whom they were buried, is open to thought, but an interesting iconographic correlation is between the parrots in 1937: fig. 193 and those of polychrome vessels (1942: fig.226,b&c,) which occurred in Grave 31, which is probably more or less coeval. Such naturalistic psitticacid . birds are not represented on fully developed Conte Polychromes, An interesting cultural inference on an object of bone is the little human head in 1937: fig.195,a, which has a lump of something protruding from his cheek, which Lothrop suggests might be coca. Columbus saw the Indians of northern Veraguas chewing some substance which was either tobacco mixed with lime, or coca (1732: 591.)

Polished stone becomes commoner in Phase V than Phase IV and several
Examples were found in the graves at PN-5. The material used at the site is described by Lothrop as hornstone. The commonest celt shapes for Phase seem to have been those in Plates 37, a-e and 38,g and the variety in weight and shape indicates a number of different functions: cutting, gouging, planing, adzing etc. (Lothrop, 1937: figs. 53-57). The presence of manos and metates in the graves suggests the cultivation of maize. Only one of the metates recovered had been carved (op.cit.: fig. 62,c). Lothrop mentions that, as ground stone tools were found in such small numbers in the graves, wood may have been the favoured material for maize-grinding and pounding utensils. However, quite a few fragments of manos and metates were found scattered throughout the deposit at AG-3 (Table 16) and their absence in graves is probably a cultural or practical preference. Other cutting tools were fashioned out of amorphous silica and none of the implements exhibits particular care in its making. Stone jewellery, however, reaches the same aesthetic heights as gold and bone in Phase V and a number of precious and semi-precious stones were employed - emeralds, serpentine, agate and sericite. Three emeralds were found at PN-5 and Lothrop believes they were transported to Cochlé from Ecuador (1937: 189-90). Because of the absence of Phase IV burials it would be wise not to advocate a sudden flowering of non-ceramic art forms in Phase V, though the stone objects recovered in Burial 18 at PN-17 are rather crudely fashioned (Dade, 1960: fig. I9,a).

A number of fabric impressions recovered at PN-5 vouch for the manufacture of bark cloth, cotton cloth, baskets and net bags. Bark cloth was frequently used to cover funerary offerings, and Grave 13 was divided into several layers, each separated by a bark cloth (Lothrop, 1937: II0 & 249). No traces of painted decoration were recovered. Bark cloth is widely used by the present-day Panamanian aborigines.* Cotton cloth at PN-5 is plain

*Indians today employ the bark of Inophloeum armatum and other species of the Moraceae (mulberries)- especially Ficus spp., which grow in large stands along the undisturbed river banks in lowland Cochlé (Standley, 1928: 258 & 270).
woven and somewhat similar to Guaymi cloth, but it is possible that some examples had the warp threads larger than the weft, or that several threads were spun into one to set up the warp; coarser fibres such as rushes might also have been wrapped around cotton. One large textile covering Grave 5 measured 279 by 252 cms. and probably formed a canopy, pendant from a framework; it was made in one piece. Lothrop suggests that a textile of this size would have been made only with difficulty on a two-bar loom. Some thinner cotton cloth with fine weave was also found.* Fragments of netting, feather-work, and plaited and coiled baskets were recovered from graves I and I6 (Phase V). Some of these garments and vessels must have been very elaborate, and sometimes adorned with the hammered and embossed gold plaques which have two holes, one on one edge and the other at the centre. (Lothrop suggests that these were sewn to shirts (1937: 108 and 115)).

Naturally, the excavations at PN-5 revealed a mass of information on burial modes. Lothrop attempted a basic categorisation into Large, Medium or Small graves. The Large graves held from three to over twenty bodies, and were dug deep, as much as 3.75 ms. below the ground, though the actual depth at the time of burial must, of course, have been considerably less in some instances. They were pit-shaped and rounded on the bottom, and the walls were usually orientated towards the cardinal points. The only intentional modification to the pits was a scattering of sand on the floor. Offerings were arranged in layers, after an initial pile of pottery had been scattered on the floor and covered with earth. (As a number of the vessels broken on the floors are Aristide Group Polychromes, I wonder whether these "pottery floors" are not, in fact, earlier (Phase IV) graves being encroached upon). Large graves had one or more stone slabs on the floor. The suggestion that these slabs were made on Cerro Zuela is reasonable as it is

* Cotton fibres were presumably obtained from Gossypium mexicanum, the only species occurring in Panamá. It is not cultivated in Coclé today, but grows wild in several localities. Some trees provide cotton-like fibres - notably Bombax barrigon and Cochlospermum vitifolium, which are among the commonest trees of the region - but Standley considers them suitable only for stuffing pillows and mattresses (1928: 258 and 270).
Lothrop suggests that these slabs were the stone benches upon which the bodies of the individuals were desiccated prior to burial and he quotes the example of Farita (Espinosa, 1873: 23-25). There were indications that the slabs had been shattered through excess heat. Lothrop's argument in favour of dessication depends on the assumption that the graves could only have been dug in the dry season, as a metre of water would have covered the site in the rainy season. This last fact is quite correct today, but the Cochlé and Grande rivers might have had quite different courses at the time of the burials and, had the Cochlé flowed behind Cerro Huelo at that time as it once certainly did, the flood pattern might have been different. (Today's flooding is exaggerated by the confluence of the three big rivers just south of PN-5). The initial offerings and the slabs were covered with bark cloth and the bodies of the dead introduced. The principal rested on a stool (this is calculated from the positioning of the bones). Lothrop suggests he was protected by a canopy. The individuals who accompanied him were probably dead on burial as they were arranged in an orderly position. Not much respect was paid to earlier interments and Lothrop states clearly that the lavishness of some of the graves was increased by robbing. (This is most important when the sequence of ceramic styles in the graves is considered and reiterates the point that the precise reconstruction of the evolution of ceramic style according to the grave contents is too complicated to warrant re-excavation of the site for chronological purposes alone). Grave 26 was particularly well endowed with looted pottery. Disrespect was also shown for the bodies buried in earlier graves, which were piled up on one side. When the grave came to be closed, a covering of fabrics was spread over it, perhaps held down by some upturned plates, and the grave shaft filled in.
An interesting cultural and maybe also chronological point, is that only one grave was surmounted with a stone marker (Grave 5, a late grave.) A number of the cemetery, and probable cemetery sites, in western Coclé that remain unexcavated have stone markers - Guacamayo and NA-26, for example - and this trait might be diagnostic of an age anterior to or postdating Phase V. All individuals in the Large graves were extended (1937: Table II.) The majority of bodies had their heads to the east, 26 face down and 4 face up. The Intermediate graves also contained only extended burials, but they were all face down and over half had the arms flexed under the chin. Large gold objects were absent and only one (always a male) or two (sometimes a female) bodies were interred. Lothrop makes the point that some of these graves must have been very near the surface on interment. Small graves always contained flexed burials, usually on the left side, but sometimes on the right side, back or chest. Some graves, notably 32, apparently contained all three types of burial, Large, Intermediate and Small.

The variation in burial type is obviously important. Absent are secondary disarticulated burials, like those of Cerro Mangote (AG-1), and urn burials are apparently limited to graves 9 and 19. Lothrop says of the urn burial in Grave 19: "no other indications of the custom were found ... and examination of refuse shows that the inhabitants possessed relatively few vessels of sufficient size to be put to such use." However, Grave 9 apparently contained the charred skull of an adolescent, which may have been interred within a vessel (1937: 248 & 243.) Urn burials in Cortezo Red-Buff vessels are frequently encountered and I suspect the habit becomes prominent after Phase V in western Coclé. From a social point of view, the most logical answer to the different types of graves is that they represent three different "categories" of inhabitant: "important" (probably a chief), buried
in a seated position in the Large graves, with his minions, retainers and wealth around him; "artisan" in the Intermediate graves, often accompanied by his wife; and "poor" or "slave" in the Small graves, flexed, and buried hurriedly, with few objects of value. (The qualitative terms are only hypothetical). Large gold objects were found only in the Large graves and were presumably symbols of rank. As regards the relative age of the Large graves, the ceramic contents indicate a date early in Phase V for Graves 1, 2 and 32, and a transitional V/VI or VI date for Graves 5, 24 and 26.

Sitio Conte is at present, as already indicated, situated in a wide flood-plain that is uninhabitable for a good part of the year. The residents of the nearby village of Cerro Zuela are transhumant, and move down from the village to the river-bank at the beginning of the dry season (January) to grow cash crops, such as onions and tomatoes, for quick profit. The village, built over the Pre-Columbian site of PN-4, on a rocky spur, is out of flood danger at all times; its maize fields are located on top of the hill and thrive well in spite of predations by parrots. The present-day conditions for Cerro Zuela cannot necessarily be advocated for prehistoric PN-5 owing to the fickle nature of the geomorphology, but one interesting occupational possession is worth mention at this juncture. The hill of Cerro Zuela is ringed by concentric stone terraces, sometimes traversed by vertical cross-walls, that in places form well defined platforms about 50 ms. long by 30 ms. wide. Similar platforms occur on Cerro La Iglesia (AG-5) and on Cerro El Espavé, behind Aguadulce. They are certainly man-made, and, I believe, are evidence of Pre-Columbian activity, though only a set of decent aerial photographs or a detailed survey on foot would enable a reconstruction of their total extent. (Both Cerros Zuela and Espavé are covered with thick scrub). But, bearing in mind that the land around the hill floods...
for about six months of the year, the terraces seem logical adjuncts to settle-
ment. Cerro Zuela is immense and could support a very large population on
its slopes (Map I). Strategically, it is ideally situated for control
not only of the immediate environs of PN-5, but also of a large area of the
lowlands of the Bay of Parita: from the highest point on its summit (called,
aptly, El Cacique) one can discern the Pacific coast from San Carlos right
round to Chitré, and the entire plain as far as the foothills. The con-
fluence of the three major rivers of Coclé – the Chico, Grande and Coclé –
right at the foot of the hill, enables one to travel by canoe downriver and
along the coast, or upriver and through the plains. In wet season, one
can paddle straight over the flooded fields to Natá. The entire hill is
liberally spread with potsherds and lithic fragments, but the deposit is
nowhere deeper than 30 cms., to judge from test-pits sunk near PN-I, and
on the summit of the hill, not far from PN-2, and there has been some very
serious loss of soil since the destruction of some of the terraces. Seasonal
"quebradas" running down the slopes have accelerated this. As a hypothesis,
I suggest that, with the addition of concentric terraces and vertical walls,
four objectives were achieved: the surface was rid of the uncomfortable
basalt boulders which were used to build the structures; flat land was
provided for the erection of dwellings; erosion, heightened by the
stripping or firing of the tree-cover, was checked; and protection was
afforded from the seasonal floods. This last idea depends, as said earlier,
on the assumption that the flood-pattern of today is similar to that of 1500 years
ago. Contemporary aggravation of erosion and run-off in the Cordillera, and
reduction of transpiration through deforestation, might have increased the
flash-flood potential of the rivers, but it is conceivable that the low-
lying area around PN-5 was not suitable for permanent habitation in Phase
V times. With this in mind, the only cultural material found on Cerro Zuela
by the author has been Phases IV – VI. PN-5 was definitely occupied by some
form of settlement during Phase VII, but, for some reason, the hill itself does not seem to have been occupied. Natá - the primary village of the region in 1516 - appears not to have been an important centre before Phase VII and it might be that the major focus of population moved from Cerro Zuela to Natá some time around Phase VI.

At El Uracillo, on the Caribbean coast, over the Cordillera from El Valle, Stirling reports Pre-Columbian terracing which was being exploited by present-day Indians (1953: 276). It is, of course, feasible that the structures on Cerro Zuela and the other hills are post-Conquest in date, and one at least of the terraces on Cerro Zuela had lime and mango trees within its confines, which, to judge from their size, are about eighty years old; but octogenarian informants say that Cerro Zuela has never been occupied much beyond its present limits. Besides, Spanish occupation in Coclé was always light, and the major settlements until the foundation of Aguadulce late in the last century were limited to the town of Natá, Penonomé and Olá. Urracá - the Veraguan chieftain who gave the Spaniards their toughest time - apparently lived in villages fortified by stout pallisades, and it is not too much to imagine a similar defensive system on Cerro Zuela, Cerro La Iglesia, or at El Uracillo (Alcedo, 1812-15: Vol III, 368).

In the refuse at PN-5, Lothrop records the following mammalian species: *Agouti paca*, *Dasyprocta punctata*, *Sciurus sp.*, *Galictis allamandi*, *Canis sp.*, *Felis concolor*, *Felis onca*, *Tapirus bairdii*, *Tayassu pecari*, *Odocoileus virginiana*, *Trichechus manatus* and *Physeter catodon*. Of these, presumably only the paca, agouti, tayra, squirrel, peccary and deer were eaten, while the puma, jaguar, manatee and whale were reserved for artifacts or killed for reasons other than the cooking-pot. The occurrence of tapir bones is interesting, as some authorities do not think the tapir has ever existed in this region (Bennett; 1968: 79). (Tapirs are still seen in the Cordillera
of Coclé, around Toabré, so there is no reason to believe that their meat could not have been traded). At AG-3, it is impossible to state with certainty to which Phase the various animal remains above 50 cms. belong, but a pelvis of *Urocyon cinereoargenteus* found in level 4 of pit B, which should correspond more or less to Phase V, is interesting: this little fox is definitely a second growth species and has probably extended its range in Panamá in symbiosis with Man, who has opened up the forest cover.

The mass of sting-ray spines and the instruments fashioned out of the rostral spikes of sawfish were presumably used on projectiles of some sort, perhaps as harpoons for fishing. Some of the sawfish spike tools have well-wrought barbs (1937: fig. 65). Several of the Recent and fossil shark teeth may also have been used on offensive weapons, and Lothrop quotes the example from Espinosa of war clubs studded with shark teeth from Coiba Island:

"e andan con picas e con lanzas, fechas a la manera de picas, tan luengas e tan gruesas como las que usan los alemanes, sembradas, obra de una vara de medir, de dientes de tiburones e otros pescados" (Espinosa, 1892: 484).

Elaborately carved spear-throwers were recovered at PN-5, but none preserved its end intact, so we do not know whether the propelling mechanism was of the "male" or "female" kind. All but one of the throwers came from Grave 32, a very early grave.

The iconography of the Phase V graves gives very few clues about social habits other than the funerary. Lothrop suggests that the whistles made in the form of human heads represent trophies, and were suspended upside down from Human Effigy vessels (1937:108). One kind of bell has a hollow stem and was presumably affixed to a stick. Whether these are
orative or represent musical instruments, I would not like to say. A
crystal gold figurine shows two warriors holding paddle-shaped clubs and
phy heads (1937: fig. 150). Lothrop does not believe that this piece is
ocal. The dress of the important personages was presumably adorned with
gold, as we have seen; other clues to dress during Phase V are few. Some
tale figurines in fig. 148, a & b (1937) are naked except for an elaborate
elmet-like hat, with a crest and a long tail at the back; a necklace of
veral rows; and bands of cloth or some other material fastened around the
eg below the knee and above the ankle. One carries some pots and what look
ike maize cobs. Cylindrical pottery stamps of the type found near PN-17
1942: fig. 368) were presumably used for decorating the body, and a little
ure from Santiago, Veraguas, in Conte Polychrome, has scroll patterns
ainted up either arm. He is sitting in a long seat like the "duhos" of
the Antilles and is drinking from a small collared pot, and scratching his
ed. He is naked except for a leg band above the knees and a belt. He is
orated on the face also (Baudez, 1970: figs. II2-3).

The "Temple" of Verrill (NA-20) has been associated with Phases V and
I in the literature (Ladd, 1964: 222-3), but, as argued on pp. 373-378,
he date of the actual operation of the ceremonial centre cannot be determined
accurately and could even be pre-Phase V. The basalt columns which were
found at PN-5 and related to the second, Phase V or VI level of occupation,
were presumably part of a ceremonial structure, but we are ignorant of its
ction. The columns are very large and a considerable labour force must
ave been involved in their transportation and erection. (I have a hunch that
he quarry for these columns is on the Río Tzaratí, to the north of Penonomé).

Phase VI (8/900 - 1200 A.D.)

Macaracas Polychrome (Phase VI) pottery has been found in western Coclé
about twenty funerary and domestic sites, the most northerly occurrences
to date being LP-4, below El Copé, PN-20, near La Pintada, and, possibly, Limón,
ver the Divide. Unfortunately, only three sites - AG-2, AG-3 and PH-5 - have yet produced Phase VI material in quantity in western Coclé. Most - if not all - of Mason's and at least Lothrop's graves 5, 24 and 26 (or parts thereof) are Phase VI or transitional Phases V and VI in age (see p. 118). The iconography of the gold plaques illustrated in Lothrop, 1937: figs. 85, 90, 91 and 92 (Graves 5 and 26) and Mason, 1942: figs. I and 2 (Burial II) is Macaracas- rather than Conte-orientated and the "animals" depicted are somewhat more stylised and the overall design more pernickity than those of Lothrop, 1937: figs. 84, 88 and 95 (Graves I and 32). There is certainly no reason to believe that there was a decline in the artistic or technonological standards of ceramics, gold or other media during this Phase. The iconography of the pottery, which was becoming increasingly conventionalised during Phase V, is now even more exotic and the total conception of the "deities" more cluttered and accoutred, while the arrangement of the designs on the vessels shows geometricising tendencies. White and purple are still used together and the pottery is, in all its aspects, a direct evolution out of that of the preceding Phase.

Phase VII (1200 A.D. - Conquest)

To preface an account of the life of the prehistoric Coclesanos in Phase VII, it is helpful to turn to the admittedly few Colonial documents that relate to the region.

The first Spaniard to take an expeditionary force into western Coclé was Gonzalo de Badajoz, who departed from Santa Maria la Antigua in March, 1515, and began his crossing of the Isthmus from Nombre de Dios. Passing through the territories of Totonagua and Tatarecherubi, who first mentioned the wealth of the "cacique" Natá, Badajoz became the first Christian to set eyes upon the island of Taboga, and then proceeded along the coast towards Coclé. Ahead of him he sent a lieutenant, Pérez de la Rua, to spy out the strength of Natá. During the journey, Badajoz had managed to
accumulate, in Martyr's words:

"piles of gold, girdles, women's breast ornaments, earrings, head-dresses, necklaces and bracelets, to the value of eighty-thousand castellanos or more. This they had acquired either by trading their merchandise, or by pillage and violence. For the majority of caciques had opposed their passage and sought to resist them. They had in addition forty slaves whom they used as beasts of burden, to carry their provisions and their baggage, and also to care for the sick."

In the face of such aggression, Natá decided to hand over twelve thousand pesos of gold, which he had apparently accumulated through wars with his neighbours.

"This gold was even scorched, because it had been carried out of the burning houses of his enemies. These caciques rob and massacre one another and destroy their villages, during these atrocious wars. They give no quarter and the caciques make a clean sweep of everything" (1912: 403-407).

The Spaniards tarried two months in Natá and then moved on to the territory of Escoria on the Santa María river. Escoria lived "ten leagues from Natá" and if the Spaniards' - and the chroniclers' - appreciation of distance is sound, this should put the village some distance inland, perhaps between Llano Sánchez and Calobre. Escoria was forced to give up not only the customary mass of gold and trinkets, but also his wife, who happened to be the sister of a more diehard cacique, París, Pariza or Parita, who lived to the south. Parita was initially as diplomatic as Natá and sent out a subordinate to meet Badajoz. Women and the church, however, conspired to ruin the possibilities of a peaceful loot, for the military chaplain, succeeded in sleeping with the wife of the emissary, who was another of Parita's sisters. This indiscretion resulted in Parita's attacking the Spaniards, who were forced to flee down the river in canoes and escape across the Bay of Parita to Darien, without most of their gold and slaves. (For summary of the Badajoz expedition, see op.cit., Oviedo, I959, Tom. III, 244-246 and Acosta, I848: 67 ff).

Retribution materialised quickly in Santa María la Antigua and soon another Conquistador - the Licentiate Gaspar de Espinosa - moved in to
recuperate the gold lost by Badajoz. Remaining for some time with Cherú, where he was well supplied with "iguanas e pescado e venados," and chicha too "que las esposas del dicho cacique me enviaban siempre de su mano fecha," he passed on to the village of Natá, which he took by a night assault on the cacique's house. (Natá himself escaped through the back door.) Espinosa was impressed with the denizens of Natá, who had managed to kill some horses, and remarked "eran tantoslos buhlos que había, que creo que no hubo nadie que no se espantase o tuviese temor de ver tan gran población." * The town was amazingly well provisioned:

"Hallamos allí infinito maíz, e tantos venados, que los que vimos los apreciamos en trescientos venados, e infinito pescado asado, e muchas an sares, e pebas e jaulas e toda comida de indios en mucha gran abundancia. Hize luego recoger maíz en el real, de manera que tuvose allí la hueste todo lo que hubimos menester para cuatro meses que allí estuvimos, e aun sobraron más de quinze hágagas." (1892: 464-466.)

Natá eventually came back of his own accord and was initially well treated by the Licentiate, who tried to extract information about the whereabouts of Parita's gold. But soft words revealed no gold and the chief was cast into chains.

Espinosa stayed four months in Natá, during which time he forced the Indians to sow maize for the Spaniards' planned return from the country of Parita, whither they departed on 29th. July, 1516. Making straight for the territory of the unfortunate Escoria, they took his village by another night attack, and then set off for the final confrontation with Parita, leading Cherú, Natá and Escoria in chains ahead of the columns. Parita's troops came out to meet them in "savannah-country." The Indians were dispersed, and Espinosa settled down for two days in Parita's village which had been recently burned. No food was available, but Captain Albites was able to gather provisions from round about "la cual se halló en mucha abundancia." Espinosa's next move was to have some canoes made in the

* In the face of this statement his calculation of only 1500 people seems odd.
province of Guararé. These canoes could hold up to seventy men.

Bartolomé Hurtado was sent forward by sea, around the base of the Azuero Peninsula, while Espinosa made the overland route across Veraguas and into Chiriquí. Hurtado seems to have succeeded in pacifying the whole of the Peninsula and Coiba and Cebaco islands. Espinosa returned to Parita's territory around Christmas.

The return journey to Darien was made via the domain of Escoria once again, and it is here that Espinosa makes reference to bearded warriors

"tan grandes e tan valientes que parecían gigantes; e uno de ellos tan barbado como el más barbado cristiano que puede ser" (1892:479).

While the Spaniards tarried with Escoria, an expeditionary force was sent out to deal with a chieftain called Jabraba who lived in fortified villages in the "sierra", like the infamous Urracá:

"tienen los caciques sus fortalezas hechas con sus dos o tres cercas de maderos e arboles muy gruesos nacidos e su cara muy grande a la redonda, de manera que esta del dicho cacique Jabraba e otra de otro cacique... podían muy bien pasar por muy buenas fortalezas en Italia" (1892:480).

Here a ball game was played, similar to one played on Haiti. On returning to Natá, Espinosa found the town abandoned, the maize removed, and, failing provisions, he marched straight off to Cherú, which was likewise deserted, a message having been sent from Natá.

Of the territories of Natá, Cherú and Parita, Espinosa has this to say:

"En las dichas provincias de Natá e Cherú e todo lo desde adelante, fasta Comagre, es tierra tan llana como la palma, tierra muy sana e toda sabana, sin montes mas de las arboledas que hay en las riberas de los ríos; e las de Natá fasta Guararé ansi mismo; la costa muy gentil e casi toda playa, muy bastecida de pescado, e casa infinita de cuervos e ánareas e pavos, que de verdad se hallaron en los bohíos de Natá en sus dispensas hasta trescientos venados en cecina, antes mas que menos, e la más hermosa carne de comer que nunca se vido. Tórtolas había tantas, que por rúin se tenía el ballestero que salía a tirarles que traxiese de cincuenta abajo; con redes tomábansen tantas, que todos andábamos ahitos dellas. Venados había día en el real que entranb, muertos de ballesteros, diez e doce e treze. Es toda esta tierra que de invierno e verano se puede andar a caballo, tan bien e mejor que no la de Castilla, hasta todo lo descubierto e todo lo demás que se puede ver adelante" (1892:481).
Espinosa returned with two more expeditions to the territory of Natá and Parita. On the second journey, when he appeared in the village of Parita to seek retribution, he found that the chief had recently died, and had been stretched out to dessicate, attired with all his wealth. Awaiting slaying in a ritual ceremony were about twenty prisoners of war from the territories of Chirú and Escoria. París was promptly stripped of his bangles, the prisoners were released and the Spaniards made their escape by canoe. (It was París's body laid out on a platform to dessicate, that gave Lothrop the idea that this type of burial preparation was followed at the Sitio Conte. Lothrop quotes in full the exact passage from Espinosa, 1873. (1937:46.) One of the prisoners whom the Spaniards saved was a son of Pacara, a subchief of Escoria, who "dwelt by the sea." The maps locate Pacara's residence between Aguadulce and the Santa María river. (Lothrop, 1937: fig. 2.) His chief village might well have been Cerro La Iglesia (AG-5; ) Espinosa stayed some time with Pacara, where he received, as usual, masses of game and fish and other provisions. From Pacara's territory, he moved back along the coast to Natá, making a sortie en route against Esquegua, who lived somewhere in the Cordillera. At Natá, the Cacique was nowhere to be seen and his place had been taken by Chechereba, who ruled as governor (Espinosa, 1873.)

The third expedition set out from Panamá in 1520. This time, Espinosa went directly by sea towards Chiriquí pausing awhile to seek out the ferocious Urracá who lived in the mountains of central Veraguas and had plentiful supplies of gold. Urracá was a real military match for the Spaniards and - if it had not been for a timely arrival by Pizarro, the discover of Perú - Espinosa would probably have been cut to pieces. After a campaign in Chiriquí, he returned eastwards along the Cordillera, passing through the territories of Trota and Tobré, who probably lived in the mountains of Coclé,
and re-entered Natá. Soon after, Francisco Companion was put in charge of the permanent settlement of Natá. The cacique who gave his name to the town was never seen again; and, in spite of war with Urracá, who succeeded in sacking the town in 1529, the back of indigenous resistance was broken.

After the 1530s, Spanish eyes turned south and Natá became a rather miserable backwater.

Espinosa seems to have been too little concerned with anything but gold and food to have left any definite documentation of the village planning or social life of Natá, though he was certainly over-awed by the number of houses he saw. Exactly how big was Pre-Columbian Natá? Excavations and surface collections have indicated that it was probably considerably larger than it is today. Natá now covers about 1 sq. km, whereas, to judge from the artifactual spread of NA-5, NA-7, and NA-8, it must have measured about 4 sq. kms. in pre-Conquest times. This of course supposes that these three sites, on either side of the river, were contemporaneous and more or less contiguous, but the artifactual assemblages are identical (almost totally Phase VII) and I see no reason to believe that these sites are not all part of Pre-Columbian Natá (see Map 3.) Cultural debris can be picked up all over the Nestlé Estate, from the modern town to the river, and McGimsey found it also between NA-8 and the Highway. Pre-Phase VII material is sparse at NA-7 which was only 60 cms. deep at the most, and in the surface collection from NA-5, and the stratigraphic record of Trench A at NA-8 indicates a light occupation in Phases V and VI. This suggests that Natá became a thriving population centre only during Phase VII, but there are really too many imponderables and too little digging has been undertaken to make such a statement completely valid. (The primary problem being, of course: exactly how does density of sherd debris and extent of refuse scatter relate to density of population? Without strip excavation, precious little
can be said about the geometry of settlement.

Oviedo records that the houses of Natá were round, with tall roofs, and Lothrop illustrates a picture of one from the original manuscript (1937: fig. 5).

"Hay otra manera de buhíos o casas en Natá, redondos, como unos chapiteles muy altos, e son de mucho aposento e seguros, porque el viento de la brisa, que allí corre mucha parte del año con mucho impeto, no los puede así coger como a los que son cuadrados o de otra forma. Son de recia e buena madera, e más hermosas de dentro que todas las maneras de casas que se ha dicho. E ponen en la punta del chapite un cosa de barro cocido, o manera de candelero....E la paja con que se cubre es muy buena e las cañas de las paredes muy gruesas, e por de fuera, e de dentro forradas las paredes con caña delgada, muy bien puesta, e con muchos apartamientos" (1959: Tom.III, 318).

Evidently the famous "brisa coclesana" blew as strong in the sixteenth century as it does today and modern "natariegos" would do well to adapt their house construction to it, as Natá's people did, for an occasional gust is strong enough to tear off roofs. Houses with circular bases and conical roofs are not built today anywhere in Coclé, but they are still found among the Guaymí. There were from forty-five to fifty "buhíos" in Natá in 1527.*

Oviedo also says that the hammocks of Natá were of an excellent quality:

"Hay otras (hamacas) que la manta es de paja tejida, e de colores e labores; e destas hay muchas en Natá e otras partes; y esta paja está hecha como cordón sobre hilos de algodón, e son cosas de ver, e muy frescas e gentiles" (op.cit.: 317).

This kind of material, employing cotton in conjunction with a coarser fibre, was apparently found at PN-5 (1937: II0, fig. 81).

The most impressive observation made by Espinosa was that Natá was exceedingly well supplied with provisions of all sorts, and obviously an active trading centre. Some Indians who were coming to market to sell their goods were threatened with hanging by the Spaniards who thought they might run off with the maize at night:

"En este tiempo iban e venían muchos indios chorigaras con cangrejos e pescado a rescatar maíz al real, de manera que andaban por las calles del real vendiendo su mercaduría, e aun se ponían en la plaza a rescatarla e venderla" (1892: 468).

* Presumably there were houses of two kinds in Natá - round and square - and these round houses with several rooms were probably places of special importance. In Fison's opinion, "there is no reason to believe that the average house contained many rooms or was lavishly built," and he considers that the second basic type of house was a hip-roofed, four-shed "bohío", with either an apsidal or rectangular (possibly square) ground plan (1958: 137-8).
Maize seems to have been easily obtainable, when and where the Spaniards wanted it. On the first journey Espinosa demanded, and duly received, maize from Chiman (somewhere in Panamá or Darien), Chame (who had also supplied Badajoz), and Cherú, and in Natá he acquired enough for four months, with fifteen "hánegas" left over! Anadagoya, supposedly quoting Espinosa's first voyage, says that the territory between Chirú (who probably lived somewhere around El Hato on the border of Coclé and Panamá Provinces) and Natá was four leagues of uninhabited territory:

"All these districts are fertile and level; a very fine land abounding in supplies of maize, aji, melons, different from those here, grapes and yucas." (1865:29.)

In my opinion, this "four leagues of uninhabited territory," probably corresponds to a no-man's land between Natá and Cherú running from the east bank of the Rio Coclé, round the base of the El Valle Volcano to beyond Antón. Though Espinosa remarked that it was all "fertile" in spite of the lack of people, it would not surprise me if this particular strip, which is dominated by the heavy grey Penonomé clays, simply could not support as dense a population as the annually replenished soils of the Recent alluvium to the west of the Coclé. I would imagine that Natá's territory comprised a broad arc of fertile plains land, stretching from just east of Aguadulce to the Coclé. There was another chieftain nearby, Pananonómé, who gave his name to the modern town, but he does not seem to have been very important; the Spaniards made Olá and Penonomé evangelical centres to facilitate the conversion of the Indians round about, which suggests that those living in the hills were in scattered, as opposed to nucleated settlements. Antón was not founded until 1691 (Castillero, 1971 facing 132.)

So, in terms of agricultural potential, Natá probably hogged the best land of the Plains of Coclé for himself and his vassals. (An interesting piece of information in Anadagoya's account of the Espinosa expedition, is that
when Natá wanted to seek refuge from the Spaniards he went "with the greater part of his people to a small hill in the centre of his territory... and, as we left him without the food they had gathered for the year, they suffered much from hunger, insomuch that many came down to our camp, that we might take them and give them food." It sounds as though this hill was Cerro Zuela, which would, indeed, be right in the centre of Natá's territory. Does this substantiate the archaeological impression that the hill was unoccupied in Phase VII? Did they go there because it was fortified? And did they go hungry because it was under "monte"?

(Anadagoya, 1865: P.29.)

The great abundance of deer that was consumed at Natá might indicate that they were being raised in captivity; modern Cerrozuelenses fatten up young deer for sale to gluttonous farmers. But Espinosa definitely says that "ten, twelve or thirteen" could be brought in at one time by bowmen to the chief's market, and Oviedo refers to wooded tracts on the hills which would have provided ample daytime and breeding cover for a large deer population.

"El asiento deste pueblo (Natá) es muy gentil, e de hermosas vegas, e muy llano e dispuesto para ganado e todas granjerías ...y es tierra de mucha caza e montería, porque cerca hay montañas e boscajes en tierra alta" (1959: Tom.III: 318.)

Espinosa refers to "three hundred dried and salted deer" (en cecina) at Natá - probably an exaggeration from a gourmet's mouth, but evidence that meat was preserved for later consumption. The "peacocks" are surely Cracids - curassows, chachalacas and guans - and the "geese" Muscovy Ducks (Cairina moschata.) Lothrop found Muscovy bones in the refuse at PN-5 (1942:16.) Only the chachalaca of the three Cracids can still be seen today, and Muscovies have been shot out completely. Villagers to the north of Olá still take tinamou and fatten them in cages. "Tórtolas" were apparently caught with nets - probably one of the two Leptotila-and, in either Chiriquí or Veraguas, peccaries were caught in net drives (Andagoya, 1865: 24.)
Very little meal debris was recovered in the small trench at NA-8, but it comprised deer, Virginia opossum, jaguar, "borreguero" lizard (Ameiva), turtle, frog and/or toad, marine and river cat-fish, puffer-fish, weakfish, and shellfish. The presence of large river, estuarine and marine fish at least corroborates archaeologically the suggestion of the chronicles: that fish were an important part of the diet. Jaguar are no longer seen in Pacific Coclé, but this is probably due entirely to the fire-arm, and the bone at NA-8 (probably a charm or trinket) could well have been taken from a locally caught beast. The only other large, non-edible animal mentioned by the chroniclers is the crocodile, or cayman:

"(Natá) está dos leguas del mar un río arriba y creo sin duda que mengua allí la mar, en la costa, dos leguas o mas. En este río hay tantos lagartos o cocatrices grandes, que son innumerables los que cada día se ven por la costa echados en tierra al sol" (1959: Tom.III: 318.)

As crocodiles figure prominently in the iconography of the Phase V-VII polychromes, Oviedo is probably not exaggerating. Cayman can be seen quite commonly today, but mostly in the upper reaches of the rivers, whither the hunters have not the energy to penetrate.

Mendoza Polychromes have been found at 24 located sites in western Coclé, in the Santa María, Chico, Caño, Grande and Coclé valleys. The most northerly occurrence to date is PN-20, near La Pintada (Map 1.) The ubiquity of Phase VII living sites and the assertions of the chronicles that the territory of Natá was thickly inhabited, well cultivated, open land, and that the chief was militarily powerful, must dispel any notions of a diminished population in Phase VII. Any "Period of Decline" cannot refer to a demographic decline. No specific references are made in the chronicles to the artistic life of the Natariegos - the usual European measure of cultural prowess - but there is no reason to believe that ceramics and other art forms in Natá's territory were not of the same high standards as those of Phases V and VI,
or of the lands of Parita at about the same time level.

One discrepancy between the chronicles and the latest known burials of Parita Bay is the enormous amount of gold recovered by the Spaniards compared to its total absence from He-4. Of the gold adorning Parita, Espinosa has this to say:

"(Parita) estaba todo armado de oro, e en la cabeza una gran bacina de oro a manera de capacete, e al pescuezo quatro o cinco collares fechos a manera de gorjal e en los brazos armaduras de oro fechos como cañones, todas cubiertas de las dichas armaduras e en los pechos e espaldas muchas piezas e patenas e otras piezas fechas a manera de piastrones, e un cinto de oro, ceñido todo de cascaveles de oro, e en las piernas asi mismo armaduras de oro; por la manera que de la manera quel dicho cuerpo del dicho Cacique estaba armada, parescía un armés o coselete tranzado; tenía a la cabecera una mujer muerta, e a los pies otra, las quales tenían asi mismo muchas piezas de oro puestas; en los otros dos embueltos estavan otros dos caciques, que dis que avian sido e sucedido despues del, e se avian muerto, los quales estavan la misma manera armados de oro, e aunque no tan rica ni tan apuestamante, con mucha cantidad...." (1873:23-25.)

In view of what Espinosa says of Parita, the lack of gold offerings at He-4 is puzzling, as it was certainly in the territory of Parita and cannot antedate the Conquest by very long. Its burials - mostly in urns - certainly do not indicate the richness and variety of the preceding two phases (Ladd, 1964:224.)

There of course exists the possibility that Parita was not actually interred. The fact that the dead were being dessicated might indicate that the bodies were left in the hammocks until they were sufficiently dry to be easily burnt and buried in an urn, while their rich trappings were preserved in a family cache, and not buried. This hypothesis is rather wild, but I think it would be a mistake to attach too much importance to the lack of gold at He-4, bearing in mind our very poor knowledge of burial customs in Phase VII all along the Bay of Parita.

The burials at He-4 were made in an artificial mound, and the only primary burial recorded from Natá's territory - at NA-9 in the immediate environs of the town - had been laid on the ground and covered with an
artificial mound with one, maybe two, adobe floors. The body was arranged in a very strange way, with the legs bent back over the head, but had not been disarticulated. No diagnostic burial goods were in accompaniment (see Chapter 3). Such a meagre burial - and presumably the other, unexcavated mounds contain a similar type - in the vicinity of the fabulously wealthy Natá seems a contradiction. The "huaqueros" of Coclé are still there looking for gold with their detectors, and the "Cementerio del Cacique Natá" is synonymous with a flight to Miami in terms of instant wealth. Perhaps it still remains to be discovered. (Gold frogs have been reported eroding from the path which runs past NA-7). Verrill recorded several other "burial mounds" literally dotted over the region, if we accept his observations (fig. I47). McGimsey makes an oblique reference to mounds at "four sites in the Parita Bay area", but does not specify exactly where (1959: 35I). The mounds at NA-20 could also be burial mounds.

Over the environmental unit with which we are concerned, there are a great variety of burial modes which seem to cut across temporal divisions; at least, there is nowhere enough evidence to enable a definite correlation between grave and burial type and Phase. (A summary of burial modes in Panamá was made by McGimsey (1959), to which the reader is referred). Nevertheless, what little evidence we have for western Coclé does, I think, intimate a slight change in Phase VII. Only one, or possibly two urn burials were recovered at PN-5 and this probably indicates that the mode was not in common practice in Phase V. Elsewhere in Coclé, burials in urns have been reported from the following sites:

NA-3 (McGimsey, 1959: 350); NA-8 & 9 (Potrero El Santísimo, Lothrop, 1942: 218, one vessel with human bone in between four others); PN-8 & 9, probably part of the same enormous burial field; PN-II, possibly contiguous with PN-8 & 9; PN-I3, another very large burial field; PN-I7 (Dade, 1960: 73); large urns with bones within them have also been reported from NA-3I.

Verrill mentions burial urns from the Temple Site (NA-20), of which he says:
"Evidently it was the custom of these people to place their dead in a huge urn in a clay-lined grave and to cremate the body by means of a fire within the grave which not only burned the body but also baked the wall and floor of the grave to a brick-like hardness" (1963: 87).

The urns of PN-8/9, PN-II and PN-I3 are all Cortezo Red-Buff Ware. At PN-I3, some of the rims recovered were adorned with two typical Cortezo-type decorative modes, Modified Fillet Appliqué and Zoned Punctuation (Plates 50 & 51).

Lothrop did not think that any of the vessels found at PN-5 were large enough to contain burials; this may or may not be true, but as urn burials have proved to be common in western Coclé, and some are certainly either Phase VI or, more likely, VII, it would not surprise me if this type of burial gradually replaced, or became as popular as interment after Phase V, for personages of lesser stature.

Unfortunately, because of the small number of excavated burials, we have very little notion of the variety of material culture in Phase VII in the region. In the ceramic arts, purple paint seems gradually to have dropped out, for some reason or other. Designs finally become fully geometricised, and that the end of the evolutionary trend of the colour-filled representaional designs on polychromes has been reached is epitomised by the extreme stylisation of the saurian who first appeared in the earliest Phase V graves at PN-5.

Let us now return to the Indians of Natá who were conquered by Badajoz and Espinosa. Who were they, what languages did they speak, what was the nature of their society and what was the environment like in which they lived? These questions can be partly answered by an amalgam of documentary and excavated evidence.

Race and language:

Another too readily accepted cliche in Panamanian archaeology and anthropology has been that the cultural boundaries of pre-Spanish times were approximately those of the present day; namely, that all Indians living east of Chame were Coiba-Cueva (perhaps corresponding to present-day Cuna), and
those living west of Chame were Guaymí. This thesis has been championed by Olga Linares who based her assumption on the fact that a) the names of the chiefs listed for western Panamá are now known to be Guaymí; and b) the only native vocabulary of the Coclé Province (Pinart, 1882) is also Guaymí (Ladd, 1964:3.)

That a linguistic frontier did exist between the country of Chame and Chirú is attested by Andagoya, who says:

"Eight leagues further on, in the direction of Panamá (from Natá) there was another chief called Chirú, whose people have a different language (from Natá) although their appearance, dress and way of living is the same as that of their neighbours. Seven leagues from Chirú, towards Panamá, is the province of Chame, which is the point to which the language of Coiba extends." (1865:25.)

Andagoya records that the Cueva and the Coiba spoke the same language, though the Cueva were more polished and had greater self-assertion (op,cit.: 7).

In spite of the linguistic division, the "Guaymí" and "Coiba-Cueva" peoples seem to have had more or less the same material culture. Andagoya, when speaking of the people of Paris and Escoria says:

"In these districts the people wear the same dress as those of Coiba, except that in París, the mantles were dyed with very bright colours. In food and everything else they follow the habits of the Cueva and Coiba. They have no more notion of the things pertaining to God than the others, nor have they different rites and ceremonies." (1865:31.)

Archaeology, as we have seen in this study, is beginning to corroborate these colonial assertions of cultural homogeneity.

Arguing against linguistic homogeneity west of Chame is the continual emphasis on the linguistic variety encountered by the first Conquistadores as they moved westwards. Each chief seemed to speak his own language and interpreters were frequently called upon. Chirú, for example, spoke a different language from Natá who spoke a different language from Escoria:

"The languages of Escoria and Natá are different, and each chief has a different language, so that they require interpreters." (Andagoya, 1865:25.)
Oviedo corroborates this impression:

"En este caso sé decir que la lengua Cueva es mucha....en aquella
gobernación (Castilla del Oro) e acábase en la Provincia de Chame...
desde la dicha Chame adelante, hacia Natá y el Poniente, hay mucha
diversidad de lenguas y en poco espacio de tierra son tan diferentes
que no se entienden los unos indios a los otros que son sus* vecinos

Exactly what this signifies in linguistic terms is difficult to say.
The old bulwark of the pan-Guaymi theory is the "Vocabulario Castellano-
Guaymí - Dialectos Norteño, Nortero and Guaymí-Penonomé" of Alphonse L. Pinart (1892), which is always considered to have been
written down at the end of the last century. However, in his preface,
Pinart states clearly:

"Los dos otros dialectos Norteño y Guaymí, los tomó el autor de la
obra manuscrita a fines del siglo pasado por el Padre Blas Jose Franco:
los indica respectivamente con B y con C: B por el dialecto de Cañazas
y Mineral de Veraguas, y C por el de Penonomé."

So it seems that Pinart’s Vocabulary dates in fact not from the nineteenth
but from the end of the eighteenth century. Penonomé was founded in 1573
according to Castillero and 1581 according to Carles. In 1790, its
population was 5,355, of which as many as 3,473 were "Indios", 1,320
"freedmen", 63 "slaves" and only 479 "whites." In contrast, its population
in 1780–88 was only 2,259. This increase in population in such a short
period of time is inexplicable: it doubled in only ten years, whereas
that of Natá increased by only half, and those of Olá and Antón remained
static (Pineda Antonio, 1790; Castillero, 1971). Does this mean that
there was a sudden influx of Indians from outlying areas into Penonomé
at about the time Father Blas Franco took down his Guaymí vocabulary?

*Stone (1964: 210) assigns the Panamanian indigenous languages to the Macro-
Chibchan Phylum: on the Caribbean side there are two languages, Cueva-Cuna
and Guaymi, and on the Pacific four, Cueva-Cuna, Chiru, Nata and Guaymi.
The language of Escoria is unclassified.
It is not only language which is supposed by some anthropologists to be homogeneous west of Chame. Physical types are also allegedly "Guaymí". The example of Escoria's troops' being physically different from Natá's or Parita's was quoted earlier. Espinosa says himself that they were "tall and strong and bearded." So we have here a definite allusion to physical differences by the Spaniards (who would surely have noticed physical attributes above all else as they would have had to face the Indians in battle). With this in mind, I think it is worth mentioning that the Indians of Coclé have not, to my knowledge, ever received the attention of physical anthropologists. Living in the Cordillera behind El Copé and Penonomé they have probably been ladinoised for many decades and, to the somewhat untrained eye, they are not Guaymí. Of course, without accurate anthropometric and genetic studies, this hypothesis may be quashed straight away by the admixture of Caucasian or Negroid genes, but I think it is a mistake blindly to accept past and present racial and linguistic homogeneity solely on the basis of the contemporary distribution of groups and a few place names. If there was that influx of people into Penonomé between 1780 and 1790, where did they come from? It has often been suggested that the Guaymí were a marginal group before the advent of the Europeans and that they have moved eastwards across Panamá in the vacuum created by the diminution of the Veraguan and Coclesano Indians. Besides, what happened to the population of lowland Coclé? Where did Natá run off to? Surely into the Cordillera of Coclé.*

Of course, it will be very difficult to prove at this stage in history whether the linguistic differences west of Chame were merely dialectal or of a more divisive nature. It is extremely difficult to understand how over

*In this context, it is interesting that Leroy Gordon, who walked from Santa Fé to the Veraguan coast in 1954, says of the Indians of Guabal: "I believe that the people of Guabal are remnants of the various more civilised Panamanian tribes such as the Coiba-Cueva people, who disappeared so quickly after the Conquest; they deserve more thorough study" (1957: 3).
such a homogeneous environment wherein culturally similar groups frequently quarrelled and fought each other, dialectal variations with such definite limits could have grown up. In a hill country like Guatemala where physical barriers have prevented contact between small groups the aggravation of dialectal differences is logical. But in Coclé, between Chirú and Natá and Escoria, who lived within a day's walk of each other along a flat part of coast no more than twenty miles wide which had probably been cleared of forest for centuries, it seems most illogical. In fact, linguistic differences of this nature are more readily explained by movements of people: perhaps the bearded warriors of Escoria were the result of one such migration. There might also be a sociological explanation, that the territory of Natá, which was to a certain degree micro-environmentally isolated, or at least an independent agricultural unit, had preserved its boundaries and enmity with other "agricultural units", such as Chirú's or Parita's, for long enough to ensure the splintering of dialectal forms. But considering that there seems to have been exogamy between two warring chiefs' families — as between Parita's sister and Escoria — and constant exchange of slaves, the problem becomes even more puzzling.

Society:

Stetching in an arc along the Bay of Parita, from Chame to Punta hala, the major chiefs of the sixteenth century were, from east to west, Chame, Chirú, Natá, Escoria and Parita. Over all this territory the last-named apparently ruled:

"Entre aquestas dos puntas de Chame a Güera, esta un golfete, que se llama el Golfo de Paris, porque todo ello señorea el cacique de Paris"

(Oviedo, 1959: Tom 111, Cap XII: 258)

*In this context it is interesting to note that the people of Natá, on seeing the horses of the Spaniards, uttered the word "bixe", which according to Kathleen Romoli, is the Carib word for deer. The custom of putting an upturned pot on top of a roof was also apparently Carib. Parita's wealth was largely due to his having won a campaign against invaders from the west. So there was probably much more movement of peoples through the Isthmus during the last centuries before the Conquest than the archaeological record can possibly indicate.
Exactly how much power Parita exerted over his neighbours is difficult to ascertain, and it might be that Oviedo merely assumed Parita's hegemony because of his obvious superiority of arms. There was also the tendency amongst the chiefs to extol the wealth of their neighbours to prevent the Spaniards from staying in their territory for too long.

Whatever the fluctuations of power, there is no doubt that these chiefs were mutually antagonistic and constantly at war with one another. Andagoya talks self-righteously about the vindictiveness and acquisitiveness of the combats. Certainly, war-mongering seems to have been efficient, the warriors well armed and military units quite large. Canoes were used frequently to ferry war-parties and Espinosa mentions that Guararé's canoes could hold up to seventy men. A good impression of the nature of the war-parties is contained in Espinosa's description of the islands of Cebaco and Coiba:

"Vinieron luego de paz, e dijeron que su Cacique no estaba en la dicha isla, que era ido a hacer guerra a otros caciques a la Tierra Firme; que los aguardasen tres días e quel venía... Pasados los dichos tres días, el dicho Cacique vino con diez o ocho canoas, todas equipadas de indios de guerra. E después de haber estado algunos días en la dicha isla..... el dicho capitan Bartolomé Hurtado con los cristianos y sus canoas e otras que tomaron allí mejores, e con indios del dicho cacique, que los pidió para que los ayudasen a remar, a un hermano del dicho Cacique Caubaco, que se dezía Pequeari, con otras nueve canoas equipadas de indios, e con sus armas, fueron a otra isla, la cual se puso nombre Isla de Varones..... En la dicha isla tenían los indios una gran fortaleza fecha de sus cercas de arboles maderos, e con una gran cava al derredor..... Lo cual visto por los cristianos comenzaron a combatirles desde en amaneciendo, e los indios a defenderse reciamente con piedras e lanzas e pica... De la dicha isla partieron los cristianos e los indios e el dicho Cacique amigo en demanda de otra isla que los indios llaman Cabo..... pues llegados a dicha isla de cabo, saltaron en tierra e dieron en los bohos del dicho cacique Cabo e tomaron entre ellos mujeres e indios del dicho cacique, e hasta tres mill castellanos. E a aquella sazón el dicho cacique estaba ausente en otra banda de dicha isla e como le llegó el mandado de los susodicho, vino luego con ocho canoas equipadas, e con muchos indios de guerra; e traían sus coseletes fecios de algodón, que les llegaban e abaxaban de las espaldas de ellos, e les llegaban a las rodillas y dende abajo; e las mangas fasta los codos, e tan gruesas como un colchón de cama; son tan fuertes que una ballesta no los pasa; e con pica e con lanzas fechas a la manera de pica; tan luengas e tan gruesas como las que usaban los alemanes, sembradas, obra de vara a medir, hacia la punta, de dientes de tiburones e otros peces. E otros indios traían caízes de caña encabelgadas unas sobre otras e redondas, hechas a la manera de las sestas; con sus pífanos e atemboros, en su ordenanza a la manera de los alemanes" (1892:482-4)

*Isla Gobernadora?
The picture given above is one of raiding-parties making sorties into neighbouring territories, both mainland and island, to grab what they could. Women and the sons of rivals were probably the major prizes, the women presumably for sexual and procreative purposes, the chief's family for slavery or slaughter. The chroniclers do not mention whether provisions were a primary objective of the raids. Their primary function was probably the enhancement of the reputation of a certain chief, but the fickle nature of the Plains weather patterns - flash-floods and the like - must occasionally have driven groups to invade the territory of others to stock up on lost supplies. I would imagine that the ultra-military chiefs of the Highlands, such as Urracá, Jabraba and Trota, could only exist by preying from time to time upon the superior agricultural resources of the lowland dwellers. A lot of the fighting seems to have been ritualised: the Coiba Islanders, with their shark-tooth studded clubs and cotton armour, flutes and drums, must have been a formidable sight; but how much energy was devoted to noise and how much to actual fighting is difficult to say. In societal terms, each particular territory had its absolute chief, sub-chiefs - presumably siblings and close relatives -, important warriors (Parita sent out a lieutenant to deal with Espinosa), and beneath the aristocracy, artisan and slave classes. These last two are conjectural, but there was certainly at least a three-tiered society at PN-5 in earlier times. Slaving seems to have been a very important activity over the Isthmus and slaves no doubt provided much of the labour in the fields. It is likely that the large round house at Natá, which has already been described, was a palace dwelling reserved for the Cacique himself.

In geographical terms, the approximate locations of the five major Parita Bay chiefs are very logical. As Espinosa clearly states, and as most ecologists now believe, there was probably very little difference in the general environment from Parita right round to Comagre. What are more
important from a territorial point of view are micro-environmental factors such as rainfall patterns, the nature of the soils and hydrology. To judge approximately from Colonial accounts, Champ lived around Punta Chame in the vicinity of the modern settlements of Chame, Gorgona and Bejuco; Chirú farther west, probably along the narrow coastal strip from San Carlos to Río Hato, but maybe as far west as Antón; Natá lived in the Plains of Cochlé, between the Cochlé and Chico rivers (that is, the "Recent alluvial" plains); Escoria lived some way up the Santa María river, with his sub-chief Pacara controlling the lower valley; and Parita lived on the eastern side of the Azuero Peninsula between the rivers La Villa and Escotá. These five territories today form very logical units. To the east of Natá's territory, the poor soils of the Penonomé Series put a limit to digging-stick agriculture; the northern hills of Cerro Guacamaya and Cerro Hueula to mobility; and the heavily laterised soils west of Agaudulce to agricultural activity. I think the best term for describing the territories of these chiefs is the one I have already used — "agricultural units." Natá had at his disposal vast supplies of meat and corn and his royal market was a very hive of activity, the provisions being brought in from the whole unit to be bartered. The villages of the neighbouring districts, such as Pa-14 or Pa-5, were probably controlled by sub-chiefs — but not independent, aggressive sub-chiefs as Lothrop thought, for such a small territory could not possibly support them — while further up the rivers, in the marginal districts where the river valleys become rockier, the settlements consisted of a few houses, such as NA-13 or NA-16. Over the hills from Natá there is another well-defined "agricultural unit", the Valley of Guzmán, which has much lower rainfall than the immediately surrounding territory and deep, alluvial soils. Here, no doubt, lived an as yet unnamed "cacique", perhaps speaking another dialect and looking a little different from Natá, but culturally identical to his neighbour.
A physical environment of prehistoric western Coclé:

Without stratified samples of pollen from a deep site or a comparative sequence from sites of different ages, a reconstruction of the environment western Coclé in pre-Spanish times can only be limited to generalisations of a very broad nature. Nevertheless, a combination of observations made by eye-witnesses in the early sixteenth century, of the zoogeographic implications of certain animals which are known to have been hunted in pre-Spanish times over a long period of time, and of the ecological implications of some of the dominant plant species, can bring some light to bear on the nature of man's interference with the physical environment of the region.

Harking back to the original incursions of Badajoz and Espinosa, the first point that must be made is that the littoral of Pacific Panamá in the sixteenth century was savannah, and fairly open savannah at that. Exactly where this savannah began depends on the location of the various caciques encountered by the Spaniards as they marched westwards from Darien; Romoli (1953) argues that it must have begun in the Bayano lowlands, and Bennett thinks it might well have included the Chucunaque-Tiura valleys as well since they were "populated by a people of similar culture" (1968: 39). Espinosa himself remarked that the savannah stretched from the territory of Comagre right along the Bay of Panamá and down the eastern side of the Azuero Peninsula to the lands of Guararé. "Sabana" was a word the Spaniards had first encountered on Hispaniola and to them it meant exactly what it means today - open land with scattered trees. The only references the chroniclers make to trees in western Coclé are to woods ("boscajes") on the tops of hills and wooded tracts ("arboledas") along the banks of the major rivers. Otherwise the country around the town of Natá was open, grassy and flat, and the fact that it became a prominent provision centre first for the mining industries of the Cordillera (Fuson, 1958:244) and later for the Portobelo trade (Dampier, 1906: 180) is testimony to its cattle-grazing and maize-growing potential.

The opinion of crass military commanders like Espinosa and Badajoz
or of sycophantic imitators like Andagoya and Martyr is corroborated by that of observers with greater integrity such as Oviedo, who visited Natá in 1527, so there is no reason to doubt the Spanish records. It is probable that the climate was more or less the same as it is now: Oviedo refers to the infamous dry-season wind, strong enough to knock down houses and there is, in fact, no concrete evidence against the same weather patterns having existed in Panamá for some 4000 years.

Of obvious importance to a study of human settlement in Coclé are two questions concerning the savannah: how long has it been there and how has man affected its origin and expansion?

Ecologists are still arguing about the origins of the savannah in tropical lands. Köppen took the savannah belt of the Tropics as one of his great climatic regions (Periodische trockene Savannenklimate) but the climatic theory for the origin of savannahs is now discredited (Budowski, 1956: 23). Experiments have shown that the original climax forest should replace itself after a variable number of years unless it is affected by two primary factors: continual wastage of the soil by man, and fire (Budowski, 1959a: 272-3). Hence, modern ecologists argue that savannah conditions are induced either edaphically (through wastage of the soil) or biotically (through the agency of man). This is tantamount to tautology, as the soil conditions are generally begotten by man; and so Budowski compromises and telescopes the contrary theories into one: "sabanas naturales edáficas" (1959a: 261). Bennett, in his classification of the phytophysiognomic regions of Panamá, follows the same conciliatory approach by synthesising both biotic and edaphic factors (1968: Map 4). One of his major divisions, for example, is described as "low trees and / or bush, mostly non-deciduous, often fire- and drought-resistant, grass usually abundant; very culturally disturbed conditions due to fire, over-grazing and associated edaphic changes".
Accepting, then, that the savannah of Panamá has been affected by the agency of man, of immense importance is an assessment of the longevity of this interference. Cultivated maize has been found in pollen cores dredged from beneath the Canal Zone at about 2000 B.C. which indicates that agriculture was being practised at least by that date. This might well imply that the Monagrillo people were, in spite of their apparently marine position and reliance on shellfish,* incipient agriculturalists, contrary to the initial beliefs of the excavators. The Monagrillo tool assemblage certainly reflects a dependence upon some sort of plant food, but until further data is forthcoming on the expansion of agricultural techniques in Panamá, nothing categorical can be postulated. The bone sample of Monagrillo - which presumably relates to culinary activities - included Odocoileus virginiana which was "undoubtedly the major mammalian staple of the ancient inhabitants." This species, as we shall see later, is a probable indicator of open conditions. Cerro Mangote (AG-1) also had more deer bones in its sample than any other animal and the mammalian sample of the Phase IV levels of AG-3, most of which dates before 310 A.D., is dominated by Odocoileus. So, two thousand years either side of Monagrillo, the White-tailed Deer seems to have been the major mammalian food source and it probably remained so until the Conquest.

The Isthmus of Panamá has been a deterrent to the dispersal of terrestrial organisms, both during the Tertiary, when water gaps existed in the corridor, and, theoretically, since the formation of the land-bridge, when forests would have prevented the flow of animals from north to south (that is, as the Nearctic fauna invaded the Neotropical) or, in more recent times, from south to north. The sum total of these movements has been that the Isthmus is now considered by zoogeographers to be a northward extension of the Brazilian subregion of Neotropical (iershkovitz, 1958; Bennett, 1968).

* Bennett (1968: 29-30) argues against this assertion and suggests that the site was occupied during the dry season only, and that a more diversified subsistence pattern was followed.
The removal of the forest barriers of the Isthmus by man would have enabled the southward dispersal of three northern species which "take rapid advantage of environmental conditions when they are altered to fit their ecological requirements" (Bennett, 1968: 40). The ecological requirements of the mammals in question — the White-tailed Deer, Cottontail and Grey Fox — happen to be cleared conditions with scattered cover and agricultural Pacific Panamá would have provided the optimal niche: second growth in various seral stages. Even if agriculture has only been prominent for four thousand years, deer will apparently react this quickly to their preferred conditions (and we have no way of gauging the affects that pre-agricultural peoples would have had upon the Isthmian environment).

Present-day observations of Odocoileus confirm this theory: it has, according to Goldman (1920), moved across the Isthmus literally in the tracks of the Panamá Railroad and it has recently been reported in the banana lands of Bocas del Toro and in formerly populated settlements in the Darien (Bennett, 1968: 41). A fourth animal which is attested to have moved through a corridor opened up by man is the "borreguero" lizard Ameiva ameiva, which migrated the other way, from south to north. Ameiva only frequents non-forested habitats and may once have had a continuous distribution that has since been apocopated by the closing of the Darien Gap. The Panamanian and South American forms of Ameiva belong to the same subspecies, praesignis, which indicates that this lizard is a fairly recent arrival in Panamá. It is particularly adapted to maize fields (op.cit.:45).

The fact that none of these animals — except, possibly, the fox — is radically distinct subspecifically from its northern neighbours suggests that they have not been separated for very long and the absence of a highly developed savannah fauna in Panamá indicates that the savannah is fairly young. The forest fauna is, in contrast, much more diverse (Budowski, 1959,b:
The abundance of deer, rabbit and quail in an environment indicates that it is morphologically varied: the greater the abundance of these animals, the greater the morphological variation, as the greater the number of successional stages, the greater the food potentialities for the different forms of life.

From an archaeological point of view, the above animals might be important indicators. *Odocoileus*, as we have already seen, was the primary mammalian staple at Cerro Mangote (AG-I) around 5000 B.C., at Monagrillo, about 2000 B.C., at AG-3, during Phase IV, at least before 310 A.D., and in Phase VII, immediately prior to the Conquest. If the hypotheses of the zoogeographers and the ecologists are correct, then it is possible that western Coclé was largely savannah, or had at least suffered considerably from human interference, by 5000 B.C. and remained so until the Conquest. A pelvis of *Urocyon* was found in level 4 of pit B at AG-3 and should date from Phase V and *Ameiva* jaws were found in the lowest levels of pit D at AG-3 (early Phase IV,A) and in Trench A at NA-8 (Phase VII) (Table 13).

Moving away from faunal distribution let us consider briefly an aspect of the present-day vegetation. Dominant in the vegetational composition of large tracts of western Coclé are two species which are notably resistant to fire: *Byrsonima crassifolia* (the nance) and *Curatella americana* (the sandpaper tree). These two species are particularly abundant west of Aguadulce in what is tantamount to a no-man's-land between the valleys of the Santa María and the Chico rivers. This area is now so laterised and pitted with erosion that it is impossible either to graze cattle or raise crops here. Again, the ecologists have not yet decided amongst themselves what are the most important catalysts in the development of these "chumicales" and "nanzales". Bennett lists the "chumical" as an important feature of the Pre-Columbian vegetation (1968: Map 4), while Johannessen, writing of Honduras, takes the opposite view, and thinks that the modern cattle industry has seriously curtailed grass growth, and that as grass is a natural competitor of trees, this has increased the extent of woody tracts (1963: 109). Nata was certainly
in popular cattle-raising country after the Conquest and it might be that the heavy laterisation and the creation of extensive "chumicales" and "nanzales" were the result of Colonial grazing activities. But, whatever the influence of Post-Columbian agriculture, the original catalyst must have been continual burning, and the super-abundance of fired and denuded lands is surely testimony to a very long history of human interference with the vegetation.

This is really as far as a non-ecologist can take the discussion. Whether the above-mentioned region to the west of Aguadulce, the "sabaneta" on top of Cerro Banco, or the vicinity of the settlement of San Miguel along the Río El Caño - the worst eroded tracts of land I have seen - are unequivocal evidence of Pre-Columbian disturbance on a large scale, is open to question. It would be my guess that the first of these regions is of considerable antiquity and, at the time of the cacique Natá, formed the natural boundary between his territory and that of Escoria and Pacara. (Aguadulce is a modern foundation, planted eighty years ago after the secret of deep wells had been discovered). The actual dividing line in terms of settlement might well have been the Río Pocri, just as the Río Coclé and the grey soils to the east were the dividing line from the territory of Chirú. Thus we can define Natá's lands in terms of the best agricultural lands of the Province. This is what the chroniclers imply when they extol the bounties of Natá's markets.
CHAPTER 10

A survey of the relationships between the western Coclé Province and other regions both within and outside the Isthmus

Unfortunately, one of the primary concerns of this study - the acquisition of a stratified series of radio-carbon dates from different sites in western Coclé - has not been fulfilled, and in all probability will remain unfulfilled for some time to come. Datable material was collected from the bottommost, middle and uppermost levels of the Phase IV occupation of AG-3; from beneath a Mendoza Polychrome drum buried with skeleton C-I at AG-3; from the second and third strata of Trench A at NA-8; and from the refuse mound (pit B) at NA-I3. The carbon from the uppermost level of the Phase IV deposit at AG-3 is the only sample to have been analysed so far. This lack of absolute dates means that most of our summary of the internal chronology of the surveyed area will have to depend, for the moment, upon correlations with artifactual assemblages and carbon determinations from outside areas, many of which are still unpublished or have been poorly documented.

The earliest known site in western Cocle (AG-I, Cerro Mangote) is also the earliest yet published from the Isthmus, if we exclude the various reports of "fluted" points from the Canal Zone area which must be considerably earlier (Mitchell, 1959 & 1960; Sander, 1959 & 1964; Stewart, 1968: 73; B. Brown, material unpublished). Its lithic assemblage resembles that of the early ceramic Monagrillo site and must be ancestral to it. Similar material, probably on a similar time-level, has recently been reported from cave-shelter sites in the western Chiriquian Cordillera. Knowledge of pottery making had certainly arrived in Panamá by 2000 B.C., but no manifestations of the Monagrillo Complex have come to light in Coclé. Some sherds found at McGimsey's Co-24 site near Aguadulce compare
with the Sariguá Complex which has been assigned a date of 1000 B.C.,
rather dubiously, in the literature. Willey and McGimsey initially
compared the Sariguá sample with some material illustrated by Linné
from the Darien - Puerto Piñas and Cocolito (1929: figs. 45&46) -
but the use of slit punctation bounded by incised lines and appliqué
ridges occurs on later wares in Panamá (compare Plate 55, a-h of this
study). Lothrop considers that the material excavated by Bull at Chame should
be included within the Sariguá Complex (1966: 203), but the author believes
the Chame material is late; the modified fillet appliqué in Bull, 1959:
fig. 21, for example, is identical to the common mode of the Corteza Red-Buff
Ware in western Coclé (compare Plate 51, h), while the sherds in op.cit.:
fig. 28, a, c & e are in the Olá - El Tigre Ware tradition, which is
probably exclusively Colonial. Haberland sees "very slight similarities"
between Sariguá and Aguas Buenas in Chiriquí - for example, shell stamping
(1969: 236) - and other authorities have taken their comparisons even further
afar, as far as coastal Guatemala, where Coe has compared Ocós material
to the Sariguá Complex (1960: 383). Ladd refutes such guesses of correlation
(1964: 230), and once admitted to me in conversation that he could not under-
stand what all the fuss was about a sample which only numbered two hundred
sherds and came from very shallow sites.

The poverty of our knowledge about the period between Monagrillo and
Phase IV is perhaps best summarised by this statement of Haberland: "It
is more probable that any phases similar to Aguas Buenas or Concepción, if
present (in the Parita Bay area), would fill the gap existing between the
Sariguá and Santa María Phases" (1969: 236). This is no place for any
further altercations on the "Scarified-Aguas Buenas-Concepción" complexes,
upon which the author is not qualified to comment. The one
point relevant to the chronology of western Coclé that must be clarified is that the radio-carbon date often assigned to Harte's and Stirling's material from Guacamayo and Limón - originally quoted as $20.45 \pm 4.5$ B.P. (Feriz, 1959:732) and later modified for the Suess effect to $22.90 \pm 4.5$ B.P. (between 385 and 295 B.C.) (Ladd, 1964:12) - was obtained from beneath an "ash-fall" at Cerro Punta in Chiriquí, a considerable distance from Pueblo Nuevo, near the Veraguas border, the site of the material with which it was originally compared.

The pottery from Cerro Punta has not, to my knowledge, ever been described, and the Pueblo Nuevo material has been badly published. Haberland, who has seen it first hand, does not think it is "Scarified" (1969:239.) It is, frankly, better to forget this date altogether where Coclé is concerned, until more "Scarified" ware is forthcoming, to prevent its prejudicing future assignations of dates through pre-conceptions. Linares' and Ranere's work in both Highland and Coastal Chiriquí, will no doubt help to clarify the obscure relationships in that province between the "Aguas Buenas", "Concepción" and "Scarified" traditions and the more accurately defined Boruca Phase of Linares which supersedes them.

One generalisation we can safely make is that the strange, goblet-shaped vessels with appliqué coffee-bean nubbins and the subglobular collared jars with herring-bone scarifications dug from deep tombs on high ridges in the Coclé foothills (Guacamayo and El Limón) are in the same general stylistic tradition as a number of other wares which have been discovered along the Pacific coast of the Isthmus. Haberland has recently written a good summary of the distribution of this pottery and it is his opinion that the material found in the Tonosí Valley, on Taboguilla and on top of Guacamayo is contemporaneous (1969:239.)

The precise chronological relevance to areas outside Tonosí of the incised and plastically decorated Búcaro Phase material of Ichon must await
the publication of the French project. The Búcaro Phase, which has been given a carbon date of 1930±100 B.P. (approximately 20 A.D.) for a sample from a fairly deep habitation level at La India (Ichon, personal information), is characterised by pottery which is decorated by simple "scarifications" - parallel, fine-line incisions - and other plastic modes, and also a very small quantity of black-on-red sherds which are probably the harbingers of the more extensively polychrome traditions of the El Indio Phase. Interestingly, this same El Indio Phase which succeeds the Búcaro includes as one of its diagnostic pottery types a ware which is very similar to the "Scarified" goblets of Guacamayo, along with pottery that utilises fillet appliqué notched with the edge of a shell. Some of the Escotá Red-Buff sherds at AG-2 and AG-3 and also in the refuse at PN-5 are decorated plastically with a multitude of subtleties, one of which incorporates fillet appliqué and shell edge stamping (Plate 63, b, c, e & f), and some shapes - notably the straight-walled vessel with some kind of base (compare Lothrop, 1942: figs. 346, h & 349, f) - are somewhat similar to the "goblets" of Guacamayo. Plastic decorative modes on Escotá Red-Buff vessels are absent at PN-II, except for a sherd with incised lip and two "cañaza"-punctated sherds, and it is the author's idea that they peter out half-way through Phase IV and perhaps form a direct link between the Aristide-Escotá pottery and an earlier, totally plastic tradition. This hypothesis is corroborated by the sherd in Plate 61, d, which combines "scarifications" on the exterior with a Girón-type circumbanded decoration on the collar (fig. 137, a). At Taboguilla-I, Stirling excavated some sherds with fine-line incision and herring-bone patterns similar to Stirling, 1964a; fig. 17 (Limón, Coclé) and Mitchell and Heidenreich, 1965; Plate 9, b (Tonosi). These incised sherds were mixed in with polychromes which have Cocobó- and Escotá-like designs and the excavator noticed no quantitative lensing throughout the deposit, which he considered represented a single...
occupation, over a not very considerable length of time (1964,b: 312.)

Haberland, on the other hand, thinks that a two-tiered-deposit is concerned, and that the plastically decorated sherds are earlier than the polychromes (1969:238.)

The generalised distribution of sherds with similar plastic modes and shapes suggests that the pottery along the western Pacific littoral of the Isthmus from Lonagrillo/Sariguá to about 200 A.D. (Ichon's El Indio Phase) remained non-polychrome. However, the spatial and temporal significance of this pottery has certainly not been worked out and there are some strange problems of association which need clarification: the occurrence of "Guacamayan" goblets with scarifications in graves of the El Indio Phase at Tonosí, and the association of similar material with, presumably, Phase V polychromes at Mojara, near Ocú, Herrera (Stirling, 1964,b: 233;) the use of thin applique ridges with a very thin, clouded white paint on Escotá Red-Buff sherds at AG-3, which approximate the ridges on Sariguá sherds (Plates 62, 6 & 31); and the combination of tall pedestals and wavy, combed incisions with black-on-buff interior decoration which resembles that of the Cocobó Interior Banded Type, on material from Stirling's Taboga sites. These question-marks will remain until a deep deposit with isolated material, like that of La India, is found.

One rather intrepid hypothesis is worth mention at this juncture. The chronology of the ill-fated Venado Beach is in a turmoil and will probably never be resolved by further digging. The pottery styles which have been rudimentarily published from the site fall into four basic traditions: a brown ware characterised by animals modelled in relief, with their features outlined by incisions and punctations (Iesse, 1964: Plates, 3,4,a,12,13,14, 16-18,24&25;) another modelled brown ware, with the emphasis on sculpturing in the round and much deeper, more neatly executed incisions (actually, correctly, excisions) (op.cit.,Pltes.5-8;) and at least two polychrome styles
which are similar to the Aristide and Conte Polychromes and are obviously part of the same Phase IV and V traditions. These polychromes will be discussed further on.

The two incised "styles" are often considered to be contemporary, "local" manifestations of a "Venado Beach Culture" and are assigned names like "Venado Beach Incised" in the literature (Ladd, 1964: 199). In the author's opinion, these "styles" are quite different, and represent two distinct chronological periods at the site. Material very similar to the "Incised Modelled Relief" category, with the same iconography which employs sea-snakes and frigate-birds, turns up commonly right across the Canal Zone, especially in the vicinity of Madden Lake (Crusoe, 1968a; Snyder, material unpublished). It has been reported from the Pearl Islands by Linné (1929, fig. 21a) and from Cupica, Colombia, by Reichel-Dolmatoff, who assigns it to Phase I at the site (1961: Lam. V, III). Stirling unearthed large quantities at Utive in the Panamá Province, which have never been illustrated or described (Stirling, 1950); to judge from the collections in the Smithsonian Institution, the sherds are the exact duplicates of material from Venado Beach and Panamá Viejo. More interestingly, Wagner has acquired a radiocarbon date of about 300 B.C. for material which is remarkably similar to Snyder's surface collected sherds from Madden Lake, from La Cucaracha (Venezuela) (Wagner, personal information).

In contrast, the second category, which relies on modelling in the round and deep incision and punctuation rather than bas-relief, has been found at He-I (a whole find, 21-g, with "groove-lip" Smoked Ware and other vessels, and a fragment of a similar vessel with "Early Coclé" polychromes), and also at He-2, with a "Girón" - probably Talingo - Interior Banded bowl, and red-buff vessels (Ladd, 1964: 199). Two and perhaps three sherds from AG-3
(Plates 58, d & e and 59, m) are all from post-Phase IV levels. Ichon reports the same kind of pottery from the Tonosi area, from his fourth (Bijaguales) Phase — about 900 to 1500 A.D. — and Lothrop illustrates a complete example from Los Santos (1942: fig. 459). Moving eastwards, Reichel-Dolmatoff found at Cupica a very elaborate vessel from the fourth phase at the site (1961: Lam. XIII, 3 & 4). The incorporation of the above examples together is perhaps premature and too uncritical, but Ladd, who was able to study the vessels in the hand, made a direct comparison between the first-mentioned vessel from Le-I and others from Venado Beach which are housed in the Peabody Museum (1964: 199). Moreover, I am of the opinion that the exotic double bird effigies in Biese, 1964: Plates 5 & 6 could simply be imitations, or representations, in non-polychrome incised ware, of the polychrome bird effigy vessels from the Parita Bay area (Parita Polychrome, Nispero Variety: Ladd, 1964: Plate 4, a & b).

Whether we can say that this type of pottery is really limited to Venado Beach is doubtful — here again, it was found quite plentifully at that site which has hence been assumed at the type locality. Whatever the case, the associations of sherds of "Venado Beach Incised" ware west of the Canal Zone are definitely late, post-Phase IV, while the little evidence we have for the "Incised Modelled Relief" category points to an earlier time level.

If we may return to Cocle after this digression, the occurrence of some sherds which combine bas-relief modelling and punctations with a "cañaza" is interesting. Some Snake Effigy Ware vessels probably have "cañaza" punctation adorning the bodies of the "snakes" (as in Lothrop, 1942: fig. 347,b) and the sherd in Plate 30, top row, second from left may be such an example, but the sherds in Plate 30, top row, second from right, middle row, first two from left, and bottom row, far right, and also Plate 58, a, and Lothrop, 1942: fig. 430, a, combine "cañaza" punctation with the outlining of the "animal" with incisions and are very similar to "Incised Modelled Relief" material from Ladden Lake. The large sherd in Plate 58, a,
found at the Charco de la Casa de Zinc, near Cerro Zuela, is fashioned in a paste which fires light grey and has large, sparse nodules of hematite, which might be a degraded tuff, redeposited in a river bed, and mixed naturally with the "temper" by fluviatile action. At any rate, there is no reason to believe that the sherd was not made locally. The strange pottery drums with the "fantastic raised designs" excavated by Dade from Burial I8 at PN-17 have already been mentioned in conjunction with the Escotá Red-Buff plastic modes (p. 274); perhaps these designs were zoomorphic, like Plate 52, a. Verrill refers to a pottery from the bottommost levels of the Temple Site (NA-20) with crude incised designs and rudely modelled ornaments in the form of animals and human heads (I953: 83).

Can we suggest one point arising from the above argument: that the possibility be borne in mind that somewhere in the Bay of Parita area Incised Modelled Relief pottery very similar to that of the Madden Lake-Venado Beach-Cupica area will one day be found, filling in some of the gaps between Monagrillo and Phase IV? Besides, is there not an uncanny similarity between, say, Biese, 1964a: figure 2 and Lothrop, 1942: figs. 70, 94 etc. and Biese, Plate I2,a and Lothrop, fig. 53, the only difference being that one is plastically wrought and the other painted?

True bichrome pottery - utilising black paint on a red ground - probably first occurs at the tail end of Ichon's Bácaro Phase, about 200 A.D., with a provisional type Javillo Noir-Sur-Rouge (Ichon, personal information). If we accept that the Aristide and Tonoí Polychrome Groups are regional manifestations and hence contemporaneous, black-on-red pottery presumably appeared at about the same time in western Cocle as the Javillo pottery developed in the Tonoí region. The first manifestations must have been the Escotá Black-on-Red and the Cocobó Interior Banded Type and the Girón Banded Lip varieties which utilise designs on a red lip.
The case has already been put forward for a gradual change in the ceramic composition of Phase IV, with some categories dropping out while others begin to materialise, white slip becoming increasingly popular, bichrome painting merging into trichrome, and new representational designs appearing. Before we jump to definite conclusions about this sort of progression, I think we ought to pause awhile to consider the relationship between the Tonosí and Aristide Polychromes more closely.

The Tonosí Polychrome tradition seems at present to be limited roughly to an area which comprises the Valley of Tonosí, the western coast of the Azuero Peninsula, and lowland Veraguas bordering on the Gulf of Montijo. McGimsey’s Mariato sites, Mo-I and Mo-3, are dominated throughout their deep but probably single component deposits by pottery which is identical to Ichonis El Indio Phase material from further south. The two radiocarbon dates processed for the El Indio Phase at Tonosí, 390±100 A.D. and 450±100 A.D., comply well with the dates obtained for Mariato: 250±120 A.D. at the bottom of Mound 2 at Mo-I and 470±120 A.D. halfway up the same deposit; and 190±130 A.D. at a depth of 215-225 cms. in Mound 4 and 550±120 A.D. at 130-150 cms. The dates at Mo-I are internally consistent and indicate that the deposit was built up over a period of about 400 years during which the Tonosí Polychrome was paramount (McGimsey, nd.) At Las Huacas, in the Gulf of Montijo, de Brizuela has recently obtained a date of about 405 A.D. for a grave which contained Tonosí Polychrome (Ichon, personal information). All told, the Tonosí Polychrome is anchored firmly to between 150 and 550 A.D. throughout its range. (Ichon himself suggests a date of 200 - 500 A.D. for the El Indio Phase at Tonosí).

The radiocarbon date for the uppermost level of the Phase IV deposit of pit B at AG-3, 310±90 A.D., places the end of the first half of the Phase, A, at about the same point in time as the half-way stage of the El Indio Phase further west, and establishes the contemporaneity before about 350 A.D. of the nineteen Tonosí Polychrome sherds found beneath 60 cms. in pits B
and D and those ceramic forms which are diagnostic of the earlier half of Phase IV. The radio-carbon date together with the similarities between the two Groups in some aspects of shape and decoration, make it reasonable to suppose that the Aristide Polychrome is a poorer, contemporary relation of the splendid Tonosí Polychrome. Preliminary analysis of some of the Tonosí Polychrome sherds found at AG-3 has at least indicated that they are possibly from Tonosí (Ichon, personal information, per M. Picon). Certain compositional concepts of the two Groups are obviously related: the flattening and everting of lips upon which the design is painted; the use of positively expressed negative elements ("leaf-shapes"); the arrangement of geometric designs radially around the lip of a bowl. The transitional El Indio-Cañazas Phase polychrome in the Tonosí region, the Montevideo Polychrome, resembles strikingly that from western Coclé, the Corotú Polychrome, which suggests that the two divergent local traditions, one west and one east of the Santa María river, merged some time towards the end of Phase IV to form the more homogeneous and more widely distributed tradition of the Conte-Joaquín Polychromes.

However, though I personally feel that there can be little doubt that the Aristide Polychrome Group of Phase IV is contemporary with at least part of the El Indio Phase of Tonosí, there are some problems of their association which I think ought to be mentioned at this point. Before a sequential sample of carbon dates is run, over a wide area, it is wise not to be overly dogmatic.

Material very similar indeed in both form and design to the Girón Banded Lip Type occurs at the Búcaro, El Indio and El Cafetal sites in a context which Ichon considers to be transitional between the El Indio and Cañazas Phases. This material is not common and it would be easy
simply to dismiss it as "trade" from the regions to the east; but the arrangement of the designs and the use of horizontal lugs beneath the exterior collar are alien to the Aristide sample from western Coclé and it is my belief that the pottery is locally made. The lugs certainly link it to utilitarian wares from Tonosí. A few sherds with Girón characteristics turn up also at Mariate; Girón Banded Lip vessels have been found in graves near Santiago (Mahler, I96I:222); and I have seen sherds of Escotá Black-on-Buff supposedly excavated from a deep grave near Cañazas, central Veraguas.

Conversely, Tonosí Polychrome sherds have been illustrated from a number of sites along the Parita Bay coast of the Azuero Peninsula: Macaracas (Lothrop, I942: figs. 468, 469,b, 470,c & 472,a); He-I (Ladd, I964: Plate I6, b & b-j); and He-4 (op.cit.: Plate I5, b,j,k & o). In western Coclé they have been found in small numbers at PN-5 and AG-2 as well as at AG-3. Tonosí-like vessels have also been reported from the Canal Zone (Mitchell, I964: 57I).

These occurrences could, of course, all be quite logically attributed to trade and I tend to believe that they are trade. But the transitional position of the Girón-like sherds at Tonosí and the definite occurrences of Aristide material in Veraguas, where Tonosí Polychromes are also found, suggest that a lot more work is needed before the precise cultural frontier between the two seemingly contemporary traditions can be accurately worked out, and present the possibility that the Aristide tradition extended its range westwards and lingered on after the Tonosí tradition had already disappeared, or was waning. There is also the much more remote possibility that the date for AG-3 is too young, and that the Aristide Polychrome represents a stylistic regression from the Tonosí Polychrome all over the Pacific littoral, the Tonosí sherds at AG-3 being representative of an earlier, shallow occupation. Any lingering doubts would be dispelled by the excavation of more midden sites and the analysis of the carbon samples from lower down the Phase IV deposit at AG-3.

The relationships between the Aristide Polychrome Types and the ceramic categories to the east of Coclé have been cited under the pottery descriptions. The sum total of similarities indicates that the same Phase IV tradition of western Coclé extended right along the Pacific coast at least as far as the
anal Zone. "Santa María" pottery has been reported from a cave site in Panama Province, the Río Mata Ahogado (Crusoe, 1968b:1) and material very similar to the Aristide Types and Varieties is found on the Taboga Island group and at Venado Beach and Panamá Viejo. For Venado Beach there are two radio-carbon dates which are often quoted in the literature: 227±60 A.D. and about 900 A.D. (Lothrop, 1959: 169 & 1966: 203). There is some confusion about the pottery with which these dates are connected. According to Lothrop (1960) they were obtained from charcoal recovered from "typical urns" at the site, though he says in his 1959 paper that the earliest date is connected with pottery similar to the earliest polychromes at Sitio Conte, which I presume mean fig. 18, b & d of his summary of 1966, which are labelled "Early Painted Pottery in Panamá". Lothrop, who took part in some of the Venado Beach excavations, thought that the material "exhibits such unity of style, both in pottery and metal or shell ornaments, that these dates may indicate too long an occupation" (1966: 203). "Unity of style" is surely an over-simplification: we have just seen how the two incised styles are probably chronologically distinct, and the polychromes known from the site span at least Phase IV, transitional IV-V, and probably VI and VII as well. So, considering that the vessels which provided the carbon for the dates have never been illustrated, the dates are, firstly, best ignored at present, and, secondly, probably indicative of the long occupation everybody is trying to deny. Lothrop's insistence on the brevity of occupation is strange as he himself noted that the vessels in 1966: fig. 18, b & d "represent the shift from single line patterns to a full polychrome technique with black outlines completely filled." In this he is surely right and the bowls he illustrates are the representatives in that shape of a transitional form lying between the Cocobó Interior Banded and Conte Polychrome bowls and plates. The isosceles triangle motif which occurs on op.cit.: fig. 18, d, has already been mentioned as a link motif between the Corotú and Montevideo and Conte Polychromes (see p. 117).

In the Tonosi Valley, the transitional polychrome between the El Indio
and Cañazas Phases - the Montevideo Polychrome - presumably appears some time before 500 A.D. (The radio-carbon date from El Cafetal, $390^{+100}$ A.D., was from a Transitional El Indio-Cañazas context, but Ichon thinks it is too young). As argued in Chapter 4, the Corotú Polychrome is surely contemporary with the Montevideo and we ought to consider the Venado Beach examples mentioned above as part of the same tradition. At La Bernardina and Guaniquito two radio-carbon dates from Ichon's Bijaguales Phase, which succeeds the Cañazas, have been obtained: 850^{+95} A.D. and 955^{+120} A.D. These must provide more or less the terminal dates for the Conte Polychromes and Phase V in western Coclé as the polychrome ware of the Bijaguales Phase is Macaracas. Trade sherds of Conte style - which need not, of course, be from Coclé - have been found in middens in coastal Chiriquí, in a Burica Phase context, which Linares dates from 500 to 800 A.D. (The terminal date of the Burica Phase is based on a carbon date of 1020 A.D. for the succeeding Phase) (Linares de Sapir, 1968: 86-88). On absolute and relative evidence, then, we should expect a date of somewhere between 500 and 800/900 A.D. for Phase V in western Coclé.

The occurrences of Phase V polychromes in Panamá have been summarised elsewhere in this study. Suffice it to say that they are found in a fairly constant pattern from eastern Veraguas (the Bubi district), along the Gulf of Montijo and down both coasts of the Azuero Peninsula; in coastal Coclé at least as far north as Guzmán, and perhaps over the Cordillera on the Caribbean side, where the Stirlings have reported purple-painted pottery; in Panamá Province west of the Zone; at Venado Beach and Panamá Viejo.

Unfortunately, illustrated examples of Phase V polychrome vessels from Venado Beach and Panamá Viejo are few. I think the obvious links of these sites with the west are best epitomised by the beautiful little mother-of-pearl piece in the Heye Foundation collection, which is illustrated by Dock-
stader (1964: Plate 187). This has the incised scrolls and "haemal arch" motifs so typical of the Conte Polychrome. There is also a very obvious link between the gold plaque in Lothrop, 1956: p. 35, from Venado Beach, and Lothrop, 1937: figs. 90 & 91, from PN-5.

The Cañazas Phase (Joaquin) Polychrome from the environs of Tonosí has not yet been published. As argued in Chapter 2, the creation of a localised sequence and nomenclature for this region is more justified than it is for the region under study, but, though we ought to accept that the Joaquin Polychrome is a thriving local style in its own right, its links with the Phase V polychrome from western Cocle and elsewhere are obvious, and it definitely forms part of the same generalised ceramic tradition: the same "drooping-lip", the same clawed elements, the same YC scrolls, and the same arrangement of the designs occur here as in other localities. "Flat-lipped" and "groove-lipped" vessels - common in Phase V in western Cocle (Conte Red and Smoked Ware) - appear halfway through the Cañazas Phase. A notable difference from Cocle and coastal Veraguas and the Canal Zone area is the lack at Tonosí of red-on-white-slip pottery, which is not found at any time, the only non-polychromes being buff, red-buff or smoked (Ichon, personal information).

Many authorities have speculated on the possibility that the catalyst in the development of the polychrome traditions of Panamá came from outside the Isthmus. Uhle (1924) tried to detect Mayan influences in Panamanian pottery and Lothrop in his initial survey went as far as Marajó, Brazil, and Chimá, Perú, looking for paths of diffusion (1942: 253-257). More recently, since the backdating of the PN-5 deposits, he has suggested Chavín as the originator of the mouth spirals and serpent tongues of "Coclé" and "Veraguas" gold work, Mochica as the reciprocant of a common "proto-feathered serpent" with two
legs and Tiahuanaco as the home of square teeth (1961: 258-265). Links between Panamanian and Colombian material have been suggested by Reichel-Dolmatoff, who sees similarities between the "Coclé" and the "La Loma" and "El Horno" polychromes, of which he states:

"The polychrome wares of La Loma and El Horno are probably in part derived from Momil, but there are very strong resemblances with the polychrome pottery of Panamá, especially with the Coclé complex. Although there is some evidence for a west-to-east overland diffusion, from Panamá right across northern Colombia to western Venezuela, the possibility of diffusion by coastal navigation cannot be disregarded" (1965: 120-121).

In Venezuela, Rouse and Cruxent attempt a correlation between Panamá and the Dabajuro style of the Dabajuro series, dated by them to between 1000 A.D. and the Conquest (1963: 66 and fig. 9). Suggestions are also made of connections between the First Painted Horizon of western Venezuela and Panamá (op.cit.: 77).*

The similarities between these "styles" and Panamanian "styles" are so generalised that only the most subjective observer would accept them in the light of the available evidence. Nevertheless, the excavations undertaken in recent years by Alberta Zucchi in the "Llanos" of Venezuela have presented slightly more feasible evidence of connections between Panamá and Venezuela. Zucchi says of her Phase 'A' of the "Complejo Caño del Oso" at La Betania: "se han podido establecer algunas similitudes con el material de Coclé, especialmente con los complejos de Santa María y El Hatillo," and she cites specifically similarities between her pedestal plate type B3-3a-0 and vase shape Type E and Ladd's Cuipo Variety of the Macaracas Polychrome. Her carbon date for the end of the Phase, 230 B.C., is far too early for "El Hatillo." More rational and interesting are the possible relationships with "Santa María", of which Zucchi says:

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*A comprehensive survey of the relationships between Colombian and Venezuelan and Panamanian fine polychrome styles was made by Ladd (1964:226-234).
"La decoración pintada tiene algunas relaciones con el Complejo Santa María, tanto con el Santa María Polychrome, como con el Santa María Red-Daubed. El material del Complejo Caño del Oso comparte con el primero los motivos siguientes: grupos de líneas horizontales y verticales, triángulos pendientes, y en los platos, las bandas radiales y concéntricas. En cambio, con el Santa María Red-Daubed, comparte la decoración irregular de los boles y las ollas, consistente en manchas chorreadas, gotas de pintura, gotas irregulares y trazos verticales irregulares" (1967: 183-184 & Lam. 10, c-f).

Most of the "similarities" quoted by Zucchi are far too simple even to warrant our attentions - red-daubing, for example, is a very widely utilised trait in Panamá in several areas and at most time periods - but there are some stylistic connections between the Girón Banded Lip and Escotá Types of Phase IV that at least deserve mention: the closeness of Zucchi's "bordes" C-3, C-5, E-2 and E-3 to those of Girón Banded Lip vessels, of the mode of decoration in Zucchi's Lam. IO, to the Girón Banded Lip, Scalloped Variety, and of some decorative motifs on the exteriors of recurved bowls to Escotá motifs. Again, these similarities are probably too generalised to be really significant, but the combination of radially arranged geometric designs on an everted and flattened lip in both the Caño del Oso and Girón pottery is interesting. Also interesting is the similarity in the designs of Zucchi's Lam. 9 and two vessels from Pacific Panamá, one illustrated by Bull from Chame (1959: fig. 27, a & b), the other by Stirling from Taboguilla (1964b: fig. 48).

In a recent article Zucchi suggests two hypotheses concerning the development of polychrome painting in the "Llanos" of Venezuela, according to which the technique first materialised some time between 2000 B.C. and 1000 B.C. in either Colombia or Venezuela and was spread northwards into Central America after 300 B.C. That polychrome pottery in the Isthmus evolved gradually from simple, single-line designs to colour-filling, and from geometricism to elaborate representationalism, seems obvious, and the evidence we have suggests that this evolution was an Isthmian manifestation, little affected by outside influences, "diffusion" or what have you. Much more evidence is required from both the Caribbean and Pacific coasts of Colombia, and from Venezuela, before temporal links of the kind suggested by Zucchi can be proven; but the very early dates she has for the Complejo Caño del Oso and the admittedly superficial similarities between Venezuela and Panamá cited above, ought at least to be borne in mind (Zucchi, 1972: 444-445).
Relationships between western Coclé and regions to the east in Phases VI and VII become less clear than in the preceding Phases. At Cupica, Colombia, a hump-backed polychrome vessel from a grave has been associated with a date of 1227 A.D. (Reichel-Dolmatoff, 1965: 132). The style of painting on this vessel—fine black lines, reduced areas of purple, compression of design elements—is more in the Phase VI (Macaracas) tradition than the Phase V (Conte). Hump-backs of this sort did not occur in the graves at PN-5, but they are common in Veraguas (Dade, 1959a), and it might be that they are limited to Phase VI. Non-polychrome hump-backs are common in Veraguas and Herrera (Dade, 1968) and have been reported from Darien (McGimsey, 1964:48).

A gourd-effigy Smoked Ware vessel found in a grave at Cupica (Reichel-Dolmatoff, 1961: Lam. XIII,A) is similar to another found at NA-I3 (Plate 64) and is also associated with the above date. The only difference is in the base—a short pedestal on the Cupica example and a type B ring-base on the Coclé. Somewhat similar vessels are known in red ware and Smoked Ware from PN-5, so this type of vessel may have a long history in Panamá which would lessen the value of the above correlation. Reichel-Dolmatoff suggests that Cupica was inhabited by people coming from Panamá "undoubtedly by sea", who established "small colonies on the Colombian beaches and eventually reached the area of Bahía Solano where stray finds of the same pottery bear witness to the southward advance (Reichel-Dolmatoff, 1965: 132); he might well be right about colonisation from Panamá, but the author would not be surprised to find a more slowly expanding, or even
indigenous settlement of "Panamanian type" stretching right round the coast from the Canal Zone to the region of Cupica.

Though the developed polychrome pottery found in the Canal Zone area is generally thrown about in the literature as "Coclé-like" or "Sitio Conte-like", I think we ought to be careful about automatically assuming a Phase V date for it. Some objects - the mother-of-pearl ornament already quoted and the vessel in Biese, 1964: Plate 21,b, top left - are without doubt Phase V in style, but the decorative panel consisting of crocodile heads appended to the inner turns of a "Greek Key" which adorn the human effigy vessel in op.cit.: fig. 13, looks like a poor example of Phase VI (Macaracas) polychrome and can be compared with the vessel on the cover of Volume 5 of the Panamá Archaeologist. A typical Parita Polychrome frog-effigy handle is also illustrated by Biese (fig. 10) and the design on the pedestal in his Plate 21,a, looks suspiciously like the Variety A design of the Mendoza Polychrome. A similar pedestal is illustrated by Linné from the Pearl Islands (1929: fig. 25,b) and a bowl, also from the Pearl Islands, has a stylised, rectangular-faced saurian with notched teeth, painted on the interior (Linné and Disselhoff, 1961: 131).

These last examples are perhaps stretching the point a little, as it is really too early to state categorically that they are the Phase VII manifestations of the Canal Zone area. But developed polychrome pottery, both with purple paint, and with three colours only, both curvilinear and geometric, is ubiquitous east of El Valle, occurring on the Pearl Islands, at Venado Beach and Panama Viejo, across the Canal Zone at least as far as Madden Lake, and reaches as far as Cupica on the Pacific coast of Colombia. The 1227 date from Cupica ought to suggest that there is a post-Phase V polychrome tradition all along the Bay of Panama.
In the Tonosí region, Ichon finds Macaracas and Parita style pottery at his late sites (Guaniquito, El Pital and Bucaro.) The percentages of these styles is low (0.5% in a stratigraphic test at El Pital, and 1% at Bucaro) and Ichon thinks that this might indicate a foreign provenience for the pottery (Ichon, personal information.) Be that as it may, the percentages of Mendoza Polychrome in the top levels of AG-3 and PN-11 and at NA-13, all of which provided good statistical samples, were low, and I do not think a low percentage of polychromes in a sherd sample - especially from a midden - necessarily argues for trade. Macaracas Polychrome vessels are found in graves at La Arena de Quebro, on the western tip of the Azuero Peninsula, which is very close to Tonosí (Biese, 1962.)

Ichon does not divide his Bijaguales Phase into two, but, as he has no El Hatillo material, the latest occupation sites might not yet have come to light. A summary of the distribution of the Phase VI and VII potteries in Panama was given in Chapter 4: both Macaracas and El Hatillo/Mendoza pottery turns up from the border of Veraguas and Chiriquí, across the central Plains of Veraguas, in the Azuero Peninsula and through Cochlé, Macaracas sherds being found as far into the foothills as El Copé and El Limón. An interesting correlation between Macaracas and Chiriquian material is the finding of 25 sherds, identified by Ladd as Macaracas Polychrome, Higo and Rica-Pica Varieties, in the San Lorenzo Phase of the coastal sequence. This provides a clue to cross-dating, as Linares states: "neither the Late Cochlé Phase nor Macaracas Polychrome Varieties have been assigned date estimates in the literature; cross-datings with the San Lorenzo Phase and the beginnings of the Chiriquí Phase would, therefore, favour a range of years for Late Cochlé and Macaracas between A.D. 800 and A.D. 1200 or 1300" (1968:88.) The beginning date coincides very well with the dates obtained for the beginning of the Bijaguales Phase in Tonosí and should apply
more or less to the beginning of Phase VI in western Coolé. Linares suggests a date of 1200-1300 to 1500 A.D. for the Herrera Phase in the Parita Bay area, based on the findings of "Herrera Phase" sherds in her Chiriquí Phase (op.cit., 89.) None of the sherds illustrated by Linares is geometric (El Hatillo/Mendoza) but the material was identified by Ladd and the correlation is surely sound. What little evidence we have ought to date Phase VII from about the thirteenth century of our era to the Conquest.

One interesting aspect of the recovery of Phase VI and VII kitchen material from living sites in western Coolé has been the revelation that a number of plastic decorative and appendage modes and shapes of the non-polychrome wares compare closely with material found west of the Santa María, particularly in Veraguas. These modes have often been considered manifestations of localised apogees ("Veraguas Culture," "Veraguas Clásico" etc.) Typical non-polychrome rims belonging to the Conte Red and Smoked Wares in Coolé (the "drooping-", "groove-", and "flat-lips") are well distributed in the west. This suggests that the everyday ceramics - at least from the border of Coolé right across the central plains as far as Chiriquí - were, like the polychromes, part of the same ceramic traditions; which to me indicates even more than does the ubiquity of the polychromes, that cultural evolution over this area was generalised, and progressed at a more or less constant rate. That there are and will be more local differences is a foregone conclusion - Tonosi is one, and Veraguas certainly has one or two traits which are as yet not found in Coolé (Bisquit ware, for example.) Nevertheless, the pattern of artifactual assemblages and radio-carbon datings that is beginning to appear is remarkably uniform, and I would at this stage be wary of advocating "diffusion," "influence" or "localism" on a large scale except, perhaps, for the fuzzy Phase IV, when the Tonosi and Aristide Polychrome traditions seem to be divergent.
The concept of culture areas in Panama east of Chiriquí and Bocas del Toro is dangerous, because it imposes artificial boundaries on a region which is environmentally fairly homogeneous, and as a peroration to this Chapter, I will advocate a more "ecozonal" approach to the problem of prehistoric settlement east of the Tabasará. Bennett's reconstruction of the phytophysiognomy of Panama in the fifteenth century suggests a more or less constant vegetational composition right along the Pacific coast from Veraguas to the Colombian frontier; it is characterised by large areas of heavy cultural disturbance, considerable expanses of grass, second growth forest in patches, and various seral stages (1968: Map 7). If we add to this the mediterranean of the Bay of Panama, the natural frontiers formed to the west by the Serranía de Tabasará, to the east by the mountains of central Darién and the Chocó rain-forests, and to the north-west by the High Cordillera and the excessive rainfall of north-western Veraguas and Bocas del Toro, we are left with the impression of a hermetically sealed environmental niche, dominated for most of its extent by the favourable Pacific-side wind-systems and, no doubt, optimal for settlement. How close to the traditions of the Pacific coast are those of the Caribbean lowlands of Cocle and Colón will have to await further investigation. The headwaters of the Río Indio in Coclé, where the Stirlings found developed polychromes with purple paint, offer an accessible and charitable stretch of terrain, flatter and far less wet than Caribbean Veraguas and Bocas del Toro, and, to the author at least, it would be no surprise were manifestations of the Pacific traditions to be found to extend over the Cordillera in Coclé and across the Caribbean side of the Canal Zone and Colón.
CHAPTER II
SITE SURVEY OF WESTERN COCLE AND GAZETEER OF
KNOWN ARCHAEOLOGICAL SITES

The system for the nomenclature of archaeological sites generally adopted in Panamá is that suggested by Thelma Bull in the two Site Report lists of the now defunct Archaeological Society of Panamá, whereby sites are listed by Province and enumerated under "Distrito", which is the major political unit within the Province. For example, Gonzalo Vásques, in the "distrito" of Chiman, Province of Panamá, is enumerated simply CI-2 (Bull, 1965b:23)* The three most recent professional surveys conducted within the Republic have all utilized this system, which seems the most expedient. (McGimsey, 1964, Linares de Sapir, 1968, and Ichon, results unpublished).

In the Coclé Province, attempts to catalogue and name archaeological sites have been made by Hyatt Verrill, Lothrop, McGimsey and Bull. Verrill's sites were ascribed vague and at times exotic names - "Temple Site", "Barrancos Graves", "Espinosa Burial Mound" etc. - which have rendered subsequent location of most of his sites quite impossible. Lothrop followed the same general principle and, though he made a better attempt at defining topography, it is sometimes very difficult to return to his sites. His use of local names, such as "Potrero Riquelme", "Charco de Oro" (Lothrop, 1942: 210 & 205), in a sparsely inhabited region like Coclé is very dangerous, as they tend to be either ephemeral or extremely local. It must be remembered, however, that both Verrill and Lothrop were working without the accurate maps that are now available to investigators. McGimsey's survey of 1955-1956 followed the system employed by Stirling and Willey during the National Geographic campaign in Herrera, whereby all sites were labelled by Province alone: in Coclé, Co-1 etc., in Herrera, He-1 etc.

*See Bull (1965b:28-29) for a complete map of Panamanian "Distritos".
When large numbers of sites are involved this system becomes too cumbersome. McGimsey's work in Coolé has remained largely unpublished - the most notable exception being Cerro Mangote (see McGimsey 1956 and 1958) - but he has very kindly made available his field notes for incorporation within this study. Unfortunately, the topographic map has been mislaid and although most of the sites visited were given precise co-ordinations, the location of a small number is not possible at present. A preliminary summary of all known sites in the Province was made by Bull in the 1965 Site Report List (pp. 36-37), but there are some mistaken allocations: Lothrop's "Sitio Conte," and the "Río Grande" site, for example, have been allocated to the "Distrito" of Aguadulce, whereas they are in fact in the "Distrito" of Penonomé. As the 1969-71 survey has greatly increased the number of recorded sites, Bull's listings have been completely revised. All previous toponyms or enumerations will be honoured in the complete gazetteer.

With regard to my own location of sites, I feel it is better to be long-winded rather than obscure. All the sites are recorded with co-ordinates in at least six figures along with the sheet numbers of the relevant maps, either 1/50,000 or 1/10,000 when the latter are available. The 1/50,000 series is that issued by the Instituto "Tommy Guardia" de Cartografía, in Panamá City; the 1/10,000 series was compiled from aerial photographs by Binnie and Partners for the Llanos de Coolé Irrigation Project. The 1/50,000 maps are not always accurate and variable geomorphic features such as ox-bow lakes and river meanders are at times incorrectly recorded. Sketch maps are included with those sites whose location on the 1/50,000 maps is difficult. Excavated sites have been suffixed with a toponym: for example, PM-11 is labelled in the gazetteer PM-11, (La Herradura.) Knowing how difficult the location of a site can be even when

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I am grateful to Rupert Thorp of Binnie and Partners for the acquisition of these invaluable maps.
co-ordinates are given, I have tried to accompany all reports with accurate descriptions of access roads, field boundaries, ownership of land and other relevant information. In some cases, especially when landowners did not permit extensive work, my own locations are still far from perfect. The Pacific Plains have suffered and will continue to suffer, from drastic alterations to the physical geography: changes in agricultural techniques, constant crop rotation, seasonal flooding, deforestation, erosion, and construction work have already taken their toll of scores of archaeological sites. The site quoted above, PN-11, excavated in the dry season of 1970, had altered beyond all recognition by the following year. Virtually all the characteristic "corotó" (Enterolobium) trees had been cut down; fields fallow the year before had been sown with tomatoes; and irrigation canals concreted. I exhort all future investigators in the Province accurately to record all archaeological sites, be they destroyed or pristine, sherd-less or bountiful in artifacts. Before long, the archaeological resources of the country may well be as barren as the unyielding lateritic clays upon which some of their components have already lain to rest.

As stated in Chapter 3, it was originally intended to make a complete survey of the region known popularly as the "Llanos de Coolé". This proved to be far too large for the feet and vehicle of a single investigator and the work was eventually restricted to a relatively homogeneous area lying between the rivers Santa María in the west and Coolé del Sur in the east. The northern limit comprised approximately the region of low hills stretching from Cocobó in the west to La Pintada in the east, though occasional sitings were made further up into the Cordillera Central, especially along the hard-top road to El Copé (see Map 1 for definition of Area). The "Distritos" covered by the survey
are, from west to east: Aguadulce (AG), Natá (NA), Olá (OL), Penonomé (PN), and La Pintada (LP). No sites were recorded in the sixth "Distrito" of the Province, Antón, though a site near El Valle is mentioned by Bull (1965:37), and Verrill's list in the American Museum of Natural History Catalogue includes a site labelled "Ancón", which could be Antón. The sites recorded by other investigators who have worked in the area, in chronological order Ferrari, Verrill, Lothrop, Harte and McGimsey, are included within the gazetteer, on equal terms with the other sites and without undue emphasis on their material wealth or eccentricities.

The policy throughout the survey was to record all aspects of the prehistory of the region. Pre-Columbian population seems to have been dense and cultural material can be encountered virtually wherever one treads, so certain elementary criteria were adopted in defining precisely what constituted a "site" and what did not: isolated artifacts found in the beds of rivers, erosion gullies, or in other secondary situations were, for example, largely discounted. Nevertheless, every attempt was made to treat each discovery as important and those who find my incorporation of a handful of eroded sherds as a "site" exaggeratedly thorough, ought to bear in mind the fickleness of the environment whose destructive aspects have been outlined above.

This section is intended to be merely descriptive, recording the histories, locations and approximate extents of sites. In this way students from areas outside Coolé who wish to avoid tedious site descriptions may turn more readily to the relevant chapters. Excavations were made by the author at four of the sites - AG-3, PN-11, NA-8 and NA-13 - and test pits dug at two others - NA-31 and PN-1. The remainder, except cemetery sites, were all collected from the surface. Details of the excavations and surface collections as well as quantitative analyses
of the artifacts, typological descriptions, dietary and ecological information, chronologies and relations with other sites can all be found under their specific chapter headings.
DISTRITO DE AGUADULCE

AG-1 (Cerro Mangote)

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 II (Santa María). 547800E-899300N (approximate co-ordinates of the central summit of the hill).

Location:

Cerro Mangote is a prominent hill of extrusive nature situated on the northern bank of the Santa María river some 10 kms. from the sea. It measures approximately 1200 ms. long, by 250 ms. wide, and is about 45 ms. high (a spot height on the eastern end gives 48 ms. a.s.l.) It is best reached along the dry season cane-road which turns east of the New Highway at La Loma del Roble and by-passes AG-3 (q.v. for details). About 400 ms. west lie Cerro Girón and AG-2. In the excavator’s words, the archaeological site "consists of a shell midden approximately 35 ms. north-south and 65 ms. east-west located, somewhat incongruously, along the peak of the hill .... and extending down the north slope from a line just below the crest". (McGimsey, Collins and McKern, 1966:2).

History of the site:

McGimsey made extensive excavations in 1955 and 1956, putting down the equivalent of 67 2 x 2 ms. pits to a maximum depth of 2 ms. (See McGimsey, 1956, and McGimsey, Collins, and McKern, 1966, for details) In 1969-71, the hill was very densely covered with thorn scrub.

AG-2 (Cerro Girón)

Map reference:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 II (Santa María) 546700E-899600N

Location:

Cerro Girón is the easternmost of two small hills situated immediately west of Cerro Mangote and AG-1, adjacent to the banks of the Santa María
river. It rises to a height of about 12 ms. above the surrounding plain, and its slopes are free from flood danger. Excavations in 1952 and 1955 revealed an archaeological occupation extending over most of the southern slopes of the hill, with concentrations of shell and sherds in three major areas, one of which had been badly eroded by the river (Ladd, 1964:154-5 and Map 2). The site is on the land of the Girón family of Santa María, Herrera Province.

History of the site:
Three test pits were put down by Willey and MoGimsey in 1952 and published by Willey and Stoddard in 1954. MoGimsey returned to the site in 1955 and excavated another six pits, details of which are contained in Chapter 3.

AG-3 (Sitio Sierra)

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 II (Santa María) 542000E-900500N

Location:
On the "finca" of Don "Pepe" Sierra of Aguadulce and Panamá City, astride a small rise about 800 ms. north of the Santa María river. About 3 kms. east of the settlement of La Loma de El Roble, and 5.5 kms. west of Cerro Mangote. Best reached from the dry season road which runs from La Loma eastwards towards the extensive cane-fields owned by the Ingenio Santa Rosa. Turning off the New Highway immediately opposite the entrance to the "ingenio", ref: 5379500E-9038500N, one continues towards La Loma and veers south-east just before the major concentration of houses is reached, a short way after the asphalted stretch ends. About 2 kms. further on, a white bridge across a "ciénaga" formed by the Quebrada Agua Blanca is reached. 500 ms. east there is a "rancho" and a small "corral" which mark the entrance to the Finca Sierra. Driving along a small dirt path which crosses the "potreros", for about 500 ms., one comes to a large Enterolobium ("corotú") tree. The
archaeological site is situated on the noticeable rise just east of the tree and the path, spanning the first and second "potreros" of Don Sierra. It is almost exactly half-way between the river and the cane-road (see Map 4). Flood waters stretch right round the site in November-January, but never reach the archaeological zone.

History of the site:
The 1956, 1/50,000 maps show the area as being under dense foliage. Don Sierra informs me the site was cleared and sown with cane in the early '60s, but promptly abandoned and turned over to pasture as the yield was low and irrigation impossible due to the contours of the site. Heavy scarring from graders is visible to the west of the dirt path and also east of the excavations (see also Map 4). It was this scarring which turned over the material first noticed by Pedro Quirós, of the Museo Nacional, who first took the author to the site. Five outs were laid down by the author in 1971, details of which are contained in Chapter 3.

Possibilities for future research:
Though there is probably little extra information to be gained about the internal chronology of the site, there must be several burials left in situ, and investigators desiring a larger sample of human and dietary remains, would be advised to enlarge the excavated area.

AC-4

Map references:
1/10,000: Not yet mapped
1/50,000: Map 4O4O II (Santa María) 531600E-904400N

Location:
On the eastern bank of the Santa María river, about 1 km. due north of the settlement of Cañasas on the opposite (Veraguas) bank. Reached, in dry season only, along a path which leads from the church of El Jagüito
for about 3.5 kms. towards the river passing a small group of houses called El Barrero. The site is situated at the base of a small outcrop just to the south of a larger hill which forms a rhomboid projection into the river.

History of the site:

Pedro Quirós, who took me to the site in 1970, remembers having seen a very dense concentration of potsherds over recently ploughed land which now forms a cane field. No "huaquerismo" has apparently gone on the past, and there were no superficial signs of a graveyard. A surface collection was made from the cane field and from a small "corral" at the edge of the river. Sherds were visible over about 150 x 50 ms., and a few were recovered eroding from the river bank to a depth of around 1.50 ms. The samples from the cane, "corral" and bank have been included together in Table 5. Of the polychromes, the two Escoté Black-on-Buff sherds and one polychrome (Conte/Macaracas) plate rim, were recovered from the bank. Shell was not present.

Possibilities for research:

To judge from the riverbank profile the deposit looks deep (at least 1.50 ms. from the surface), but material was thin at this point. The flat land to the north-east of the small outcrop looks an ideal spot for burials. The ceramic composition indicates at least a Phase IV-V or VI span for the site, and might justify a stratigraphic probe.

AG-5

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 II (Santa María) 546000E-903800N approx.

Location:

On the northern slopes of Cerro La Iglesia, a prominent horse-shoe shaped
hill situated between two branches of the Río Membrillar, just to the west of the confluence of that river with the Río Estero Salado. It is 4 kms. north-north-east of Cerro Mangote, and is plainly visible as one drives down the New Highway from Aguadulce towards Divisa. Best reached, at the height of the dry season only, from a dirt track which turns off the Highway at ref: 54.0800E-906400N, near the settlement of Membrillal, and continues for about 5 kms. south east. Right at the end of the track, it is possible to drive over the "potreros" due east for 1.5 kms. right to the base of the hill. In wet season, the easiest means of access is by foot from Aguadulce, south-west along the Quebrada Barrero and over the marshes. The archaeological site is located between the two spurs of the horse-shoe, on the northern slopes. At this point there are a number of concentric stone walls encircling the slopes, traversed at odd intervals by vertical cross walls which form rectangles of between 15 x 100 ms. in the manner of those visible on Cerro Zuela. One of the larger rectangles, forming a clearly demarked flat area, contains a number of circular piles of irregularly sized, jagged basalt boulders, with diameters averaging about 1.50 ms. Similar piles were encountered at NA-32, NA-34, and NA-35. Some of the piles have been scattered and it is difficult to appreciate the total number, but they are fairly tightly packed together. South-west of the "pantheon", an erosion gully disgorged quantities of pottery in 1970, but only for about 40 cms. from the surface. A local informant told me that some years previously, while digging foundations for a "ranchería" he had found "prettily painted" pottery in some density in the north-eastern corner of the "owm". A check over the area revealed no signs of this spread. Cerro La Iglesia is the only prominent high land for miles around, flood waters completely
surround it for eight months of the year, but access to the sea is possible along the river Membrillar and Estero Salado.

History of the site:
AG-5 was visited by McGimsey who designated it Co-44 in his site list. He remarked on the strange rectangular formations of stone and also drew attention to "cobble paths" approximately 2-3 ms. wide and 8-10 ms. long extending from the lowermost of the rectangles to the flat flood plain. The author made a surface collection at the site, results of which are contained in Table 5.

Possibilities for research:
Very promising. Sherds found within the stone piles are of Macaracas Polychrome, Pica-Pica and Higo Varieties, and there is a good chance that - if these piles do represent graves - the pottery within them will be Phase VI. Most of the "own" area between the two spurs has probably never been seriously disturbed and would justify at least a few probes. The stone "constructions" are very interesting, and in my opinion warrant a more detailed study in western Coolé. Quite a few are known to the author, but it would require a good series of aerial photographs and large-scale maps before sensible conclusions can be made about them.

Several other sites were located by McGimsey in the Distrito of Aguadulce, along the coast from the Santa María river to the environs of Aguadulce. These are designated Co-13 - 20, 23, 24, 35 and 41 in the 1955-6 site list. Those which were given precise co-ordinates have been incorporated within the new system of nomenclature and re-located on the 1/50,000 maps. As a word of warning, however, the detail of the 1/50,000 maps, especially as regards the location of important topographical features such as river channels and marsh areas, is at times
erratic, and it may be that some of the re-locations differ from MoGimsey's. All co-ordinates for these sites are given from 1/50,000 Sheet 4040 I (Aguadulce). The area has not been mapped at 10,000.

All the sites which were not excavated were collected from the surface by MoGimsey.

AG-6 (Co-18)
Map reference:
5531500E-904500N (8°11' Long: 80°31' Lat.)
Location:
"A small site only about 5 cms. deep and scattered over about 10 m. along the old shore and the present edge of the Río Estero Salado. Sherds from a single vessel collected. Shells were oyster and medium bivalves in largely separate areas. Modern tiles were nearby so this could be a modern site."

AG-7 (Co-17)
Map reference:
525500E-907150N (8°12'40" Long: 80°31'30" Lat.)
Location:
"An area of scattered medium bivalves, with occasional oyster on the old coast. Can be seen in the section beginning to erode into the 'alvina' but judging from the quantity of shell, even though more of the site may be underground further inland, it would not warrant excavation and there is no visible indication of any further extension."

AG-8 (Co-15)
Map reference:
553200E-906550N (8°12'10" Long: 80°31' Lat.)
Location:

"A few hundred metres south of Co-14 (AG-9) ..... may be a further extension of Co-13 (AG-10), which has occurred all along this side of the island. However, it is an isolated patch of shell .... about 50 ms. long (north-south) and 25 ms. wide, and appears to be very shallow."

AG-9 (Co-14)

Map references:
553200E-906650N (8°12'15" Long: 80°31' Lat.)

Location:

"A small mound perhaps 2 ms. in diameter and 30 ms. high, consisting almost entirely of one type of shell. Sherds fairly abundant on the surface." A small excavation was made, to a depth of 30 ms., when sterile soil was reached.

AG-10 (Co-13)

Map reference:
553200E-906800N approx. (8°12'30" Long: 80°31' Lat.)

Location:

"On the eastward side of a small island in the 'alvina'. It extends along the coast of this island for a distance of approximately 400 ms. with a width of 2-6 ms. The shell is not continuous throughout. Depth ranges from only a few ms. to at least 70 ms. in one spot checked with auger. The site is located largely between the present road and the 'alvina'. Its consists of a heavy deposit of shell, primarily of the medium-sized variety with occasional larger (Anadara grandis), and smaller shells. No Tivela, and few oysters .... Approximately a 25 ms. square excavation was made to a depth of 40 ms. One sherd, and also a number of stone flakes, possibly worked, collected from the surface. Site
presently covered with grass and thorn trees but it is weathering out onto the 'alvina'."

To judge from McGimsey's field notes, small shell mounds were to be found continuously along the coast of the island in the 'alvina', and all of them in the vicinity of AG-8 - 10 should perhaps be included under one site. Other shell areas which were found in close proximity to the above sites but which do not receive precise co-ordinates are:

Co-16
"This site is more or less 75 ms. square. May be another section of Co-15(AG-8). It is slightly further back on the land and less eroded."

Co-21
"A rather large shell midden (20 x 15 x 15 ms. more or less), located in the Aguadulce 'alvina' near the salt-beds and not very far from Co-16. There was almost no material visible on the surface except one badly weathered shell and a fragment of an axe." Subsequently excavated with two 2 x 2 ms. pits, which closed at 50 cms. (Pit I,) and 75 cms. (Pit II,) without signs of cultural material in either pit. McGimsey concludes that this particular pile may have been natural in origin.

Co-24
A series of five smaller shell middens extending in a semi-circular arc from north to south towards the river (Río Estero Palo Blanco). They are all 5-8 ms. wide, by 10-20 ms. long, north to south. Two pits were put down in Mound No. 2 (1 x 1.5 ms., one later enlarged to 1 x 3 ms.,) and one pit in Mound No. 3, (1 x 1.5 ms., later enlarged to 1 x 5 ms.)

Co-25
"Another shell mound site, about 30 x 30 ms. square, and badly eroded over most of its length, on the north side of a small island in the 'alvina'."
A 3 x 3 m. pit dug to 30 cms. revealed no cultural material."

**AG-11 (Co-19)**

**Map reference:**

553150E-908300N (8°13'12" Long; 80°31'Lat.)

**Location:**

"On the inland side of the long island extending north of site Co-13. The road has cut across the site in one place, but it appears to extend inland a ways. The site now has a heavy grass cover and is in a coconut grove. It does not appear to be very deep ... Primarily medium to large bivalves with occasional pecten and small oyster. Of doubtful value for excavation."

**AG-12**

**Map references:**

553050E-908700N (8°13'25" Long; 80°31'2" Lat.)

**Location:**

"On the inland side of the long island, spread in irregular patches several ms. in diameter over an area of 30-50 ms. There is no depth at all and probably 50 per cent or more of the material is visible on the surface. The site extends out into the present 'alvina' and probably is still covered with water at high tide, so it is doubtful whether it is very old though it might be pre-Spanish. Despite the area visible, only 2-3 sherds (these badly weathered) were recovered ..... Another patch (of the site) is out in the 'alvina', and has been cut through by one of the salt-pan trenches but even here no sherds were in evidence. Throughout (the deposits) the predominant shell was the small to medium sized light-shelled pecten, with rare oyster and other varieties. The site appears to continue sporadically west around the point without depth or sherds."
One other unlocated site was investigated by McGimsey, Co-41, situated on the lower edge and outwash plain of the upriver end of Cerro Mangote. Its approximate location is given in Map I. The road crossed the site, but most of it lay between the road and the hill. Sherds and shell were visible in scattered locations over an area of several hundred metres long by about seventy-five metres wide. Large Anadara grandis were the commonest shells, but other species were present. McGimsey made a small surface collection and was of the opinion that the site was contemporary with at least part of AG-2, maybe "even an early part." Two boulder metates presumably relating to this site were found lying at the side of an adjacent ploughed field.

**DISTRITO DE NATÁ**

**NA-1**

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 I (Aguadulce) 533400N-918200E

Location:

Situated about 500 ms. south of a prominent hill known locally as Los Cerritos, about 2 kms. north of the entrance to the Ingenio Ofelina, and 200 ms. due east of the New Highway running between Aguadulce and Natá. The site is reached by following an overgrown path which leaves the highway immediately opposite the La Estrella milking yard on the western side of the road. In early 1970, artifacts were found on top of a drainage ditch at the point where the ditch, path and the cane-field to the east met. The area south of Los Cerritos and west of the ditch was under pasture.

History of the site:

The site was first noticed in 1962 by Luis Calvo of Natá whilst he was
engaged in ditching operations for the sugar estate. The general position, some 2.5 kms. south of the Río Chico suggests that the site was probably not part of the habitation area of Pre-Columbian Natá, though an old channel of the river passes just north of Los Cerritos. In 1970, a few sherds and a celt were to be found in the general area of the drainage ditch, which had reached the red clay at about 75 cms. Calvo records that when the site was first ploughed he found several celts with the complete polishing typical of sites around Natá, which were of "superior workmanship" to anything he had seen in Coolé. He also remembers that someone dug a grave in the same place and found polychrome vessels. The site is probably funerary. One of the unlocated funerary sites of McGimsey on La Estrella land - Co-34 - might relate to this site.

Possibilities for research:
The site has been completely destroyed by operations connected with the cane-fields, though it might be possible to probe the pasture area between the ditch and the highway. No superficial grave markings were visible in the general vicinity.

NA-2

Map reference:
1/10,000: Not yet mapped.
1/50,000: Sheet 4140 IV (Bahía de Parita): 556700N-920200E

Location:
On the south bank of the Río Chico, about 250 ms. due south of the pumping station "Arango" within the La Estrella sugar estate. Due south-west of the highest point on Cerro Zuela (El Cacique), and due north-east of the mill at the Ingenio Ofelina. The site is best reached by vehicle, in the latter half of the dry season only, from the small
road which leaves the Pan American Highway about 500 ms. south of the
Rio Chico bridge. On reaching the first irrigation works, and small
pumping station, just past site NA-5 one makes a sharp right turn and
travels south for about 1300 ms. to the next turning right at a bend in
the river, from where one follows the track through a densely wooded tract
until it peters out just short of the river. NA-2 is situated in a cane
field c. 150 ms. due east of the track, across a deep ditch. Sherds
were gathered in 1971 from an area about 200 ms. square, a short distance
south of the river, at the point where it makes a sharp turn to the north.

History of the site:
Workers from La Estrella who witnessed the estate's digging operations
recall a very deep deposit at this point. Pottery was adjudged high
on the "bonito y pintado" scale. The original topography of the area is
unclear, but it was presumably well elevated to judge from the energies
expended in the levelling operations. Sherds and shell were fairly
dense, and recovered both from the surface and from the sides of the
ditches. The site looks domestic, and the workers recall no burials.

Possibilities for research:
Nil. The ditch profiles reveal a very thin layer of cultural debris,
only c.30-40 cms. thick and completely churned, resting on the sterile
reddish clay.

NA-3

Map reference:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 I (Aguadulce) 554600E-919500N (8°19'12" Long:
80°29'55" Lat.)

Location:
About 1 km. downstream from NA-4 on the south bank of the Río Chico,
about 1.5 kms. south-east of NA-7 and 2 kms. east of NA-5. It lies within the La Estrella sugar estate.

History of the site:
NA-3 was found by McGimsey in his 1955-6 survey and designated Co-32. It consisted of a lens of sherds, a few cms. thick and about 100 m. long, eroding from the river bank at about 2 m. depth. The deposit thickened considerably downstream and also dipped somewhat. McGimsey thought the site might be an extension of NA-4. He excavated an urn burial from the bank which contained the bones of an adult male, and made a collection of sherds.

NA-4

Map reference:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 I (Aguadulce) 554300E–923000N approx.

Location:
On the south bank of the Río Chico, about 250 m. from the river, in the flood plain and about 1 km. upstream from NA-3. The co-ordinates given are for the most likely position. McGimsey recovered sherds and stone, and some fired adobe showing signs of weaving impression, eroding from a drainage ditch. No collection was made. The site was labelled Co-30 and was on the 'finca' of Máximo Martínez of Natá.

History of the site:
Since McGimsey's visit the land has been acquired for sugar cane, and has been stripped and levelled. It has presumably passed out of the hands of Sr. Martínez.

Possibilities for research:
There has been so much recent modification - some quite extensive - to the La Estrella lands, that it is doubtful whether any excavations would
be worthwhile when material is reasonably superficial; NA-3, however, is probably deep enough to have evaded the grader.

NA-5

Map reference:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 I (Aguadulce) 553400E-919600N approx.

Location:

On the sugar estate, adjacent to the south bank of the Río Chico, about 1.5 kms. west of NA-4. The site is reached from the dirt road which turns east off the New Highway about 500 ms. south of the Río Chico road bridge and goes on to NA-2. The site begins about 500 ms. along the road and cultural debris is most dense between the road and the river, occupying a considerable area, perhaps ½ sq.km. At the present time, the site is too high for flooding and the area of habitation seems to have occupied a favourably situated little plateau. The area is under cane at present. The local name is Querema.

History of the site:

Like the other sites in the Estate, NA-5 has been levelled and dragged for sugar cane. Drainage ditches around the area do not reach base clay as they do at NA-2, so depth of the deposit could not be ascertained. A random surface collection was made with the aid of the Isthmian Anthropological Society in February, 1970.

Possibilities for research:

Unlikely, see NA-2, 3 and 4.

NA-6

Map references:

1/10,000: Not yet mapped.
1/50,000: Sheet 4040 I: 551200N-919800N approx.
Location:
The accuracy and detail of the 1/50,000 series for this area is poor, so see Map 3 for more accurate details of location. The site lies on the south bank of the Río Chico, about 2 kms. west of the New Highway, it is reached along an all-weather road which branches west of the Highway immediately opposite the main entrance to the Ingenio Ofelina, towards the house of Don Sebastián Méndez, about 4.5 kms. north of Aguadulce. ½ km. up this road, one turns left, just before Méndez' house, and then sharp right, north-north-west along a dirt road past a cattle grid and a small gatehouse. Proceeding for 1 km. one then turns sharp right immediately past the Hacienda El Desoanso at another small gatehouse. From this point one travels c. 1.5 kms. before entering a cane field belonging to the Ingenio Ofelina, and called locally El Cañaveral. The site lies within this cane field, cultural material being found virtually all over, covering about 800 sq. ms., but concentrated near two drainage channels which cross the field approximately north-east-southwest. To the south of the field is a Quebrada, called Q. Acequia, over which is a small rise. This had been ploughed for tomatoes in 1970, and was also littered with cultural debris. The site as a whole occupies a promontory jutting into a meander in the river. The major concentration of material lies well back from the river, away from flood danger, in an ideal spot for habitation. Just over the fence from the westernmost approach road, at a point about 500 ms. after it divides, is a small area of grass with some hummocks surmounted by piles of stones. There were only three hummocks visible in 1971, but tall grass covered the area, and there may well be many more. The stones were placed in a similar way to those of NA-34, NA-35 etc. and could be graves. The "potrero" which stretches north-eastwards from the
hummocks towards the river was not surveyed and may well contain burials. In the centre of the cane field is a small rise which has not been planted for drainage reasons. Though no material was visible in either 1970 or 1971, locals report that they have seen sherds eroding from the sides of the rise in wet weather, and it is possible it is a burial mound of the type excavated by McGimsey at NA-9. The land is owned by Sr. Changue Cornejo of Poorí, who rents it to the sugar estate.

History of the site:
The area looks promising but I have heard of no "huaquerismo." Surface collections were made in March 1970 and again in March 1971 when new drainage ditches had been cut. To judge from the profile of these ditches, the site is shallow and has been totally destroyed. The "chumico" clay is visible at a depth of about 50 cms. Surface material was also collected on top of the rise behind the Quebrada, but, as it was essentially the same as that below, it was not separated in the statistical count. This area had a plethora of river pebbles which might be house platforms or grave markers. It was fallow in 1971.

Possibilities for research:
Though the cane-field area has been totally destroyed I do suggest a probe into the mound in the centre of the field, and also into the piles of stones between the two branches of road. The graves (?) and occupation debris are probably related and it would provide a good opportunity for direct comparison as all the sherds recovered were Phases VI-VII.

NA-7 (Natá Cemetery Site)

Map reference:
1/10,000: Not yet mapped.
1/50,000: Sheet 4040 I (Aguadulce) 553600E-920600N, approx.
Location:

NA-7 is located at the far eastern end of the modern settlement of Natá and cultural debris can be found concentrated in two primary areas: eroding from the bank of the modern cemetery and adjacent paths, and, to the west of the paths, from a field which was fallow in 1970, but ploughed for an onion nursery in 1971. Just beyond the cemetery is an anomalous hummock which props up a termite-infested fence. This, according to the owner, was dug out of the field to the north-east to make a pig-pen, and, as it habitually disgorges well-preserved sherds, it seems likely that the area of original occupation of Natá stretched considerably to the east.

History of the site:

McGimsey excavated four pits here on May 25th 1956. Whenever there was a heavy rain, the author made rather haphazard random collections from the area of the cemetery to increment the type sample of Mendoza Polychromes, and, in a more ordered fashion, from the onion field which revealed a shallowness of deposit which corroborated McGimsey's pits. The samples are included together in Table 5. Not surprisingly, NA-7 is well known for its occasional creation of gold frogs which have apparently been found near the cemetery. Surprisingly, I recovered only one definite wheel-made sherd, though José Cruxent and Wallace Snyder recovered some green-glazed sherds from a local houseowner in late 1970. These are now in Snyder's possession. The site was enumerated as Co-31 in McGimsey's Cooló list.

Possibilities for research:

The whole area has probably been pretty well churned over since 1521 and it is unlikely that any pristine deposits remain. McGimsey's
excavations reached sterile "chumico" clay at 60-70 cm. The field from which the "instant midden" came might afford the luxury of virginity. McGimsey recovered what he thought to be the bones of an Indian rather than "gente" and the local "huaqueros" have never located what they consider to be a cemetery rich in gold frogs, so the site should not be totally discounted at this moment.

NA-8 (Potrero Mendoza)

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<tr>
<td>1/50,000</td>
<td>Sheet 4040 I (Aguadulce) 552100E-920000N approx.</td>
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**Location:**

NA-8, known locally as the Potrero Mendoza, is situated on the northern bank of the Río Chico, about 1.5 kms. south-west of the modern settlement of Natá. It occupies a rise immediately to the north-west of a sharp meander in the river and is bounded to the south by a "madre vieja" or old channel of the Chico and to the west by the track which divides the Potreros Mendoza and El Santísimo. Its present owner (1971) is Domingo Chán, of Natá, who rents the land to the Compañía Panameña de Alimentación. To reach the site in dry weather, one turns north-west off the New Highway, taking the first street west after the Nestlé Factory and the "Jorón", and continues along the street for about 400 ms. before turning left (south) after what is (1971) the last house, opposite an enormous "panamá" tree (Sterculia apetala). The site lies about 1 km. down the track, ½ km. past the rubbish dump ("crematorio"). (See Map 2).

**History of the site:**

NA-8 tells a sad story in Panamá archaeology. When Lothrop visited Natá he dug some pits in the neighbouring Potrero El Santísimo and left the area, leaving the Potrero Mendoza apparently untouched (Lothrop, 1942:218).
MoGimsey returned in 1955, when the site was still virgin, and excavated five pits. He locates his excavations as "1 km. west of the Highway and 500 m. north of the present bed of the Río Chico, though an old bed passes right by the site. The site consists of a series of low mounds, 20-25 cms. high, littered with shell, stones and sherds." As the position of the pits is given as a foot or so above the flood level, it would seem that they were located slightly to the south of the area investigated in 1970. Nevertheless, the same occupation area is obviously concerned, so the site will be treated as one. Two of MoGimsey's pits were excavated within some modern house foundations and there was also a modern wall traversing part of the site. In 1970, the higher portion of the site (Chán's field) had been cleared for use as a trial plot by the Nestlé factory. The plot foreman said that the site had been lightly levelled, but some low mounds like those discovered by MoGimsey were still in evidence. Cultural material was littered all over the field, which measures about 360 x 200 ms. In some areas it was exceptionally dense. In February 1970, a random surface collection was made at six selected 20 x 20 and 10 x 10 m. squares. In December 1970, the area had been altered again, being covered with mature "guandú" bushes (Cajanus bicolor). A single trench, of 4 x 1.40 ms., was laid down between the "guandú" where there were still traces of shell and stone. See Map 2 for the location of squares and excavation.

Possibilities for research:

Though the excavation in 1970 was shallow and obviously limited in that the area had been disturbed, I feel that there are still possibilities: strip excavation, for example, might reveal information about the settlement pattern of Natá, as out through the "chumico" clay at the base
of the 1970 trench was a basin hearth and a possible post hole. The cane-field to the north of the site shows signs of Pre-Columbian occupation and may well become fallow one day. The Potrero Mendoza at the present time possesses all the headaches inherent in archaeological research in this part of the world: excessive inundation in the wet season; complete dessication in the dry, making excavation in a normal year only possible in January and early February; and drastic land alteration. In 1971 we worked under the constant threat of downpours. I am indebted to Mr. Jean Wintgens of the Compañía Panameña de Alimentación and to Sr. Chán for permission to dig in the agricultural zone.

**NA-9**

**Map reference:**

1/10,000: Not yet mapped.
1/50,000: Sheet 4040 I (Aguadulce) 552200E-919800N

**Location:**

NA-9 is about 500 ms. south-west of NA-8, within the confines of the Potrero El Santísimo, which belongs to Sebastián (Chan) Méndez. The site is west of the dirt road which divides the "potreros" Mendoza and El Santísimo, and consists of three artificial mounds. The largest is close to the old channel of the Río Chico; the next in size, with a similar horseshoe shape, is 200 ms. to the east; and the third, considerably smaller, lies 100 ms. to the north.

**History of the site:**

In 1955, MoGimsey excavated three pits on top of and just east of Mound 1 and made a test 20 ms. north on flatter ground. The mounds were still under pasture in 1969-1971, and there appears to have been no subsequent disturbance. The marks of MoGimsey pits are still visible. Lothrop
visited the Potrero El Santísimo and made no excavations, though he
records an urn burial (Lothrop, 1942:218). McGimsey also reports a
possible urn burial excavated by locals from the vicinity of the mounds
(See McGimsey, 1959:350 for further details of the mounds).

Possibilities for research:
Two of the three mounds remain unexcavated. The test pit outside the
mounds area revealed sherds to only 40 cms. — a shallowness typical of
the environs of Natá. The burial probably relates directly with the
last occupation of NA-8. Furniture was sparse, but the spindle whorl
recovered in direct association with the skeleton is of the same general
type found around NA-8. It might be worthwhile opening another mound
for corroborative purposes.

NA-10

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4LO40 I (Aguadulce) 518000E-918000N approx.

Location:
The Potrero El Santísimo of Sebastián Méndez, which contains site NA-9,
is a field of some 1.5 kms. square and has been under pasture for some
time. Periodical alterations to the land have revealed cultural
material in the past, and it is likely that virtually the whole area
witnessed some kind of Pre-Columbian occupation. At the point where
the "potrero" meets the old channel of the Río Chico, about 600 ms. west-
south-west of NA-9, sherds were found eroding over an area of some 40 ms.
in December, 1969. It seemed from the approximate profile in a small
gully that, here at least, there is about 80 cms. of possible occupation
debris.

History of the Site:
Apart from the brief visit by Lothrop and the excavations at NA-9 by McGimsey, I know of no archaeological work in the "potrero", though it was rumoured in late dry season, 1971, that someone had unearthed a bed of polychrome sherds. A search revealed no signs.

Possibilities for research:
The occurrence of Phase IV-V sherds at this point may indicate stratigraphy - after all, the shallow trench at NA-8 did provide some clue to length of occupation in the vicinity. I feel it probable that there are some more graves somewhere in the field, although I have walked over nearly every inch and found no superficial signs. The location of these will depend upon fortuitous alterations to the land surface.

NA-11

Map reference:

1/10,000: Not yet mapped.
1/50,000: Sheet 4040 I (Aguadulce) 550600E-920100N

Location:

About 1.5 kms. west of NA-10, a dirt track divides the Potrero El Santísimo from the neighbouring "potrero" which belongs to Sr. Pablo Manessi of Natá, now known simply as Potrero Manessi. The track leaves the road which runs due west of Natá towards Mata Palo at reference 551200E-926700N, about 2 kms. from the Highway. Sherds were recovered in December 1969 over an area of 0.120 sq.ms. immediately to the west of the track and about 500 ms. from the banks of the river.

History of the site:

In December, 1969, the area between the track and the field boundary to the west had been recently cleared for use as a "tomatal". Sherds had been scraped up by a bulldozer and it seemed that they were highly water-worn. The site suffers annual inundations and the material might have
been carried by the flow. The bulldozer driver said he had recently broken a whole pot, unpainted. To the west of the "potrero" the land, which belongs to another owner, remains densely wooded for a considerable distance along the banks of the river. Nobody could remember any definite "huaquerismo" in the area.

Possibilities for research:
As the bulldozer had scraped virtually to the hardpan in places, I presume that the site, in this area at least, has been completely destroyed. Nevertheless, the wooded area to the west should be watched for signs of archaeological activity.

NA-12
Map reference:
1/10,000: Not yet mapped.
1/50,000: Sheet 4040 I (Aguadulce) 549300E-919700N

Location:
About 1.5 kms. west of NA-11 and 500 ms. east of NA-13. The site is best reached along the road which runs due west from Natá to Mata Palo, which is only passable during February to April for single traction vehicles. 2.6 miles along the road from Natá, immediately beyond the township of Mata Palo, one turns left (south) down a small wooded lane. 0.6 miles down the lane is a small seasonal "quebrada" - by March completely dry - and 0.3 miles further on one reaches another track which traverses a grassy "potrero" heading towards the river. The archaeological zone covers an area of about 500 ms. x 250 ms. immediately opposite the confluence of the Río Chico with the Río Año, on the opposite (southern) bank. Cultural material was gathered in small quantities in March, 1971 from a dry gulch just beyond a house adjacent to the Pedreschi potrero; from the tomato field belonging to the Pedreschis;
and from a deep trench dug to provide the fill for an irrigation channel. (See Map 3). To the west of the ditch, immediately beyond the dividing fence, is a prominent hillock, upon which are situated numbers of head-sized river cobbles, arranged either in threes or small groups. In the centre of the hillock is a pile of cobbles about five metres in diameter. The cobbles are relatively homogeneous and suggests intentional selection. History of the site:

In March, 1971, sherds were found over some 200 x 100 m. sparsely scattered over the tomato field. Sherds and part of a human femur were also found eroding from the bank of the ditch, from the 1.2 m. thick layer of topsoil overlaying the sterile "chumico" clay. The arrangement of the cobbles on the hillock, plus the finding of sherds and skeletal remains, indicates that the grassy potrero houses a cemetery of considerable interest. The sherds recovered from the ditch were Phases IV-V (Escoch-type rims and Conte Polychrome). The area is not known as an archaeological site due in part, no doubt, to its relative remoteness. Possibilities for research:

I strongly recommend the excavation of the site. The possible grave area on the hillock looks completely undisturbed, and the surface collection of sherds indicates considerable time depth.

NA-13

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 404, I (Aguadulce) 548800E-919800N

Location:

On the south bank of the Río Chico, 4 kms. west of the Highway as it passes through Natá, 500 m. east of NA-14, and 3 kms. east of NA-15 and 16. The site is situated on a small rise overlooking the river, and,
topographically, is very similar to NA-15 and 16 further up the river. It is reached most easily along the road which runs from Pocri de Aguadulce to Capellanía and eventually to Villareal, to the north of Cerro Capellán. After passing through Capellanía one takes the first substantial turning right and proceeds for about 500 ms. through a grove of "nanos" (Byrsonima crassifolia) trees, before reaching a steep incline which drops towards the valley of the Río Año, a partially seasonal "quebrada". Crossing the river one proceeds north-east down the only track, through an area bordered by trees, for about 300 ms., when the "potrero" of Sr. "Changue" Cornejo is reached. Heading north-east across the "potrero" from the boundary fence, the track passes into the "corral" of Sr. Cornejo and on to the river. The site is located some 150 ms. west of the track, and 175 ms. south of the Río Chico, on a small rise. The land immediately to the west of Cornejo's "finca" is the property of Sebastián Méndez (See Map 3.)

History of the site:
The site was first visited by the author in April, 1970, when a small surface collection was made. In March, 1971, a 2 x 2 ms pit and a 6.80 x 1.50 ms. trench were dug. I know of no previous excavations. Though the Río Chico has flooded onto the lower part of the "finca" on two occasions within Cornejo's memory (1942 and 1968), the rise upon which the site is situated has never been flooded. To judge from the respective land levels, the bulk of the Río Chico flood water overflows to the north (past site NA-14). (See also Map 3.)

Possibilities for research:
The excavations revealed a shallow deposit of only c.25 cms., and there is probably no more information to be gained about the chronology of the
site. Much of the mound, through which Trench B was cut, remains intact, and flotation of more refuse might augment the rather meagre dietary sample already obtained.

NA-14

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4040 I (Aguadulce) 548600E-9200N approx.

Location:

Situated on the north bank of the Río Chico, about 500 ms. upstream from NA-13. The site is reached from the dry season road which branches off the Natá to Tosa road (see under NA-12 for details of location). 1.5 miles after crossing the seasonal "quebrada", the road comes to an end upon reaching an agricultural zone. About 500 ms. west of this point, where the land slopes gradually from the flood plain to a small east-to-west ridge, sherds were recovered, sparsely scattered over some 300 x 200 ms. in December 1970. At that time, the top of the ridge was under sugar cane, and the area between the ridge and the flood plain under tomatoes. The flood plain, which drops off sharply and is about 300 ms. wide, was fallow and covered with "farraga". The land is the property of Rafael González, of Aguadulce. The densest area of material is 250° from the far eastern extremity of Cerro Guacamaya, Distrito de Olá. It is perhaps easier to arrive at the site by simply fording the river at NA-13 and walking the 500 ms. west on the opposite bank.

History of the site:

I know of no excavations in the area. The sherds were eroded and mixed with large stones from a small volcanic outcrop much churned by agricultural activity. A random collection was made, in December 1970
with Luis Calvo of Natá.

Possibilities for research

The site is well located, being out of flood danger, at least four metres above the river. Though the surface sherds have been badly weathered, the site is possibly fairly deep. There was no evidence of sterile clay. The area covered by the cane in 1970-71 appears to be more promising from the archaeological point of view and might warrant investigation at a later date.

NA-15

Map references:

1/10,000: Not yet mapped.
1/50,000: Sheet 4040 I (Aguadulce) 545800E-921000N approx.

Location:

The site can be reached off the road which goes to Capellanía and Villareal from Poquiri de Aguadulce, but the map is very inaccurate, and the easier method is to approach from the northern bank of the Río Chico and ford the river. Taking the road from Natá to Toza one turns due south (left), immediately after the modern cemetery at El Corteso. At about 1.5 kms. from the cemetery, the road peters out into a small track which descends sharply to a ford. Crossing the ford, the site is situated on the eastern (left) side of the continuation of the track. In December 1969, the site had recently been ploughed and sherds were visible for a total area of 400-500 sq. ms. The land belongs to Sr. Anselmo Quesada of Capellanía. To the west of the track is a house, and to the east another field which was under cane in 1969-1971.

History of the site:

The general area of NA-15 is well known for its archaeological wealth and farmers recall finding painted potsherds on several occasions. The
sherds found in 1969 had been very badly charred from recent burning. The spread of at least 400 sq. ms. indicates a living area of some dimension, though a group of stones found in the centre of Quesada's field might indicate graves. The site is perfectly situated for habitation and is well above the flood plain of the river, which has cut a small shelf 0.15 ms. wide below the site to accommodate the extra flow. The resulting cliff is about 4 ms. tall. A surface collection was made in December, 1969 from the ploughed area. Although the field is large, sherds were too sparsely scattered to warrant a division into collection units. Depth of the occupation could not be ascertained, though to judge from the collected pottery, there could be some stratigraphy.

Possibilities for research:
During fallow years the site could probably be worked. I feel it is worth at least one test. The entire area between NA-12 and NA-16 and on up to Cocobó is relatively undisturbed, and clearance programmes should be closely watched for possible sites. The southern bank of the Río Chico appears to be more favourable for human settlement than the north.

NA-16
Map references:
1/10,000: Not yet mapped
1/50,000: Sheet 4040 I (Aguadulce) 545500E-921100N

Location:
Only about 500 ms. west, upstream, of NA-15, on the southern bank of the Río Chico. The site is best reached from NA-15, after crossing the ford which leads down from the El Corteso cemetery. Walking along the riverside track, the land rises sharply where the bank forms a cliff of at least 15 ms. above the river. In February 1970 cultural material was found scattered in a narrow strip right along the edge of the cliff for about
200 ms. east-west by 100 ms. north-south. I failed to record the name of the landowner.

History of the site:
The point at which the sherds were gathered has been completely destroyed by the working for the "tomatal". Bare clay was visible at a depth of only 20 cms., from the land surface. The sherds were densely concentrated, and were gathered from the rows of tomatoes and from the irrigation channels. A check over the remainder of the field to the south revealed no material.

Possibilities for research:
At this particular point, nil.

NA-17

Map references:
1/10,000: Sheet 4: 555940E-926940N
1/50,000: Sheet 4141 III (Antón)

Location:
On the south-west bank of the Río Grande, McGimsey found a lense of sherds in a scattered stratum 0.50 cms. thick stretching from the confluence of the Río El Caño with the Río Grande for a distance of about 100 ms. to the north. The stratum was midway down a 5 m. bank, from the top to the level of the water (28.3.55). The water at that date was 0.1 m. deep. This site is about 600 ms. north-west of the Sitio Conte (PN-5). It is probably best reached by taking the path which runs from El Caño past site NA-20 to the Río Grande, and then walking along the river bank for about a km. (see NA-20 for closer details).

History of the site:
McGimsey made a collection from the river bank.
Possibilities for research:

Supposing that flooding has not completely removed the stratum, a test is feasible at this point. The land is under pasture (1970-71).

NA-18

Map references:

1/10,000: Sheet 4 55260E-926260N
1/50,000: Sheet 4041 II (Olá)

Location:

On the south bank of the Rio Churubé, 800 ms. east of the Highway and 300 ms. north-east of a small hill located to the north of Cerro Margarí. The site is best reached by turning east off the Highway at reference 551860E-926300N, about 5 kms. north of Natá. Doubling back sharply from the Highway, one enters a small corral 100 ms. or so along the road which runs past Cerro Margarí, and then crosses two "potreros", under pasture in 1970-71. The site is just across the boundary fence of a third "potrero" past a temporary "tomatero" settlement. Sherds were gathered from the bank of the river eroding out at about 1.5 to 2 ms. from the present land surface. The bank at this point was about 3 ms. above the level of the river (April 1970), with the water c.1 m. deep. In March 1971, the area was considerably overgrown. Sherds were also to be found in small quantities and in an eroded state from a small area (c.50 ms. square), in the "potrero" adjacent to the river, which was fallow but showed signs of usage as a "tomatal" in the past.

History of the site:

The precise point where the meandering river has washed out the lens of sherds has been much potted, scars being visible where local people have poked about with sticks looking for gold. The region from this point downstream to the confluence of the rivers El Caño and Churubé has the
reputation for being rich in "huacas". I would imagine that the lense at NA-18 (Phase V) relates to burials and there ought to be some stratigraphy to judge from the occurrence of surface material on top of the bank.

Possibilities for research:
The whole area is certainly worth constant surveillance.

NA-19

Map references:
1/10,000: Sheet 4: 553500E-927200N approx.
1/50,000: Sheet 4041 II (01A)

Location:
Running due south of the village of El Caño towards the Rio Churubé is a dirt track with passes between the prominent Cerro El Caño to the west and a smaller, unnamed hillock to the east. About 400 metres past the hills, towards the river, cultural debris - sherds and large numbers of worked jasper flakes - can be found eroding out of the track, for a distance of some 400 ms. At the point where the track dips sharply down to meet the flood plain of the Rio Churubé, opposite another path which branches east through a "potrero", at reference 553490E-927120N, an erosion gulley revealed a denser area of sherds eroding at about 20-30 cms. below the present land surface, about 500 ms. north of the Rio Churubé. The "potrero" to the west belongs to Juancho Calvo of Aguadulce; that to the east to Sebastián Méndez.

History of the site:
The area in question was collected in December 1969, both from the track and from the erosion gulley. Most of the material was heavily eroded.

Possibilities for research:
NA-19 is probably part of a large settlement area which forms a triangle between the Río El Caño in the west, Río Churubé in the south, and Río Grande in the east, and which contains the famed Temple Site of Verrill (NA-20). A few isolated sherds can be found virtually wherever one treads in the short grass areas of Méndez' "potrero". The erosion gully of the site revealed only about 40 cms. of topsoil overlaying sterile "chumico" clay. A search for burials on the summit of Cerro El Caño in April, 1970 proved negative. During the dry season 1969-70, the author walked the entire area between the three rivers, and also the north bank of the Río El Caño, about 1 x 3.5 kms., except those areas under cane in the La Estrella estate. Most of the area was unfortunately covered with "farraga", but a search of tomato fields on the north banks of the rivers Churubé and El Caño revealed no material, though, of course, the area is inundated annually. There is certainly a lot still to be discovered in this area.

NA-20

Map references:

1/10,000: Sheet 4: 554750E-927700N (Co-ordinates of El Cedro mounds)
1/50,000: Sheet 4040 II (Olá)

Location:

NA-20 is the famed Temple Site of Verrill. It is located 1.5 kms. east of NA-19, about 650 ms. west of the Río Grandes. The co-ordinates given above refer to a series of a dozen or so low mounds which are apparently due west of the Temple. These mounds are best reached by following the path which passes between Cerro El Caño and the smaller hill towards the Río El Caño and NA-19, and turning south-east at reference 553520E-927930N, through a small corral. After about 750 ms. a boundary fence is reached, and, crossing the second "potrero", one passes through a boggy
area with dotted Guazumajmifolia (guáoimo) trees for another 600 ms. before arriving at a third boundary fence. The mounds are situated in the third "potrero", just over the fence to the north, and also in an adjacent piece of land to the west which during 1969-1971 was under sugar cane. The "potrero" in which the "Temple" is (or was) situated is called the Potrero El Cedro and belongs to Sebastián Méndez.

History of the site:

NA-20 was first excavated by Verrill in the years 1925-6 when he discovered the "Temple", which has since, apparently, been completely torn up by tractors. At least there are no signs of columns in the traditional spot. (Though McGimsey records them in position in 1962). The mounds are perhaps burial mounds of the type described by Verrill in his field notes. The pottery eroding from the slopes is chronologically mixed, which may well be due to churning of the fill. The whole area is renowned for its archaeological wealth. Lothrop did not visit the site, but he does refer to Verrill's excavations and describes some artifacts. (1937: 30-31, and 1942: 212-213). The vitriol between the two men was intense and no doubt explains Lothrop's seeming lack of interest in Verrill's discoveries. To quote the eccentric author:

"As a matter of fact Dr. Lothrop never investigated or excavated the Temple site. He would not even permit members of his party to visit the area where I had worked, and hence had no first hand knowledge of the conditions there and could not judge of the age of the culture. Why he so sedulously avoided the spot is a mystery that even members of the party cannot explain. Is it possible that he felt that results of such an excavation would be inimical to his preconceived ideas of the age of the site and the Cooló culture?" (1953: 139)

It is difficult to take Verrill seriously, but had he not quarrelled so openly with the archaeological authorities, there can be no doubt that more information would have been salvaged.

The only other investigations of which I have record are those of Ferrari,
who visited the area but made no excavations (1928: 13-14), and Doyle who excavated a small burial close to some stone columns and found two groups of pottery and two tumbaga frogs associated with cotton string, placed directly onto the hardpan (Doyle, 1960: 48 – 51). Ferrari refers to the locality as Potrero El Cedro or Cementerio de Piedra.

Possibilities for research:

Though the actual Temple seems to have been eradicated, there are no doubt areas which would yield stratigraphic information. No probes were made in 1969-71, and, deep grass prevented accurate survey. I do not feel, however, that the Temple is a completely lost cause. It would be convenient to open one or two of the mounds now that some more precise records of urn burials are at hand.

NA-21

Map reference:

1/10,000: Sheet 4: 554800E-929150N
1/50,000: Sheet 4041 II (016)

Location:

On the west bank of the Río Grande, at the point where the Old Highway crossed the river by means of a large bridge which has since fallen down. The site is reached from the village of El Caño, by following the Old Highway, which is now the main street, due east until it peters out at the Quebrada Mojo Pollo. Crossing the 'quebrada' over a small bridge, one walks 1,100 ms. east until the river is reached. To the north of the Highway (now a path), is a cane-field which in 1969-71 belonged to Rafael González of Aguadulce. To the south, the land was under scrub, owner not determined. In the dry season of 1970, cultural material was present in some density for an area of some 200 sq. ms. within the cane-field of González, eroding out of the destroyed river bank by the bridge,
and in the walls of the irrigation channels within the cane.

History of the site:

Verrill's map (see fig. 147), indicates the presence of "graves or mounds" just to the south of the Highway. Ferrari excavated at a locality called "Las Barrancos" which he says was "algunos metros del puente por donde pasa la carretera central". He does not indicate which bank (1928: 2-4). Las Barrancas is almost certainly the "Charco de Oro" described by Lothrop and may relate to Verrill's Barrancos Graves. The author made a random surface collection from the area indicated above in March 1970. No obvious signs of burials were found.

Possibilities for research:

Nil in the immediate area described above. The land has been completely churned by road operations, ditch-digging etc. Sterile clay was visible at the bottom of the irrigation ditches after no more than 30 cms. of topsoil. About 500 ms. west of the bridge, 200 ms. along a path to the south of the Highway in a "potrero" are some hexagonal basalt columns, lying on their sides, which must relate to one of Verrill's "Stone rows". They are apparently unworked. This is probably the site referred to in Bull's site list as "NA-1, El Caño, Las Columnas, Sitio Fernández", (Bull 1965b:39).

NA-22

Map reference:

1/10,000: Sheet 4: 554,500E-935500N approx.
1/50,000: Sheet 4041 II (Old)

Location:

About 500 ms. before reaching the Rio Grande bridge, travelling east along the New Highway, there is a small dry season path which leads southwards along the west bank of the river. About three hundred metres
along the path, one comes to a steep embankment constructed by the C.P.A. for an irrigation ditch. Here the path turns abruptly west and follows the southern face of a small but prominent rise for about 300 ms. In the dry season of 1971 sherds were in evidence, at times densely concentrated, eroding out along the path, and in two major clusters in ploughed areas: from the fields immediately north-west of the path, i.e. on the western face of the rise, and from the other field immediately over the embankment to the south of the path, occupying the edge of the rise before it slopes away rapidly down to the flood plain. The whole area has been used for a few years by the C.P.A. for "tomatales" and has been pretty well churned over. The sherds in the former cluster were horribly eroded and, in 1971, right in the middle of dense weeds, so they were not collected for analysis. Nevertheless, workers report that the "blades of the tractor broke" because of the density of refuse. The sherds from the latter cluster were better preserved and collected randomly.

History of the site:

No excavations have been made here as far as I know, though the "potrero" belonging now to the C.P.A. is known as Juan Rétiro and contains the famed "Charco de Oro". (see Lothrop 1942: 205-206).

Possibilities for research:

To the north of the C.P.A. works and the path, the rise is still under pasture and looks an ideal spot for excavation. I presume the occupation spread revealed by the ploughing continues over onto the pasture and covers the entire rise which measures c.500 ms. x 250 ms. and is a good seven metres above the flood plain. It is my guess that it is the occupation area for the "Charco de Oro". To judge from the surface pottery, the occupation is long.
NA-23

Map references:

1/10,000: Sheet 4: 553950E-931500N
1/50,000: Sheet 4041 II (01a)

Location:

500 ms. west of the Río Grande, opposite an island in the middle of
the river, 800 ms. n.w. of the New Highway and c.1 km. n.w. of site NA-22.
It is reached along the irrigation canal which leaves the New Highway just
before the bridge. The road is passable in the dry season only. In
early May 1971, sherds were found eroding from the banks of the canal to
a depth of c. 1 m. and scattered on top of the canal for about 200 ms.,
in two concentrations, one at the reference given above for the site and
the other about 150 ms. further on, at the point where the canal makes a
right-angled turn to the north. A surface collection was made at the
larger concentration.

History of the site:

The site was discovered, unfortunately, very late in the second campaign,
when trenching operations revealed the sherd lenses. The river bank at
this point does not have the reputation for being a gold-bearing area.

Possibilities for research:

Extremely good. The situation of NA-23 and the sherd content are very
reminiscent of PN-11, with the additional bonus of a number of Phase V
sherds in the surface collection, indicating a more continuous and deeper
occupation. Immediately to the north of the canal and the road is an
undisturbed area of tall grass which certainly warrants a stratigraphic
test. This site has greater possibilities than any other visited in the
area to clarify obstinate points of chronology.

NA-24
Map reference:

1/10,000: Sheet 4: 553900E-932500N approx.
1/50,000: Sheet 4041 II (Olá)

Location:

About 1 km. north of NA-23 and 0.500 ms. n.e. of NA-25. The canal which outs through site NA-23 continues north for about 1.5 kms. and then doubles back south alongside an old channel of the Río Grande until it is terminated by a large ditch running west-east from the road to Bocatomas to the river. At a point about 100 ms. north of this ditch, at a slight bend north-east in the canal, a small lense of sherds about 60 ms. long and 30 ms. deep was found eroding out of the canal wall, about 50 cms. below the present land surface.

History of the site:

This site and NA-23 were the only indications of occupation along the entire length of the canal system on the western bank of the Río Grande, north of the Highway. The area is not famed by locals for "huacas".

Possibilities for research:

Moderate. The sherds from the small lense all seemed to be Phase VII.

NA-25

Map reference:

1/10,000: 553400E-932030N (co-ordinates for south-western boundary of field containing site).
1/50,000: Sheet 4041 II (Olá)

Location:

600 ms. n.w. of NA-23. The site is best reached along the all-weather road which runs north of the New Highway towards Bocatomas and NA-31. About 2 kms. along the road a ploughed area of 0.500 sq. ms. (used as a Trial Plot by the Irrigation Project) revealed a lense of scattered sherds of 0.100 ms. sq. at the western end of the field. The sherds were very
heavily eroded and virtually unidentifiable, and were well encrusted in the red clayey soil.

History of the site:

Well churned by agricultural activity over recent years. The agronomist of the project was running trials for tomatoes for this particular site in dry season 1970-71.

Possibilities for research:

In the immediate vicinity, nil. The site probably represents part of a more or less continuous occupation along the north-south ridge which runs adjacent to the Río Grande, and contains sites NA-22, NA-23, NA-25 and NA-30. The ridge is at all seasons beyond the reach of flooding.

NA-26

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4041 II (Ola) 550300E-929100N very approx.

Location:

The Potrero Garratacapa which contains NA-26 is reached along the road which runs from the New Highway to Ola. It has recently been asphalted. It is situated on the south bank of the Río Caffo, in a triangle formed by the river and the Quebrada Churubé Arriba. The owner lives (1971) in the first house past the small church square of Churubé Abajo, the first village one reaches about 1.3 kms. up the road from the Highway.

History of the site:

The Potrero Garratacapa is the largest cemetery I have yet seen in Coclé, possessing in the region of 125 tombs, which, to judge from the surface indications of marker stones and collapsed vaults, is of the shaft-and-side-chamber variety. Where the vaults have collapsed, the vegetation is often more lush because of the trapped moisture, and these crop marks are
visible from quite a distance. Probing with a "vara" - the instrument used by "huaqueros"... it is quite easy to locate the tombs. The site was discovered when a worker's car fell into one of the collapsed chambers, but, as far as I know, there have been only half-hearted attempts at excavation. One "huaquero" claims that the shafts are deep and that they contain flecks of carbon. Shafts are indicated by either collections of fist-sized cobbles about 1.5 m. in diameter or by groups of flat stones ("lajas"). To the east of the cemetery lies a ploughed field, used in the past for tomatoes, over which isolated sherds can be picked up.

Possibilities for research:

This site must be excavated as soon as possible. It is most important to conduct a large-scale excavation of these shaft-and-chamber tombs in Coolé to ascertain whether there is a cultural link between grave types and culture, which is frequently denied. The sherds from the field mentioned above are Phases IV, V and VII, but I guess that the graves will contain Phases VI and VII.

NA-27

Map references:

1/10,000: Not yet mapped.
1/50,000: Sheet 4041II (OLÁ) 547700E-931700N

Location:

The site lies on the eastern bank of the Rio El Caño, on a sharp spur caused by a sudden meander in the river. NA-27, 28 and 29 are all reached along the dry season road which leaves the New Highway just after a sharp bend east at ref: 551750E-929100N. NA-27 is about 4 kms. northwest of this point, and 1.5 kms. east of the road and the foot of Cerro San Miguel. It is entered from the field immediately past the "finca" of the Real family. Sherds are visible in scattered quantities from the road to the river for about 1 sq. km. and NA-28 is probably part of the
same habitation area. The artifact spread constituting NA-27 covers about 100 sq. ms. at the precise point of the sharp meander. In March 1970 sherds were gathered from plough lines in a tomato field. In April 1971 the site was grassed over and fallow.

History of the site:

The area has no tradition of excavation. Members of the Isthmian Anthropological Society purchased two Conte Polychrome effigy carafes which were apparently excavated in the immediate vicinity. (nearest equivalent Lothrop, 1942: fig. 211b).

Possibilities for excavation:

The Real "finca" has been more or less chopped over. Bare, sterile clay is visible over a good deal of the pastured areas and there are deep erosion gullies. The area immediately north of NA-27 is under pasture and might preserve deposits. NA-27, NA-28 and NA-29 probably represent the same general occupation along the higher ridges bordering the River El Caño.

NA-28

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4041 II (016) 548000E-931800N

Location:

About 750 ms. from the Real "finca" and the entrance to the "potrero", the road dips slightly towards a ford across the Rio El Caño. In late dry season 1971, the higher area between the river and the road, which is delineated on the western side by the 40 m. contour forming a series of spurs jutting out into the lower plain occupied by NA-27, was covered by a "tomatal" of some 750 x 400 ms. Sherds were gathered randomly in April 1971 from the most northerly and prominent of these spurs, where
there was a dense lens of about 90 sq. ms. Cultural material was visible in more scattered quantities all over the field. To judge from the profiles cut by the irrigation channels, the site is shallow and base clay is visible at 25 cms.

History of the site:

See under NA-27

Possibilities for research:

Nil. The deposit is shallow and has been destroyed.

NA-29

I/10,000: Not yet mapped
I/50,000: Sheet 4041 II (016) 547600E-932500N

Location:

Crossing the ford over the Río El Caño just past the Real "finca" and NA-27, the road turns north-east and traverses a small plateau before descending to another ford over the river. All along the road between the two fords, cultural material is visible, eroding from the steepish banks and from some deep rain-gullies to the west. In 1971, sherds were also gathered from the field between the road and the Río El Caño, to the east, which had recently been ploughed for a "tomatal." Part of a legged metate was found in the field on the east bank of the river. The area between the two fords has been designated NA-29,A, and the field between the road and the river, NA-29,B.

History of the site:

The site was first discovered by members of the Isthmian Anthropological Society when the very large number of worked jasper tools caught the eye of the "lithophiles." A fine pendant in serpentine was picked up by Mrs. Ruth Stuhl (see Plate 36, i for illustration). Erosion has uncovered
base yellow clay at most parts of the site.

**Possibilities for research:**
Doubtful in the immediate region.

**NA-30**

**Map references:**

1/10,000: Sheet 1. 553730E-934410N, co-ordinates of the s.e. corner of Osís's field.
1/50,000: Sheet 4041 II (016)

**Location:**
About 4 km. along the road which dissects the trial plots of the
Irrigation Project and leads the area known locally as Bocatoma, just
north-west of a north-easterly bend in the Herradura Canal System, Project
No.1, Sorá - El Caño. 800 m. south of NA-31 and Cerro El Olivo. 400
m. west of the Rio Grande. The site lies within a field of six hectares
belonging to Eladio Osís, of El Caño village. (Osís says he is the owner,
but the Project workers were doubtful).

**History of the site:**
The field was ploughed for the first time (?) in 1971 for tomatoes. In
1969 and 1970, it was under dense scrub. According to Osís, some
"gringos" excavated "huacas" in the field about five years previously but
he never saw the material they recovered. Some long blocks of igneous
rock, about 30 cms. long by 10 cms. wide, could represent grave markers.
In March 1971, a random surface collection was made at three points within
a ceramic spread of about 200 m. north-south by 150 m. east-west, which
occupied the central eastern slope of a low ridge running north-south
across the site. The three points collected were those with the highest
density of material and each measured about 20 x 20 m. They were
separated in the original statistical count, but the material was identical,
and they are amalgamated in Table 5.

Possibilities for research:
The site is well above flood danger - about 3.5 m. above the level of the river bank - and looks perfect for habitation. The soil is deeper in Osis' field than at any other point along the ridge which runs from the Highway to the Bocatomas. Base clay was nowhere except for a portion in the middle of the field, just north of the ceramic spread, where run-off had caused deep gullying. Between the field and Cerro El Olivo behind, under scrub 1969-71, there might well be virgin deposits.

NA-31

Map references:
1/10,000: Sheet 1 553500E-935500N, co-ordinates of the approximate centre of the site.
1/50,000: Sheet 4144 II (Olá)

Location:
On the western bank of the Río Grande, immediately south of the Bocatomas. Between Cerro El Olivo and the river, bounded on the west by a canal of the Herradura Canal System. The land belongs to Clemente Castillo of El Olivo village. NA-31 contains about 50 circular piles of head-to-fist-sized cobbles, arranged randomly over a field of short grass interspersed with Guazuma umifolia and other scrub trees.

History of the site:
Though El Olivo is famed for its cemetery, the author excavated one stone circle in 1970 and found no signs of burials. However, though the profile had the appearance of sterile riverine aggradation, and showed no signs at all of intentional fill or funerary disturbance, it is quite possible that the excavations simply did not go deep enough. Mr. Gimsey visited the site in 1955-6 and designates it Co-28. He records that a
local inhabitant dug a short distance into one of the circles and found sherds and "what he described as cylindrical clay pipes the diameter of a man's arm and resembling sections of drainage pipe". (McGimsey 1959: 349-350). Abraam Rosas, the foreman of the Irrigation Project at Bocatomas, has also informed the author of finds of "drainage pipes". The area immediately to the south of the "cemetery" - including both the "trapiche" of Castillo and a "potrero" of 250 x 180 ms. - is scattered with habitation refuse which can also be found eroding to about 50 cms. from the bank of the "trapiche", near a "madre vieja" of the Río Grande. In December 1969, the "potrero" south of the "trapiche" was being ploughed for tomatoes. The tractor driver said he had found urns with several bones inside and recalled having smashed several other urns in the past. He said all were very near the surface. Three long basalt columns like those on the surface at NA-30 were visible, possibly acting as grave markers. One of the sherds gathered was from an enormous urn of Corteso Red-Buff, presumably a fragment of a burial urn.

Possibilities for research:
The majority of the stone circles have been scattered by recent irrigation works. It would have been useful to investigate more as I am not happy about the excavation.

NA-32
Map references:
1/10,000: Not yet mapped
1/50,000: Sheet 4041 II (016) 552300E-937600N

Location:
3 km. approx. due north of El Olivo village. It is best reached from Bocatomas by taking a crude track which runs up the western bank of the Río Grande northwards. As the track turns northwest past Cerro Cipriana,
there is a "potrero" to the east which forms an enclosed triangle with an old channel of the Río Grande. The central portion of the field contains a number of piles of stones which presumably are grave-markers.

In December 1969 there were three types of marker visible:

a) Circular structures of water-worn cobbles with diameters averaging 3 ms.

b) Single flat, water-worn boulders, about 30 cms. square.

c) Groups of three small water-worn boulders.

Most of these "graves" (?) were well obscured by Curatella and Byrsonima trees and dense scrub so it was impossible to make an assessment of numbers. To the south of the "potrero" is an artificial (?) platform of basaltic boulders which also contains heaps of more jagged stones similar to those found at AG-5 (Cerro La Iglesia), NA-34 and NA-35.

Whether these are in fact graves, I do not know. The name of the owner of the "potrero" is not known to me.

History of the site:

Found by Mike Clark Esq. and Pachoco Guardia of Penonomé whilst surveying for a dam site, in late 1968. I know of no local interest in the area.

Possibilities for research:

The site warrants at least excavation of the three types of marker and the circles on the platform.

NA-33

Map references:

1/10,000: Not yet mapped
1/50,000: Sheet 4041 II (016) 552300E-938000N approx.

Location:

Continuing along the path north of NA-32, one comes to a small plateau situated between the rivers Virulí and El Valle. In 1969-1970 it
comprised two "tomatales" separated by a "maizal", belonging to Anselmo Quesdada of Pocrí. Immediately opposite this site, on the other side of the river, are three petroglyphs inscribed on a rock which is submerged for most of the year. In 1970, sherds were recovered from the "tomatales" to either side of the "maizal", but they were thinly scattered.

History of the site:
I know of no former excavations and Quesdada was surprised I should be 'looking for gold', though he did recall ploughing up considerable quantities of sherds in the past.

Possibilities for research:
It is probable that this site links with the graves (?) at NA-32. In spite of the poorly distributed sherds, I feel the area as a whole promises something. The situation is ideal for habitation. Flood danger is non-existent. The site comprises the only level, stoneless land in the district, the plain to the north across the Río El Valle being rocky and infertile. The Río Grande is extremely close, with a steep bank to keep out flood waters. The area is protected from behind by a triumvirate of high hills - Cipriana, Silla and Jobo-and is, in summary, optimal for occupation.

NA-34

Map reference:

1/10,000: Not yet mapped
1/50,000: Sheet 4041 II (01a) 552000E-937700N

Location:
Passing NA-32, to the east, the path crosses the Río Virulí and continues through a deepish "barranco" between Cerro El Jobo and NA-33. On the western side of the path at this point, some 50-80 m.s. past the river
Virulí, is an elevated "potrero" which contains twenty or so circular piles of jagged stones, about 1.5 ms. in diameter, similar to those at AG-5, NA-32 etc. They are situated in a line hugging the edge of the "barranoo", in between dense clumps of Curatella and other scrub trees.

**History of the site:**

No excavations could be discerned.

**Possibilities for research:**

The same problem: are they in fact grave markers?

**NA-35**

**Map references:**

1/10,000: Not yet mapped
1/50,000: Not yet mapped

The approximate reference for the site is 54°7300E-94°1700N, reading from a map of the Guzmán Reservoir (Binnie and Partners, 1970, fig. B.16)

**Location:**

In the Valley of Guzmán, which is situated just north-east of the Cerro Banco - Cerro Muela ridge. The Valley is reached by a dry season road which turns north of the New Highway at ref: 55°2750E-92°9750N, and leads on through the village of El Olivo and between Cerro El Olivo and Cerro El Vaca. NA-35 is situated on a flat promontory just to the north of a small stream and deep gulch that run into the Río El Vaca, about 800 ms. south of the confluence of the rivers El Vaca and Guzmán. To the north, the land rises gradually before reaching the cliff overlooking the confluence. In a grassy potrero occupying the promontory, were at least a dozen piles of jagged ignimbritic boulders, about 40 cms. high, and with diameters of 1.5-2 ms., scattered randomly, with Curatella bushes esconced within the stones. Some collared jar rim sherds with deep striations on the exterior, similar to those of Red-on-Cream Ware from
AG-3, were found in between the stones.

History of the site:

There were no signs of any previous disturbance at this point of the valley.

Possibilities for research:

The Valley of Guzmán offers immense possibilities for archaeological research. The Irrigation Project has planned a dam for the Valley which would swamp at least NA-35, and an immediate survey of the region is strongly recommended. A reconnaissance on foot to the west of the Río El Vaca and also just to the south of NA-35 revealed one or two highly eroded sherds of Conte "droop-lip" type eroding from paths leading down to the river. In a private collection I have seen a Conte Polychrome effigy vase (similar to Lothrop, 1942, fig. 21b), which came from the "Guzmán Cemetery" apparently situated about 2 kms. west of NA-35, within the confines of the village of Guzmán itself. There have been rumours of North American "huaquerismo" quite recently in the locality. Topographically, the Valley of Guzmán, lying midway between the Plains and the high Cordilleras is vital to our assessment of the northwards extent of the ceramics found along the Pacific coast, and of links between the Pacific and Atlantic slopes.

A further eight unlocated sites were investigated by MoGimsey in the Distrito de Natá: Co-21; Co-22; Co-26; Co-27; Co-34; Co-39. All of these appear to be on the La Estrella Sugar estate.

Co-21

Found during the excavation of a drainage ditch when many sherds and shells were dug up. McGimsey put in two soil auger holes. Shell was present to a depth of 4' when pure clay was reached. Probably a natural
deposit, the sherds being superficial.

Co-22

Under thick grass, on a slightly elevated portion of a flat plain not too far from the old coast. The area of the site was perhaps as much as a metre higher than the surrounding land. It was discovered during grading operations for the "adjacent main road of the La Estrella 'hacienda'". The soil was of the compact flood-plain type and had little stone. Neither flood-waters nor high tides reached the site.

The La Estrella Sugar estate has been heavily altered since 1955 and the chances of locating this site from topography alone are slender. If it is adjacent to the "main road of the 'hacienda'", it should lie somewhere between the Ingenio itself and the pump-station Naranjal. The nearest hill to the site is apparently Cerro Zuela, across the Río Chico, so I imagine it is quite a distance from Cerro Vigía, the only other prominent hill in the area. The site is also not far from the old coast, so it should be somewhere near NA-2.

Co-22 was excavated with two 3 x 3 m., pits laid down south of the scraped area. Both pits were closed at 1.10 ms. and a soil auger revealed no cultural material to a depth of 2 m.

Co-25

About 0.5 km. south of the Río Chico bridge at Natá, the river had cut through a number of lenses of sherds extending for about 50 m. The lenses were of varying thickness, often interlapping but not completely superimposed. They ranged from 5 to 20 cms. in thickness and from 1 to 10 ms. in length and seemed to occur in two major levels. At a point approximately equivalent to the higher level, but at some distance from the main deposit, were a modern roof tile and a piece of bottle glass. The top level was c.75 cm. and the lowest about 2.25 m. below the ground
level. McGimsey considered there was too little material and too much confusion of lenses to warrant excavation. Collections were made from the higher and the lower lenses.
The site probably equates with NA-5.

Co-26
"In the flood plains on the same side of the river as Co-25". The digging of a drainage trench revealed a number of sherds over about 100 sq. m. The sherds were mostly eroding from the bottom of the ditch so it was difficult to ascertain the depth of the site.

Co-27
Off the main road of the La Estrella 'hacienda' and between Co-22 and the mill. Discovered by bulldozer operations. A cemetery site. The soil of the graves - almost coffin size - was dark brown, contrasting with the surrounding dull reddish brown soil. The graves were probably situated in the top 1 or 2 m. of the cut. A pottery collection was made.

Co-34
Another cemetery site, also uncovered during ditching. Apparently several graves were destroyed to judge from the quantity of bones. They were probably between 1.0 and 1.50 m. deep and covered with stone slabs about a metre square (McGimsey; 1959: 350)

Co-36
On the north bank of the Río Chico, located from a canoe. The river was flowing east to west at this point, so the site is probably between NA-2 and NA-3, about ref.: 555600E-919800N. A thin stratum of scattered sherds was recovered about ten feet below the bank and two feet above the river. A small pottery collection made.

Co-39
Located between the New Highway and a dirt road paralleling it immediately
to the east, between the rivers Caño and Churubé, immediately west of Cerro Margaría. I would guess this site — which was apparently very densely covered with material in 1955-6 — is one I visited with an employee of the La Estrella factory in 1969, but could not locate accurately owing to the height of the cane.

**DISTRITO DE PENONOME**

**PN-1**

**Map reference:**

1/10,000: Sheet 7: 557900E-922400N approx.
1/50,000: Sheet 4144 III(Antóz)

**Location:**

About halfway up the western slope of Cerro Zuela, a vast, flat-topped hill in the middle of the "Llanos". Cerro Zuela is covered with dense xerophytic scrub at the present time and location of sites is not easy. PN-1 is best reached from the small township of Cerro Zuela, which is situated at the northern extremity of the hill. At the point where the Río Coolé del Sur, western channel, meets the path to the village, there is a style and a footpath which leads due south along a series of levées and pastures along the east bank of the Río Grande and the west side of the hill. About 2.5 kms. down the path, almost due east of the church of Natá in the far distance is a stretch of flatter, cleared land about 250 ms. from the base of the hill, traversed by a wet season "quebrada". About 200 ms. further on, there is another "quebrada", after which the land dips and becomes boggy before a third "quebrada" is reached. PN-1 is located just to the north of the third "quebrada", in an insolubrious little plateau. At the time of writing (1971), it is marked by an enormous "corotú" tree, (*Enteroxobium cyclocarpum*), which gives the site its local name: "El Corotú", or "El Palo de Corotú". In 1970-71 sherds were found eroding from beneath
the roots of the tree in amazing density.

History of the site:

McGimsey's field notes of 1955-56 refer to a site denominated Co-29 "about two thirds of the way up Cerro Zuela". His full notes are worth quoting:

"This is apparently a cemetery site though it could possibly be a living site for there is a fairly thick deposit (up to 50 cms.) of sherds over a wide area. Of course, since this is on the site of a hill, this distribution could be nothing more than the result of wash. The site now has a fairly heavy tree cover though not much undergrowth and there are a lot of large and small rocks littering the surface. On the downhill side of a couple of the larger rocks were old excavations from which the boys said much material and "huesos" had come (the latter intact but badly rotted). There was also a legged grinding stone. They said there was no soil difference in the graves, but that the shaft was full of many sherds and largish (30 Ibs. or more) rocks. I was unable to tell if the location of the large rocks was a consistent pattern. Two attempts of 50 cms. or less and innumerable brief tests failed to reveal the requisite condition of continuing sherds in the fill of the tomb and we gave up looking at the end of the day".

In 1970 the author made two brief tests of 1 x 1 ms., one about thirty ms. north-east of the "corotú", which reached sterile red claypan after only 25 cms. of virtually sterile topsoil. The other, 0.15 ms. north of the tree, was likewise unsuccessful. There were a number of rocks of varying dimensions scattered over the area. Behind the "corotú" are traces of a stone terrace but I noticed no formal patterning of stones that would indicate graves. I presume I worked in the same area as McGimsey, whose sherd samples were identical to mine. The density of the sherds beneath the "corotú" is a puzzle. They are all Phase IV; whether they have been washed down and collected in the roots, thrust up and gathered therein while the soil around has washed away, or are the remnants of grave-shaft fill, I do not know.

Possibilities for research:

Solifluxion and erosion have certainly destroyed this part of the
occupation. The flat land to the south, by the first "quebrada", is under pasture and might prove virgin. Calvo records having found a celt of the polished-polish type, in association, he says, with some quartz crystals.

**PN-2**

**Map reference:**

1/10,000: Sheet 7: 584000E-923000N very approx.
1/50,000: Sheet 4141 III (Antón)

**Location:**

As bush cover around this site is very dense, precise location is difficult. The 1/10,000 series does not present contours for Cerro Zucla. PN-2 is situated on top of the hill, about 700 ms. west of PN-1, on a small rise which lies about 500 ms. north of the highest point, referred to locally as "El Cacique".

**History of the site:**

PN-2 is a mystery. It consists of a "dozen or more tombs dug into the level top of the hill", which were visited by Messrs. Brown and Vinton in December 1952 and found to be two-chambered with deep shafts and floors at 14 ft. There were no sherds in the fill of the pit and no artifacts were found. Vinton concluded that they were pre-ceramic (Vinton and Brown, 1960: 55 - 65). In 1970-71, the shafts were still uncovered and full of vampire bats; for this reason, the local "huaqueros" have not attempted to descend to look for gold.

**PN-3**

**Map reference:**

1/10,000: Sheet 7: 558000E-924300N approx.
1/50,000: Sheet 4141 III (Antón)

**Location:**

PN-3 is known by the "cerrozuelenses" as "Lastone". It is situated just
to the south of the modern village, about 250 ms. up the hill, and is reached via a small winding path. In 1970, sherds were collected from the path as it traverses one of the better preserved terraces. This terrace has presumably been occupied in recent times to judge from the presence of mango and lime trees.

History of the site:

It was proposed to dig a test trench here in 1970, but the project had to be abandoned owing to the hostility of the owner.

Possibilities for research:

Lastons provides the clearest evidence for the terracing which encircles part of Cerro Zuela and the presence of sherds indicates archaeological occupation at this point. There has been no solifluxion in the immediate area, and the chances of finding occupational depth are, in my opinion, better here than elsewhere on the hill.

Map reference:

1/10,000: Sheet 7. 557800E-924700N co-ordinates of village.
1/50,000: Sheet 4141 III (Antón)

Location:

The village of Cerro Zuela is situated immediately above the confluence of the rivers Cochlé, western channel, and Grande. The whole area of the present-day occupation is liberally scattered with sherds and lithics, either eroding from paths and courtyards, or scooped up into piles by the local townspeople.

History of the site:

Lothrop visited Cerro Zuela in 1934 and describes various sherds from the village which he attributes to the "Early Period". He mentions that the inhabitants had from time to time made excavations, and that Karl Curtis
opened a grave (1942: 218-9 and figs. 436-7). In 1970-1, I was told that
digging still continued, especially when pot rims poked above the eroding
courtyards. The graves are apparently pits dug into the bedrock, which
varies considerably in depth.

Possibilities for research:
The area has been pretty well chopped over, though there must be several
graves which are workable. Cerro Zuela's present population is receding
rapidly and there is a remote possibility that the area will be flooded if
an irrigation scheme for the lower Río Grande is undertaken. Much of
the Pre-Columbian deposit has probably washed away as erosion and solifluxion
intensify annually. Nevertheless, the courtyards of the houses nearest
the river would be worth investigating. The cemetery seems to be contem-
porary with the Sitio Conte (FN-5), which is a further 2 kms. upstream.

FN-5 (Sitio Conte)

Map reference:
1/10,000: Sheet 7: 556450E-926550N
1/50,000: Sheet 4041 III (Antón)

Location:
The Sitio Conte lies on the eastern bank of the Río Grande, 2 kms. south
of the village of El Caño, and 2 kms. north of Cerro Zuela village. It
is best reached in the dry season from the "finca" of Michelin Grimaldo
of Penonomé whose farmhouse is located about 1 km. south of Río Grande
village, just east of the ox-bow lake "La Herradura". The site lies
about 2 kms. south of the farmhouse and can be reached on horseback
along one of the dry season paths which runs due west of the "Quebrada
Barrero". The dividing fence between Grimaldo and Conte land seems
uncannily to mark the boundary of the cemetery area of Sitio Conte, as
Grimaldo dug a trench along the fence a few years back and found nothing.
(See also Lothrop 1937: 35-36).

History of the site:

The Sitio Conte was discovered some time early in the 20th century when a change in the river revealed pottery eroding from the banks. The Harvard University excavated here under S.K. Lothrop in 1931-34. Full details of these excavations are recorded in Lothrop's two monumental volumes of 1937 and 1942. Further excavations were undertaken by Alden Mason and the University of Pennsylvania, the results of which have appeared only in very brief form (Mason 1942). The depth of refuse at the site attains 3 ms. in places and contains burials, caches, lines of basalt columns and piles of stones with adobe floors. Lothrop excavated fifty-three graves and thirty-two caches and calculates the maximum extent of the site as 3.24 hectares (1937: 36). A total of twenty-four units was excavated (Lothrop 1942: 37, fig. 20). As Lothrop concentrated primarily on funerary aspects of this site, Ladd in 1957 published a short article analysing selected stratified samples from Trench XI in an attempt to correlate the chronology of the site with new information from outside Coelé gathered by the Stirling and Willey work of 1948-1952.

Periodic looting still continues clandestinely, and it is rumoured the Conte family excavate regularly.

Possibilities for research:

A discussion of the chronology of FN-5 in the light of new evidence is contained in Chapter 8. Though there is a large area which remains undisturbed, I doubt very much whether the excavation of tombs alone would clarify past interpretations, to judge from the chaotic nature of the deposit, but it would be worthwhile opening a controlled stratigraphic trench alongside the Lothrop Trench XI to corroborate the sequence.
suggested in this study.

PN-6

Map reference:

1/10,000: Sheet 7: 557700E-927700N
1/50,000: Sheet 4141 III (Antón)

Location:
The small sandstone outcrop known locally as "La Loma de Los Muertos", lies in the Llanos between the rivers Grande and Cocalé, about 2.3 kms. north of Cerro Zuela and 1.3 kms. north-east of the Sitio Conte (PN-5). It is reached from the village of Río Grande along a dry season road which passes just to the east of the Grimaldo farmhouse, and after about 2 kms. of pasture land, peters out just over the Quebrada Barrero. The "loma" is 0.700 ms. long and 800 ms. wide, is covered with boulders and the loose stones typical of isolated hills in the "llanos". In 1970-71 the hill was covered with impenetrable bush, which consists largely of Acacia trees (cornigera etc.), and black palms (Bractis spp.) and makes survey work painful and difficult. The reference given above is for the north-central part of the hill near where are found the petroglyphs.

History of the site:
The "loma" was tested in the 1931-3 season by Mr. Frederick Johnson with four 2 x 4 m pits which revealed about 50 cms. refuse. Sherds and three miniature vessels are illustrated in Lothrop, 1942; 347,352,399 and 402. Harte has published pictures of a series of petroglyphs which are incised on flat boulders near the above map reference. (See Harte 1960, 45-48, and n.d.: 11-15). These petroglyphs were still visible in 1970-71.

Possibilities for research:
No doubt the Loma de los Muertos served as a refuge from floods in the same manner as Cerro Zuela. It is 31 ms. above flood level at its
highest point. The author could see no evidence of the stone circles (terraces?) which are found on Cerro Zuela, Cerro La Iglesia and Cerro El Espavé, but bush cover was too dense to appreciate anomalies in topography. The Johnson pits of 1931 revealed only 50 cms., over base clay, so there is probably little depth of refuse as on the slopes of Cerro Zuela. Besides, life on La Loma de los Muertos at the present moment is rendered almost unbearable by the palm spines, acacia ants and loose boulders. Perhaps when the hill is cleared for a "maizal" there might be some possibilities for excavation.

FN-7

Map reference:

FN-7 has not been re-located accurately on topographic maps, but should lie approximately in the position indicated in lap 1.

Location:

"A flat area of several acres containing ancient remains on what was formerly the west bank of the Río Co ele about a km. west of Palo Verde". (Lothrop 1942: 200). Most of the land on the west bank of the Río Co ele near Palo Verde is at present under pasture, but a brief survey in 1970 revealed no indications of occupation either from the river bank or from the surface. The only evidence of archaeological occupation was from a cane-field on the eastern bank of the river, at reference 556840E-929200N, where a few sherds of modern and "Ola Ware" type were recovered, indicating a recent occupation.

History of the site:

Lothrop describes excavations and finds at FN-7 excavated in March and April 1931 (1942: 200-203).

Possibilities for research:

The site, as excavated by Johnson, is shallow, material occurring for
about 50 cms. To judge from the material housed in the Peabody Museum, a lot of the ceramics are water-worn.

FN-8

Map reference:

1/10,000: Sheet 4: 556180E-929450N (exact position of urn burials)
1/50,000: Sheet 4141, III (Antón)

Location:

Immediately south of the southern bend of the ox-box lake "La Herradura", about 1.5 kms. south of the main street at Río Grande village. On land belonging to Michelin Grimaldo, which in late dry season 1971 had been prepared for an irrigation project and was sown with maize. The site is at the end of the road which leaves Río Grande and follows on to the Grimaldo "finca". An irrigation ditch dug in 1971 adjacent to the ox-box revealed some fragments of a number of heavy Cortezo Red-Buff burial urns, with occasional pieces of human long bones, scattered for a distance of about 80 ms., about 15 ms. south of the river bank. A search for sherds on the surface did not determine the extent of the site. Sr. Pínsón, the field director of the irrigation project in the area, possesses a calt and a tripod-legged pot which he said was revealed when an Enterolobium cyclocarpum tree was uprooted at the same locality.

History of the site:

There is no tradition of "huacas" in the vicinity. Immediately to the north of the above reference, is a slight rise, to the west of Grimaldo's finca, known as Mata Visjo, which in 1970 revealed a number of very eroded sherds (Conce "Droop-Lips"). By 1971 this area had been considerably modified by excavating machines and the sherds had vanished. Burials are rumoured to have been found here.
Possibilities for research:

The irrigation ditch had not reached base clay at 0.50 cma. Burial urns are being found with increasing frequency over the general area (see under FN-9), and many have presumably been smashed unrecorded by exoavators.

PN-9

Map reference:

1/10,000: Urn burials were located at the following precise references:
Sheet 4: Urn burial 'A': 555730E-930130N
Urn burial 'B': 555880E-930080N
Urn burial 'C': 555920E-930060N

1/50,000: Sheet 4144 III (Antón)

Location:

During the work for the Irrigation Canal No. 2 of the Llanos de Cochlé Irrigation Project in dry season 1971, three complete but broken burial urns were recovered at the above precise references. All were about 30 cma. below the present land surface. The urns, all classifiable as Cortezo Red-Buff ware, are included within one general site on the assumption that they represent part of a large urn-burial field. The ditch in question is situated about 200 msa. west of the ox-bow lake, just across the ford. Urn burial 'A' is 50 msa. north of the Old Highway; 'B' 120 msa. south and 'C' 190 msa. south.

History of the site:

Apart from the burial urns recovered during construction, sherds are not frequent along the remainder of the canal. The bulk of population no doubt resided further east, on both sides of the ox-box lake, at sites PN-10 and PN-11, which were in part contemporary and probably contiguous. I presume the urn burials relate to the last phases of these sites (? VI-VII)

Possibilities for research:

Though the Cortezo Red-Buff burial urns are aesthetically uninteresting,
they might in the future provide carbon for dating, and also dietary information. The workers who broke Urn Burial 'B' said it had contained large amounts of carbon, and Urn Burial 'C' contained some carbonised maize kernels which were recovered by Sr. Pedro Quirós, archaeological representative for Coolé, and handed over to the Museo Nacional for analysis. Two other urn burials of Cortezo Red-Buff vessels are listed under PN-11.

PN-10

Map reference:
1/10,000: Sheet 4: 930190E-555790N
1/50,000: Sheet 4141 III (Antón)

Location:
In the second field west of the ford over La Herradura, a now defunct irrigation ditch revealed sherds in dry season 1970 eroding from above a fossil bar of La Herradura for a distance of about 80 m., starting 40 m. north of the Old Highway. At no point was the deposit more than 50 cms. deep above the bar, which was still visible at the bottom of the ditch at c.1.20 m. The field containing the ditch was under maize in 1970, and scrub in 1971, and a search revealed only a handful of eroded sherds. About 80 m. east of the ditch, in another field, which is adjacent to the Herradura, some sherds were recovered in dry season 1971 from a "tomatal". It is likely that the ceramics from above the river bar and from the "tomatal" represent the occupational debris of one large site, which links with the top 30 cm. or so of PN-11 on the opposite bank.

History of the site:
A discussion of the possible relevance of the fossil bar of La Herradura is contained in Chapter 8. The irrigation ditch was found to be wrongly located and in 1971 had been abandoned.
Possibilities for research:

No doubt PN-10 is a shallow and late site, to judge from the deposit over the bar. I imagine that the Phase IV-V occupation of the area was located on the east bank of the Herradura, then the Río Grande itself, while the west bank has filled in since the river changed course.

PN-11

Map reference:

1/10,000: Sheet 4: 555950E-930550N approx.
1/50,000: Sheet 4144 III (Antón)

Location:

PN-11 is on the eastern bank of La Herradura, an old channel of the Río Grande. It is reached from the small town of Río Grande. Entering the town from the New Highway, down the first turning after the Río Grande road bridge, travelling east, one travels 700 ms. to the south, and then turns west (right) at the first crossroads and continues along the Old Highway for about 600 ms. The site is situated immediately north of the Old Highway, about 100 ms. east of the Herradura, and just south of a small rivulet which crosses the site east-west and comes out in the Herradura. About 200-250 ms. north of the rivulet there are signs of occupation which in 1970 were considered to be a different site. In this report, the two areas of occupation are treated as one.

History of the site:

In 1929, Ferrari probed a low mound situated just 10 ms. from the bridge over La Herradura (now collapsed), on the "left-hand" side of the Old Highway. The mound lacked stone markers of any kind and was excavated to a depth of two feet. Thick, crude potsherds and Anarada grandis shells were encountered only in the first six inches or so. The locality had
apparently disgorged bones and sherds in previous years. Ferrari's site must be only about 200 ms. south-west of the 1970 excavations at PN-11 (Ferrari: 1928: 7)

Lothrop (1942: 205) refers to a locality known as El Candil:

"Much further upstream (i.e. from PN-5), the Panamerican Highway crosses the Río Grande by means of a large bridge. To the east, on either side of the highway (Old), are a large number of scattered houses which constitute the village of Río Grande. Between these houses and the river, a short distance north of the Highway, is a locality known as "El Candil" where archaeological remains have been found as a result of sporadic digging. Gold is said to have been found. Although a good deal of pottery has been extracted at various times, it has been sold to passing travellers and there is no record of it. In the store of D. Máximo Fernández, we have seen various unpainted vessels of nondescript form which give no clue to the age of the site."

From Lothrop's description, El Candil must have been in the general vicinity of PN-10 and 11, but it cannot be certain upon which side of the ox-bow lake it was situated.

Doyle also excavated at El Candil, and found a copper bell associated with "globular flare-necked vessels with red daubs and red-painted shoulders". (Doyle: 1960).

PN-11 was discovered in September 1969 during digging operations for the Irrigation Pilot Canal No.2 of the Llanos de Coolé Irrigation Project. At that time a lens of pottery about a metre deep was revealed in the wall of the ditch and found to stretch for about 100 ms. between the small rivulet and the Old Highway (see Map 5). A test pit of 1 x 1 ms. was laid down at the point of densest concentration of ceramics in October 1969 and found to be over a metre deep. The site was excavated with four more cuts between January and March 1970. In March 1971, the physical nature of the land around the site had changed completely: a road had been built right over the 1970 excavations, the tall "coroté" and "huachapalí" (Enterolobium and Pithecolobium) trees uprooted, and the
fields north and south of the 1970 pits sown with tomatoes. A surface collection was made over the north-eastern field, which belongs to the Fernández family, to attempt to clarify the rather obscure late occupation of the site. It was intended to make a grid collection as the field is very large (300 x 200 m.) but the hostility of the landlord prevented this. Nevertheless, a random collection was achieved just over the boundary fence from a strip about 100 x 100 m. The 1 x 1 m. pit, E, excavated on the western side of the rivulet over sterile sand piled up against the fossil bar of the Herradura, has been included within this site. Just to the north-east of pit E, the Project tractor driver unearthed an enormous Cortezo Red-Buff burial urn which contained six spindle whorls. Another burial urn was recovered about 200 m. west, 100 m. or so south-east of the junction of Canal 2 with the Herradura, along another, now abandoned channel (that which crosses PN-10). (See Map 5)

Possibilities for research:
I doubt whether there is anything more to be salvaged from the area, apart from urn burials.

PN-12

Map reference:
1/10,000: Sheet 4: 556600E-930350N
1/50,000: Sheet 4141 III (Antón)

Location:
700 m. east of PN-11 and 700 m. south-east of the Old Highway at Río Grande. Another site found by trenching operations for Canal No.2 of the Irrigation Project. Just north of the modern cemetery of Río Grande at ref: 556620E-920235N, the canal traverses a "potrero" of 100 x 240
ms. which (1970-1) is under grass. At the point where the canal makes a 70 degree turn southwest, in the centre of the field, sherds were gathered in January 1970, for a distance of c.60 ms. either side of the bend. They were quite common but highly eroded and appeared to be coming from some way down the profile (c. 1m.) The soil of the "potrero" as revealed in the out is red "chumico" clay, partially gleyised through constant inundation. The occurrence of sherds within it is puzzling. About 150 ms. south of the bend, a few metres from the cemetery, runs a band of thick, grey "Panonomé series" clay, cutting dramatically through the "chumico". The canal workers had not noticed any other cultural material along the trench from PN-11 to this site. Habitation at this point today is impossible, but the "madre vieja" of the Río Grande (La Herradura), is only 300 ms. to the west.

History of the site:
There is no tradition of gold or "huaquerismo" in this area.

Possibilities for research:
Unlikely. The sherds found were highly eroded. The presence of what must be occupation refuse suggest that the region was less prone to inundation from winter rains in the past.

PN-13

Map reference:
1/10,000: Sheet 2: 560350E-932240N
1/50,000: Sheet 4144 III (Antón)

Location:
PN-13 is in the "Potrero San Luis", a rather large field which belongs to Demetrio Torribio Fernández, who lives in the third house south of the school at Garicín, on the eastern side of the road (asphalted 1971). To reach the site, one takes the dry season track which runs east off the
road just to the north of Torribio's house and walks eastwards for c. 400 ms. before reaching the Potrero San Luís, which in 1969-70 was split into three sections: the northern third, c.100 x 100 ms., was a "cebollar"; the middle third was a "maizal"; and the bottom third was under scrub. In the northern third, ploughing for the onions revealed rather a dense concentration of sherds over the entire field. Some of the sherds had been raked into piles by the workers who complained that the density impeded the plough. The "maizal" had fewer sherds. The scrub land to the south was pitted with erosion holes some of which disgorged very dense quantities of sherds to a depth of c.60 cms. Two holes revealed burial urns at c.40 cms. from the present land surface, a mano and fragment of a metate. In this scrub, the large proportion of very thick (1-2 cms.) Cortez Red-Buff rims indicates that the whole area is probably an urn burial field. Three specific urns were recovered. They had all been tampered with and the bones scattered to the winds. Fragments of a ? tibia in one of the urns had been burnt.

History of the site:

The west bank of the Rio Coolé del Sur at this point has the reputation of being one of the richest cemetery areas in Coolé. The workers in the onion field said they frequently recovered celts of good workmanship and had in the past found the head of a "noneca", (Turkey Vulture), in "tumbaga". This had been sold. A selected sample from the "cebollar" and the scrub land was made in October 1969.

Possibilities for further research:

Good. There is presumably virgin deposit in a lot of the scrub land. The site is only 400 ms. from the Rio Coolé, is out of flood danger and looks ideal for habitation. I am confident that the rumours of rich
burials are true in this case.

PN-14

Map reference:

1/10,000: Sheet 4: 554900E-931100N approx.
1/50,000: Sheet 4444 III (Antón) and Sheet 4041 II (Ola)

Location:

At the point where the Highway crosses the Río Grande, on the east bank of the river, road construction works have cut through a large Pre-Columbian site. Sherds could be recovered in 1970 from a "tomatal" to the south of the road in considerable numbers; in 1971 this field was under "guaná" and thick grass. A larger field 400 ms. to the east, ploughed late dry season 1970 for tomatoes, also revealed sherds in smaller numbers. The field on the northern side of the highway has been used as "tomatal" in the past and supposedly contained the richest burials; no signs of occupation or grave markers were visible, 1969 to 1971. The site must have had an extent of at least 500 sq. ms. and was no doubt both occupational and funerary. In Bull's site list there is a site marked AG-4, Río Grande, which could be this locality (Bull 1965b:37)

History of the site:

A considerable number of graves have reportedly been dug in this locality since the New Highway bridge was constructed in the early 1960s. According to professional "huaqueros", the graves were marked with stone circles and had deepish shafts which were filled with stones. Two whole vessels recovered by Dade now in the Museum of the American Indian are probably from this site (they are provenienced merely "Río Grande, Coclé". (See Plates 14-16). Another whole vessel is illustrated in fig. 3. This was dug by a local professional and is the property of the Fernández family of Río Grande. The same man recovered a breadboard metate from one of
the graves. In 1970, a surface collection was made by the author from the smaller field adjacent to the river, presumably the area of the graves; and in January 1971 another from the field to the east. The samples are considered together in Table 5.

Possibilities for research:

The opinion of the people who have dug the site is that there are still graves to be opened. The pottery is all Phase VII, to judge from the surface samples, and it would be rewarding to find more whole examples.

PN-15

Map reference:

1/10,000: Sheet 1: 554880E-933320N
1/50,000: Sheet 4041 II (Olá)

Location:

680 ms. west of the road which runs from the Highway to El Copé, along a little path which turns west opposite the first "tienda" of La Candelaria and follows on to the Río Grande. At the base of Cerro La Mona, a volcanic outcrop. 500 ms. east of the river. In April 1970, a bulldozer had gouged out a hole in a small rise about 20 cms. high, and sherds could be found eroding from the walls in apparently two layers; the first almost superficial and the second c.40 cms. down. The "potrero" to the south was under grass (1969-71).

History of the site:

A collection was made from the walls of the cut in 1970. The little path has caused considerable erosion round about. The wet season inundations are severe and consequently the surface of the path is a good metre below the "potrero". The lense of sherds was only c.20 ms.wide and the position of the site is topographically illogical. On top of the Cerro is a group of tombs. Ferrari mentions that a certain Sgt.
Williams found a gold eagle in one tomb, but as he apparently used a "Wonderful-Huaca-Opening-Machine" (a metal detector) the 'eagle' is probably chimaeral. Pots were not found in the pre-1928 diggings, and local "huaqueros" told me they had only found "plain and valueless" vessels. The tombs are of the shaft-and-side-chamber type. Ferrari says the shafts are circular, with diameters ranging from 2 to 4 ft., and are about 6 ft. deep. The chambers of at least some of the tombs have stone-slab doors ('tapas'). (See Ferrari, 1928: 15)

Possibilities for research:

The lens of sherds visible in the bulldozer cut is certainly too thin to warrant further investigation. They may have been washed into this position from the slopes of Cerro La Mona. The cemetery has been completely looted.

PN-16 (Potrero Riquelme)

Map references:

1/10,000: Sheet 2. 561500E-934600N very approx.
1/50,000: Sheet 4441 III (Antón)

Location:

The "Potrero Riquelme" is included as an archaeological site by Lothrop (1942: 210). He describes its location as "on the west bank of the western channel of the Rio Cocolé, about hundred yards north of the Pan-American Highway". The "potrero" is still known by that name and seems to have undergone considerable alteration since Lothrop's visit. The western channel of the Cocolé has now fully silted up into an ox-bow, but it acts as a spillway for the annual floods, being known as the Rio Cocolé Auxiliar.

History of the site:

Lothrop says that some examples of painted pottery - two of which,
Macaracas Polychrome, Pica-Pica and Cuipo Varieties., he illustrates in op. cit. fig. 4:8 - were dug from this locality by Don Alejandro Méndez, one time director of the Museo Nacional. The first purchased gold to reach the Peabody Museum was apparently from here (op. cit.: 210).

Ferrari records a line of graves between 6 and 8 ms. apart in the same "potrero". They were orientated east-west and marked by piles of river pebbles of different size (called locally "morros de piedra"), from 1.80 to 2.10 ms. long, by 0.90 to 1.20 ms. wide. The stones, which were liberally mixed with kitchen refuse, extended to a depth of 30-60 cms., whereupon a layer of natural yellow clay was encountered to a depth of c.1.80 ms. No whole pots were found on the floors of the graves, which were lined with Anadara grandis shells and river pebbles. (Ferrari, 1928: 5 & 6).

PN-17 (Rancho Sancho de la Isla)

Map reference:
1/10,000: Sheet 2. 556240E-934600N
1/50,000: Sheet 4144 III (Antón)

Location:
On the ranch of Philip Dade who bought the land when he noticed sherds eroding from the road bank. The ranch is called Rancho Sancho de la Isla, and the archaeological site is thus named in Dade's 1960 report of his excavations (Dade, 1960: 66-85). The site has an area of some ten acres and occupies what has now become an island between the Old and New Highways, and the east bank of the Rio Cochré. The site is labelled PN-1 in Bull's list (Bull, 1965b:35).

History of the site:
The complete history of the Rancho Sancho is contained in Dade, 1960: 67. Dade's excavations concentrated on the location of graves, of which three major types were found, Shallow, Medium and Deep.
Map reference:
1/10,000: Sheet 2: 561650E-939200N
1/50,000: Sheet 4141, III (Antón)

Location:
On the flanks of a small hillock immediately east of Cerro Petaca or Potrerillos, on the western bank of the Rio Coolé del Sur. It is best approached along the track which leaves the New Highway at ref.: 564390E-935670N and turns due west for about 2.5 kms. before descending to the confluence of the rivers Coolé and Zaratí. The river can be forded at most times of year by the cattle crossing immediately below the Potrero El Duende (PN-19). The small hillock is reached by following the western bank for 800 ms. westwards (it is the only prominent rise east of the massive Cerro Potrerillos). The site is situated on the southern side of the hillock, which was divided (1970) by a fence, with a 'corral' to the east and grass and scrub (Byrsonima and Acacia etc.) to the west. In the 'corral', sherds could be found eroding out of the bank and the deep erosion gullies and also heaped up at the base of the hillock. All were horribly eroded and water-tumbled. Immediately west of the sherd spread, in the grassy patch, were about ten closely arranged piles of fist-sized stones, each measuring about 1 m. in diameter. The 'corral' and field are owned by Jorge Conte of Penonomé.

History of the site:
Conte recalls no "huquerismo" in the area. The piles of stones appear to be untouched. The sherds in the ? occupation area to the east were all badly eroded and for the most part unrecognisable, though rim shapes included large percentages of the Conte "Droop Lip" and Escotá everted lip type of fig. 124. A surface collection was not made.
Possibilities for research:

Testing of at least one of the stone piles is recommended. The south-eastern part of the site is totally destroyed, but investigations on the northern flank might prove profitable.

Map reference:

1/10,000: Sheet 2. 562720E-935920N
1/50,000: Sheet 4144, III (Antón)

Location:

PN-19 is reached along the track which runs from the New Highway to the confluence of the rivers Zaratí and Coolé del Sur (see PN-18 for location). At the point where the track slopes sharply towards the rivers, immediately in front of a small farmhouse, heavy rains in November 1969 had cut a deep erosion gully. A number of sherds could be found in the gully, sometimes in dense concentrations, for a distance of about 300 ms. To the south of the path is a large "potrero" - El Duende, owned by Da. Fita de la Guardia, of Penonomé - which was under short grass 1969-1970. A thorough search in November 1969 and again in April 1970 revealed no grave markers, sunken vaults or sherd concentrations over this 'potrero', rather surprisingly, as erosion is slight, the soil thick, and the potentiality for habitation high, especially along the wide ridge which runs north-south across the "potrero" and is ten metres above the flood level. The "potrero" to the north of the track - La Oliva, owned by D. Mario Aquiles Tejeira, also of Penonomé - was under thick "farraga" grass and scrub which precluded surveying.

History of the site:

The watchman for Doña de la Guardia said that people had excavated "huacas" in both "potreros" in the past but was not sure of their success.
Another informant said some North Americans had found some fine "ollas enterecitas" in the Potrero El Duende about eight years previously. The sherds eroding from the gully, some seemingly in situ, would be about two metres from the present land surface, but the banks of the track revealed no cultural debris.

Possibilities for research:
The Potrero El Duende is a beautiful site and there must be some profitable archaeological sites somewhere in the vicinity. The whole area is certainly worth checking periodically for land changes.

PN-20

Map references:
1/10,000: Not yet mapped
1/50,000: Sheet 4141 IV (Penonomé) 561000E-944800N approx.

Location:
About 1 km. south-west of the confluence of the rivers Toro Bravo and Coolé del Sur, at the point where a new bridge (completed 1971) crosses the Coolé. In 1970, construction workers had scraped up fairly dense concentrations of sherds during the preparation of the roadway. A "tomatal" to the south of the road, ploughed in December 1970, also revealed quantities of sherds, concentrated primarily in the southern half (measuring about 250 x 500 ms.) There is supposed to be a large cemetery on the other side of the river, which was not fordable at the time of survey.

History of the site:
Doyle found a grave on bedrock at a depth of two feet in the vicinity of Toro Bravo (1960:48-51). The only cultural goods were five unpainted brown vessels and a gold head. Personnel from the Museo Nacional de Panamá visited the site in December 1970 and made a small surface collection.
In the same month, the author made a random sample from the "tomatal" which had not been collected by the Museo.

Possibilities for research:
The "tomatal" deserves a test.

DISTrito DE LA PINTADA

LP-1

Map references:

1/10,000: Not yet mapped
1/50,000: Not yet mapped. For approximate location of site, see Map 1.

Location:

At the base of Cerro Guacamayo, between the hill and the Río Grande. The site occupies a long spur which forms a triangle between the main El Copé road (asphalted) and a narrow flood plain carved out by the Río Grande. In the dry season of 1971, a "tomatal" of c.1 km. x 500 ms. occupied most of this spur, beginning about 2 kms. north of the confluence of the Río Potrero with the Río Grande. Sherds were visible over most of the field, but were definitely concentrated in two major areas, each of c.100 sq. ms. and situated right on the edge of the escarpment. The most southerly area was mixed with large numbers of large river boulders, perhaps representing grave markers or house platforms. A check of the flood plain below revealed no cultural material. The plot in 1970-1 was being worked by the C.P.A., Natá. The surface collections were made in the two dense concentrations; they were at first separated but are amalgamated in the total count in Table 5.

History of the site:
The field in question has a long history of tomato growing, being fallow approximately three in every four years. In 1969-70 it was under thick
scrub. The area as a whole is not famed for "huacas" or archaeological deposits in general.

Possibilities for research:
The drainage canals had not reached base clay and presumably there is a fair covering of soil. The tomato crops are reputed to give good yields on this soil. The surface sherds were of mixed chronology, spanning Phase IV/V to VII. Geographically, the entire spur between the road and the river is ideally suited for habitation.

LP-2
Map references:
1/10,000: Not yet mapped
1/50,000: Not yet mapped. For approximate location of site, see Map 1.

Location:
Taking the turning off the El Copé road, about 3 kms, north of LP-1, to the small township of El Potrero, one turns right (east) before the small chapel and continues along the dirt road, which after about 1.5 kms. crosses the Río Potrero. Immediately after the crossing, on the left hand (northern) side, are two small rises which overlook the river, south-west of Cerro Picaoho. In 1970-1, a field of about 200 x 100 ms. occupied the southern portions of the two rises. Sherds were to be found scattered all over the field, but were especially dense around the summits of the rises, where they could be seen eroding from the irrigation channels at a depth of c.25 cms. Immediately north of the ploughed area, a second field was covered with dense "farraga" grass. The cultivated field belongs to Sr. "Chillo" Fernández, a migrant farmer who comes down from La Bermeja in the summer. It was liberally spread with roofing tile, clouded and translucent glass, porcelain and sundry metal artifacts, testifying to the existence of a modern homestead on the site, about sixty
years beforehand, according to Sr. Fernández' genealogical calculations.
The Río Potrero is dry from February to April above the small "quebrada" which joins it just to the north of the site. Below the quebrada it remains a trickle.

History of the site:
Most of the sherds recovered were badly eroded and the field seems to have been well churned over. Sr. Fernández recalled no tradition of "huaquerismo" though he claims to have seen several stone piles in the adjacent foothills.

LP-3

Map references:
1/10,000: Not yet mapped
1/50,000: Not yet mapped. For approximate location of site, see Map 1.

Location:
About 0.5 kms. downstream from LP-2, in a similar topographical position, on a small rise about 5 ms. above the bed of the Río Potrero. The rise itself measures about 100 ms. long by 50 ms. wide, but it slopes way gradually before meeting the base of Cerro Guacamayo to the south. In 1971, a "tomatal" occupied the rise and part of the slope, measuring about 150 x 150 ms. in total. Sherds were quite densely concentrated on the rise, and could be gathered in smaller quantities from the remainder of the field. Flood-waters apparently never reach the plateau. Some sherds (probably Guácmíno Red-on-White-Slip) were found from much lower-lying ground immediately opposite the rise, on the other bank of the river, and could also be seen eroding a short distance beneath the land surface out of the bank of a "trapiche" and "ranchería" adjacent to the "tomatal". Immediately opposite this trapiche, a road comes down to the river from the chapel of El Potrero, leaving the track to the El Copé road, just
west of the last house of the settlement on this side.

History of the site:

There were no informants at hand. LP-2 and LP-3 presumably represent a chain of occupied areas hugging the several small rises on the left bank of the Río Potrero.

Possibilities for research:

Ploughing and channeling had not reached the base clay at this point, but to judge from the river bank, the soil is not very deep.

LP-4

Map reference:

1/10,000: Not yet mapped.
1/50,000: Not yet mapped. For approximate location of site see Map 1.

Location:

Immediately after the small road bridge which crosses the Río El Harino on the road from Candelaria to El Copé, and due south of the prominent Cerro San Pablo, is a small elevation which forms a triangle with the road, the river and Cerro Gallo immediately to the west. In 1971, a "tomatal" of about 150 x 150 ms. occupied the elevation and cultural debris was heavily concentrated over two small north-south hummocks within the field. The land immediately to the south was separated from the "tomatal" by a sharpish escarpment and was covered with scrub. The field was being farmed by Ramón Villareal but is owned by Margarita de Quirós who lives in Panamá and whose father occupies the small house to the north of the road.

History of the site:

Fallow in 1969-70. Topographically, the site is ideal for habitation, being out of flood danger, and occupying the only level land in the vicinity.
Possibilities for research:
The whole area traversed by the rivers Potrero and El Harino beneath El Copé is worth an intensive survey. As far as I know no work has been carried out in the area, though the hills around El Copé supposedly carry graveyards and may have been looted by "huaqueros". The only cultural material I myself have recovered in the immediate vicinity of El Copé are a few worked flakes of jasper and white flint on the summit of the most prominent hill, now completely denuded, behind the village.

Unlocated sites in the survey area

Of the six localities excavated by A. Hyatt Verrill, only one - NA-20, the 'Temple site' - can be located with certainty today. Five others - 'Ancón', Banks of the Río Grande, Barrancos Grave, Espinosa Burial Mound and the Río Grande Village site - were presumably somewhere in the lower Grande or Coolé valleys. It is possible that the Barrancos Grave equates with the site called Las Barrancas by Ferrari and hence lies somewhere near the Old Highway bridge over the Río Grande (perhaps even NA-21). The Lisson (Limon) Grave was presumably near the settlement of El Limón, to the north of our survey area, where the Stirlings opened some shaft-and-chamber tombs of probable Phase III date (Stirling, 1964a).

Ferrari's excavations at Las Barrancas - a few hundred metres from the Old Highway bridge, though he does not say which side of the river - cut through some low mounds between 23 and 27 cms. high, 1.20 and 1.50 ms. wide and 1.20 and 2.15 m long. They were oriented south-east to north-west and were apparently quite numerous. The excavations were carried down to 1.80 ms. but the only artifacts recovered were coarse, red-painted potsherds, a red pedestal plate minus its pedestal, and a black basalt celt, with polished poll. Nearby, a small figurine in clay with traces
of black-painted designs was found. Ferrari says that "hundreds of gold beads" had previously been taken from the locality (1928: 2-4).

A site called Potrero de Cussati was also visited by Ferrari, on the land of Miguel Conte, on the left bank of the Río Grande opposite la Habana. Stretching for several hundred feet along the left bank, at a depth of between 1.20 and 1.50 ms. was a lense of sherds, some of them highly coloured. Tests were made and the sherds seemed to be coming from beneath an inch-thick deposit of carbon and river pebbles. Some painted plate sherds and an effigy vessel were found. Below 1.80 ms., the excavations continued to a depth of 2.32 ms., but the sherd lense seemed to be only 30 cms. deep. 15 ms. further on was another dense concentration of polychrome sherds (op.cit.: 8-9).

This site is presumably somewhere in the vicinity of PN-5.

In the north-north-east corner of Cerro Banco, a prominent "sabaneta" just above the El Caño waterfall (see Map I), Ferrari visited some excavations undertaken by a certain Cárdenas who came across a great pile of broken bones at about two yards depth beneath a circular stone wall. Cárdenas - obsessed with the idea of finding his life's treasure - seems to have spent years blowing holes in the unyielding rock with dynamite, and his claim to have found a sculptured Indian head in the locality is dismissed with rational understatement by Ferrari, who was quite sure Cárdenas had been blasting through natural bedrock.

Lothrop offers a historical explanation for the piles of bones, suggesting they were the mass graves of prisoners of war (1942: 211 after Andagoya, 1865: 31).

More obviously genuine evidence for the aboriginal occupation of Cerro Banco is provided by the stone walls enclosing circular stone piles
with diameters of about six feet, according to Ferrari, three feet according to Lothrop, via Curtis (op.cit). Ferrari excavated two of the piles: "huaca" I had a circular shaft nine feet deep and three feet wide; at about six feet, four boulders masked the entrance to a circular side-chamber, about four feet high and seven feet wide. The entire chamber was carefully picked over but not a trace of skeletal or artifactual material was found. "Huaca" 2 had the chamber entrance 4 ft. from the surface; it was funnel-shaped inside, and was likewise completely empty. Six other "huacas" had been opened previously by local people, but all were devoid of material (Ferrari, 1932).

In March, 1970, I visited Cerro Banco and made a survey on foot over the entire western portion of the "sabaneta," but failed to find a single potsherd or evidence of graves. Apparently I did not go far enough east to find Ferrari's stone-walled "huacal" which, according to my most reliable local informant, still stands in situ.

It is rumoured that some American pot-hunters operating out of the Canal Zone by helicopter have recently been opening graves above Cerro Banco and Cerro Muela, probably in the Valley of Guzmán. The whole area behind this ridge of hills is beautiful, cool and relatively dry and surely had a dense aboriginal population: I tend to think that the highly eroded and laterised landscape is the result of Pre-Columbian rather than modern activity, as the region is poorly populated today and not accessible to the markets of Natá and Penonomé.

One other site - the "Guacamayo Graves", in the Distrito de Penonomé - has been given a site number, PN-21, but unfortunately not located precisely on the site map. According to the Bartes, who excavated the graves, the site lies on the northern slopes of the "volcano" (Harte, N., 1966: 3).
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