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CERAMIC ANALYSIS ON CULTURAL RESOURCES SURVEYS ON THE SANTA FE NATIONAL FOREST

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ABSTRACT:

This report is designed to be used as an introductory guide to ceramic classification on the Santa Fe National Forest. It is not exhaustive, nor highly technical and is intended for use by amateurs, paraprofessionals and professionals. Brief descriptions of the most common ceramic types found on the Forest by a general discussion of ceramic technology and attributes.

INTRODUCTION:

This report is intended to aid professional archeologists unfamiliar with this area, paraprofessional archeologists on the Santa Fe National Forest and volunteers or other interested individuals who may need to be able to classify and describe ceramics found while performing cultural resource surveys on the Santa Fe National Forest. The emphasis is on the pragmatic, mechanical aspects of ceramic classification, and thus may seem simplistic to someone with a lot of experience with ceramics. However, the approach outlined here is deemed sufficient for purposes of completing Forest Service Archeological Site Form R3-2300-2, and is intended for use to that end only.

Since the Santa Fe National Forest does not permit collections of surface artifactual materials for cultural resources clearance surveys, it is necessary for surveyors working on the Forest to be able to perform some limited ceramic analysis in the field in order to complete the site form. Ceramics are useful in two primary ways: 1) They can provide a range of dates during which the site was probably occupied, and 2) They can provide limited information about the cultural affinities of the people who occupied the site. This does not imply that ceramic data cannot be used for many other purposes. However, these are the two uses which are most common and suitable for surface materials encountered during surveys.

When ceramics are observed in the field in either site or non-site (i.e. isolated occurrences) contexts, one important thing should be remembered. If you pick up a sherd (or any other artifact), you must replace it exactly where you found it. As I mentioned, the Santa Fe National Forest does not authorize artifact collections for cultural resource surveys. Wandering around a site picking up "diagnostic" or interesting ceramics without returning them to their exact proveniences constitutes unauthorized collections, and cannot be tolerated. Collection does not mean removal, but simply gathering together. So please, don't collect! It's not necessary for completion of the site form, and it contributes to the destruction of the site by altering the context, locations and associations of the surface materials.

DESCRIBING CERAMICS:

In many, if not most, instances, the ceramic assemblage observable at a given site or isolated occurrence may not present sufficient combinations of attributes to enable you to classify them. In these cases, the artifacts should be described, and your best guess for the type be given. There are several important attributes of ceramics which we will be monitoring to help us classify them. The following summary lists and defines the most important attributes of ceramics

Presence or absence of paint: A sherd with no paint may not necessarily have come from an unpainted vessel. Many or even most sherds from painted vessels will show no paint.

Presence or absence of slip: A slip is a thing coating of clay and water, often white, which is brushed onto a vessel prior to firing. The slipped vessels are then usually painted. A slip can usually be detected by making a fresh break in a sherd and examining the newly broken cross section. If the sherd is slipped, there should appear to be a thin layer of different colored material just on and below surfaces of the sherd. Some vessels may be slipped on one side and not the other.

Type of Paint: Painted ceramics are generally the most useful types for dating and describing cultural affinities of sites. The type of paint is an important attribute of painted ceramics and is very useful in ceramic classification. There are two basic types and one subtype.

The first type is carbon paint. This type of paint is made from organic (formerly living) materials, most often plants. Carbon paint is usually thinner and less dense than the other type, mineral paint. It may appear to have been absorbed into the surface and may have soft or blurred edges. Mineral paint is derived from minerals or rocks. The rock is ground up and mixed with water, then applied to the vessel. Mineral paint is usually thicker and more dense than organic paint. It may appear to lie just on top of the vessel surface, and may tend to flake off without removing any of the slip or the vessel wall. Mineral painted designs may look somewhat shiny or glassy. They may also appear to have "run", or to have melted. The edges of the design will be sharper than those with organic paint. A subtype of mineral paint are the glazes, which can be solutions of a variety of substances such as lead or various salts. The same remarks made for detecting mineral paint apply to glaze-paints, but glaze-paints are even more distinctive. They stand out from the vessel surfaces so much that their presence can often be felt. Glaze paints are often quite runny and may appear to be sloppily applied. They will usually exhibit a glossy, vitreous appearance, often crazed or crackled.

Designs: For a sherd based system of ceramic analysis , the study of vessel designs is likely to be of limited utility since few sherds are large enough provide complete design figures or patterns. Nevertheless, some sherds exhibit unique or diagnostic designs and, therefore, should be described.

Designs are often composed of several elements which are repeated at various intervals around the vessel, on either side. elements may be lines, triangles, circles, dots, hatching, cross hatching, checkerboarding, and other geometric forms. Other elements include zoomorphic and anthropomorphic forms (animal or human-like) and various other objects which may have had some ceremonial significance. If you find sherds with identifiable designs, but can't otherwise classify the sherd, then describe the design. Otherwise, describe only the unique or bizarre designs, since the pottery type descriptions include the range of most common design patterns for the type.

Finish: This attribute includes all surface preparations of the vessel, and usually includes the slip. Virtually all of the prehistoric ceramics you will see have been constructed by the coiling method. In this method, long round cylinders of clay are placed one upon the other in a circular (coiled) fashion,

until the vessel has reached the desired size. Unless the coils are intended to show, as in corrugated vessels, they must be smoothed out. Various tools were employed for this purpose. Many vessels received additional finishing after smoothing. Polishing consists of rubbing the vessel with a smooth stone until the mineral particles in the clay are all flattened out and parallel. This results in a smooth, and sometimes shiny surface. Vessels may be polished while shipped or unslipped. A variety of polishing a vessel which has been sooted by placing over a smoldering fire. The black soot is rubbed into the vessel wall and produces a shiny black surface.

Paste: The paste of a vessel or sherd, refers to the interior of vessels outer and inner surfaces. It consists of fired clay, tempering material and various impurities. Pastes have many differences, particularly hardness, color, texture, type of temper, and thickness.

Some attributes of paste require a hand lens or microscope to observe. Others can be seen with the naked eye and are quite valuable for classifying ceramics. The hardness of the paste or the sherd can be subjectively determined in several ways. Some sherds are so soft they can be scaratched with a fingernail. Others have a kind of "ring" to them when tapped, like fine crystal rings when you tap it with a fork. Some sherds can be broken between your fingers. The type of fracture can be important, as some ceramic types fracture with a jagged break and othrs break cleanly.

Tempering material is another important attribute for ceramic classification. Temper can be straw, sand, ground rock or even ground sherds. Its function is to prevent cracking of vessels as they dry by reducing the amount of shrinkage that wet clay will normally undergo. Usually, a hand lens will be necessary to make even a rough determinaton of temper type since it is often microscopic. However, larger temper can be seen with the naked eye. Sand temper will appear like grains of sand in the paste. It will appear as sparkly quartzitic inclusions. Ground sherd temper will usually appear as irregularly shaped soft white inclusions in the paste. Ground rock temper is highly variable in appearance, depending upon the parent material. It will generally look like fine dust particles in the paste. Some rock temper will be indistinguishable in the paste. Tuff temper is often very difficult to detect without very high magnification.

Forms: This refers to the overall shape of the vessel, but also to such things as rim form, wall thickness, and curvature in sherds. As in the discussion of design, sherds often won't be large enough to provide meaningful information concerning vessel form, but if one thinks about what they're looking at, some generalizations are possible. Rim sherds can be particularly valuable for determining vessel form. On ceramic series the Rio Grande Glaze-Paint wares, uses rim form almost exclusively to classify and date the vessels. See the accompanying charts on vessel form and the Rio Grande rim form chart.

CLASSIFYING CERAMICS

Ceramic classification refers to the process of observing several attributes of the specimen and assigning the most likely ceramic "type" to the specimen. Archeologists can (and do) argue endlessly about ceramic typology and its meaning, but these arguments are of little relevance to the topic at hand. What a ceramic type really is, is a description of a set of ceramic vessels or sherds which is thought to have cultural, temporal and spatial significance.

Tremendous variability can exist among sherds or vessels within a type and sometimes sherds from the same vessel can appear to be different types. Ceramic typology is not hopeless, however, and as long as one is consistent about what one calls a given type the classification of ceramics observed on survey can be simple.

As you may have guessed, the same attributes you use to describe ceramics are used to classify them. Not every sherd will be classifiable. The simplest way to classify a sherd is to systematically run through each class of attributes and compare the sherd to the type descriptions. Probably the single most important determinant of ceramic types is where they are found. Most ceramic types had a limited geographical distribution.

It is important to remember that few sherds will attain a perfect "score" when compared with the type descriptions. Prehistoric Southwestern ceramics were all handmade and thus even vessels made by the same person in the same style and form will exhibit some variability. Most sherds you find in the field will follow at least one of the type descriptions given fairly closely on most attributes. Should you find one that doesn't seem at all like any of the descriptions, just describe it on the form.

You will only be able to examine a portion of the total ceramic assemblage at most localities. It is preferrable to try to sample the range of variability as thoroughly as possible. On smaller sites or isolated occurrences, this shouldn't be a problem. Since painted ceramics are more diagnostic than plain or corrugated wares, you should seek out more of them than any other group. Rim sherds are often of diagnostic value and should be examined.

TYPE DESCRIPTIONS:

Black on White Wares -

Kwahe'e B/W

Description: This type has a mineral paint. It is often unslipped, but may have a thin wash. The paste is coarse, gray and often has a dark core. The temper is crushed sherds. The designs are usually solid triangles, interlocking scrolls, or checkerboards often poorly executed. This type is considered by many to be a "degenerate" Escavada B/W.

References: Mera 1935, Hawley (Ellis) 1936, 1950, Warren 1977, Marshall 1980.

Dates: AD 950-1225 (Warren 1977), "best between AD 1115 and 1200 plus." (Breternitz 1966)

Distribution: Central and Upper Rio Grande Valley.

Associations: Indented Corrugated, and Neck Indented Corrugated. Intrusives include San Juan Redwares, White Mountain Redware Bichromes (Puerco B/R and Wingate B/R).

Gallina B/W

Description: This type has a thin, grayish-black carbon paint. It is usually unslipped, but may have a thin white wash. The paste is coarse, often with large water-worn inclusions. It often has a sandy gritty texture, but considerable variability exists. The inner surfaces are somewhat polished, but not glossy. Bowl exteriors are smoothed only. Jar exteriors show finer polishing. Designs include quartered bowl interiors divided into panels of parallel horizontal lines just below he rim. Design elements include ticked rims, solid hour-glass, checker boarding, and cross hatching. Vessel forms include bowls, seed jars, and jars with big horizontal flattened handles.

References: Mera 1935, Hawley (Ellis) 1936, 1950

Dates: "Best between 1248 and 1268". (Breternitz 1966), AD 1100-1275 (Usual)

Distribution: The northwest quadrant of the Jemez Mountains to near the Colorado Border. Almost never occurs as an intrusive.

Associations: Gallina Plain, Gallina Corrugated.

Santa Fe B/W

Description: This type has a carbon paint, which is frequently bluish or grayish in color, and is almost never deep black. The paste is homogeneous, fine textured, hard, brittle, and gray in color. There may be a thin white wash on the interior of bowls, but is often unslipped. It is usually tuff tempered, with some sand and sherd. Unpainted surfaces are usually not polished, but painted surfaces are commonly polished. Designs include panelled band decorations, sometimes extending to the rim. Hatched triangular figures are common. This type is almost exclusively hemispherical shaped bowls, with a few jars.

References: Amsden 1931, Mera 1935, Hawley (Ellis) 1936, 1950, Warren 1977, 1979a, Marshall 1980.

Dates: AD 1175-1300 (Warren 1977), "best between 1200 and 1350." (Breternitz 1966)

Distribution: From Espanola along the Rio Grande to Albuquerque, and especially on the Pajarito Plateau.

Associations: Indented corrugated and smeared. Indented types and some micaceous utility wares. Intrusives include Socorro B/W, Wingate B/R, St. Johns PC and the Gila painted series.

Wiyo B/W (Biscuitoid)

Description: This type has a solid deep dark black carbon paint. It may be slipped, but with a slip the same color as the paste (hence, is indistinguishable). Bowls are unslipped on the exteriors. The paste is most commonly tan, can be brown, gray, or olive. The temper is usually

fine sand or dark tuff, but is often invisible. The paste is soft, can sometimes scratched with a fingernail, and is homogeneous in texture and color. It may have a light carbon streak. This type is highly polished and bowl interiors may have basketry impressions, or may just have smoothed exteriors. Designs are usually bold broad lines forming panelled bands with oblique divisions and heavy solid triangle and key figures. On the Pajarito Plateau hatched figures are common. The most common vessel form is hemispherical bowls, often large in size. Round and square rims are most frequent, may be outcurved, and are usually medium to thick.

References: Amsden 1931, Mera 1935, Kidder and Shepard 1936, Hawley (Ellis) 1936, 1950, Warren 1977, 1979a, and Marshall 1980.

Dates: AD 1300-1400 (Warren 1977) "best between 1299 and about 1425." (Breternitz 1966)

Distribution: Same as Santa Fe B/W, but concentrated on Pajarito Plateau late.

Associations: Smeared Indented Micaceous wares, and necked ribbed styles such as Cundiyo Micaceous smeared indented and Cordova. Micaceous ribbed. Intrusives include Galisteo B/W and Glaze A.

Abiquiu B/G (Biscuit A)

Description: This type has a dull black carbon paint. The slip is a light gray to off white (lighter in color than the paste) sometimes with an olive cast. Only the interiors and lips of bowls are painted and slipped exteriors are unslipped and unpainted. The paste is soft, dark gray to whitish gray, usually darker towards the edges. The temper is usually pumice, with some crushed sherd, and is coarser later. Bowl interiors are smoothed, not polished. Exteriors often show scratches from the scraping tool. Designs usually appear on interior bowl walls, the bottoms left unpainted. Some rims are ticked. Design elements include small hatched triangles, heavy dashed zigzags, checkerboards, crosses and awanyus. Bowls have thick walls, and direct flaring and semi-standing rims. Bowls tend to have flattened bottoms.

References: Kidder and Amsden 1931, Mera 1934, Kidder and Shepard 1936, Hawley (Ellis) 1936, 1950, Warren 1977, 1979a, Marshall 1980.

Dates: AD 1350-1450 (Warren 1977), "best between 1300 and 1450" (Breternitz 1966).

Distribution: Chama Valley and Jemez Mountains.

Associations: Sapawe Micaceous Washboard, intrusives include Glaze A through D.

Bandelier B/G (Biscuit B)

Description: This type is very similar to Abiquiu B/G. It differs from that type principally by being painted and slipped on both interiors and exteriors of bowls, lengthening and heightening of rims, diversity of forms, simpler designs, and gray yellow-orange tinge to the paste.

References: Kidder and Amsden 1931, Mera 1934, Kidder and Shepard 1936, Hawley (Ellis) 1936, 1950, Warren 1977, 1979a, Marshall 1980.

Dates: AD 1425-1550 (Warren 1977), "Best between 1395 and 1500". (Breternitz 1966).

Distribution: Same as Abiquiu B/G and Potsuwi'i incised.

Associations: Same as Abiquiu B/G.

Sankawi B/C

Description: This type has a carbon paint and a thick cream colored slip tending to yellow or orange shades. Slip may be finely crackled. Bowls are slipped and painted on exteriors and interiors. The paste is usually micaceous hard, coarse, more dense than the Biscuit wares, and often reddish in color. Designs are similar to the Biscuit Wares but are more open. Lines are usually thinner than the Biscuit Wares. Design elements include lines, dots, triangles, solids, and hatched figures. Vessel forms include bowls and jars.

References: Mera 1932, Kidder and Shepard 1936, Hawley (Ellis) 1936, 1950.

Dates: AD 1500-1600 (Smiley, Stubbs, and Bannister 1953).

Distribution: Chama Valley and Jemez Mountains.

Associations: Glaze E and F, Potsui'i incised.

Jemez B/W

Description: This type has a carbon paint which varies in color from fairly deep solid black to thin gray and commonly fires brown to brownish red. Edges of designs often appear blurred. There is usually a thick white slip on the interiors and exteriors of bowls, and the outside of ollas and jars. The paste is coarse and gray to brown or reddish brown. May have carbon streaked core. There is usually tuff temper. Interiors of bowls are smoothed. Designs are fairly simple, heavy lines and ticked rims. Variability is great. Later designs copy late glazes. Designs are often poorly executed. Variability in this long-lived type is great. Forms include bowls, and ollas with horizontal handles.

References: Kidder 1931, Mera 1935, Kidder and Shepard 1936, Shepard 1938, Hawley (Ellis) 1936, 1950, Reiter 1938, Marshall 1980.

Dates: AD 1300-1750 (Smiley, Stubbs and Bannister 1953). AD 1350-1750 (Warren 1979a).

Distribution: Upper Jemez River and its tributaries.

Associations: Plain, corrugated, and indented corrugated brownwares, Glaze A through F, intrusives include Biscuit Wares, Wiyo B/W, Santa Fe B/W (early), Galisteo B/W.

NOTE: An early variant of this type known as Vallecitos B/W, was described by Mera (1935:23). He states, "if it becomes necessary to use a term to distinguish the two forms separately, the name Vallecitos Black-on-White could approximately be used. . . .

Galisteo B/W

Description: This type has a carbon paint, a dull dark gray color. The slip is hard and glossy. The slip is often crackled or crazed, the most distinguishing characteristic of this type. Usually slipped less well on exteriors. The paste is bluish gray, often with a dark core and has sherd or rock temper. Both sides are usually polished over the paint. Designs include panelled band patterns of oblique and horizontal solid figures such as triangles and keys. Less frequently exteriors exhibit lines or isolated geometric forms. Vessel form is usually bowls, some canteens and dippers.

References: Amsden 1931, Mera 1935, Kidder and Shepard 1936, Hawley (Ellis) 1935 and 1950, Warren 1977, 1979a, Marshall 1980.

Dates: 1250-1350 (Warren 1977) "Best between 1300 and 1393. (Breternitz 1966).

Distribution: Galisteo Basin to Rio Grande and Pajarito Plateau.

Associations: Smeared indented culinary ware. Intrusives include Wiyo B/W, St. Johns PC, Glazes, Biscuitwares, Jemez B/W, Chupadero B/W, Rio Grande Glaze Paint Wares.

Rio Grande Glaze-Paint Wares

Descriptions: Although a number of types have been defined for this series, the best and most common way to analyze these types from surface sherds are to look for rim sherds and compare them to the accompanying rim form chart. In the absence of rim sherds some gross determinations of Glaze Periods can be made on the basis of color combinations. Since 27 glaze-paint types have been defined, they will not be described separately here.

References: Nelson 1914, 1916, Kidder and Shepard 1936, Mera 1933, 1940, Eighth Southwestern Ceramic Conference 1966, Warren 1977, Marshall 1980.

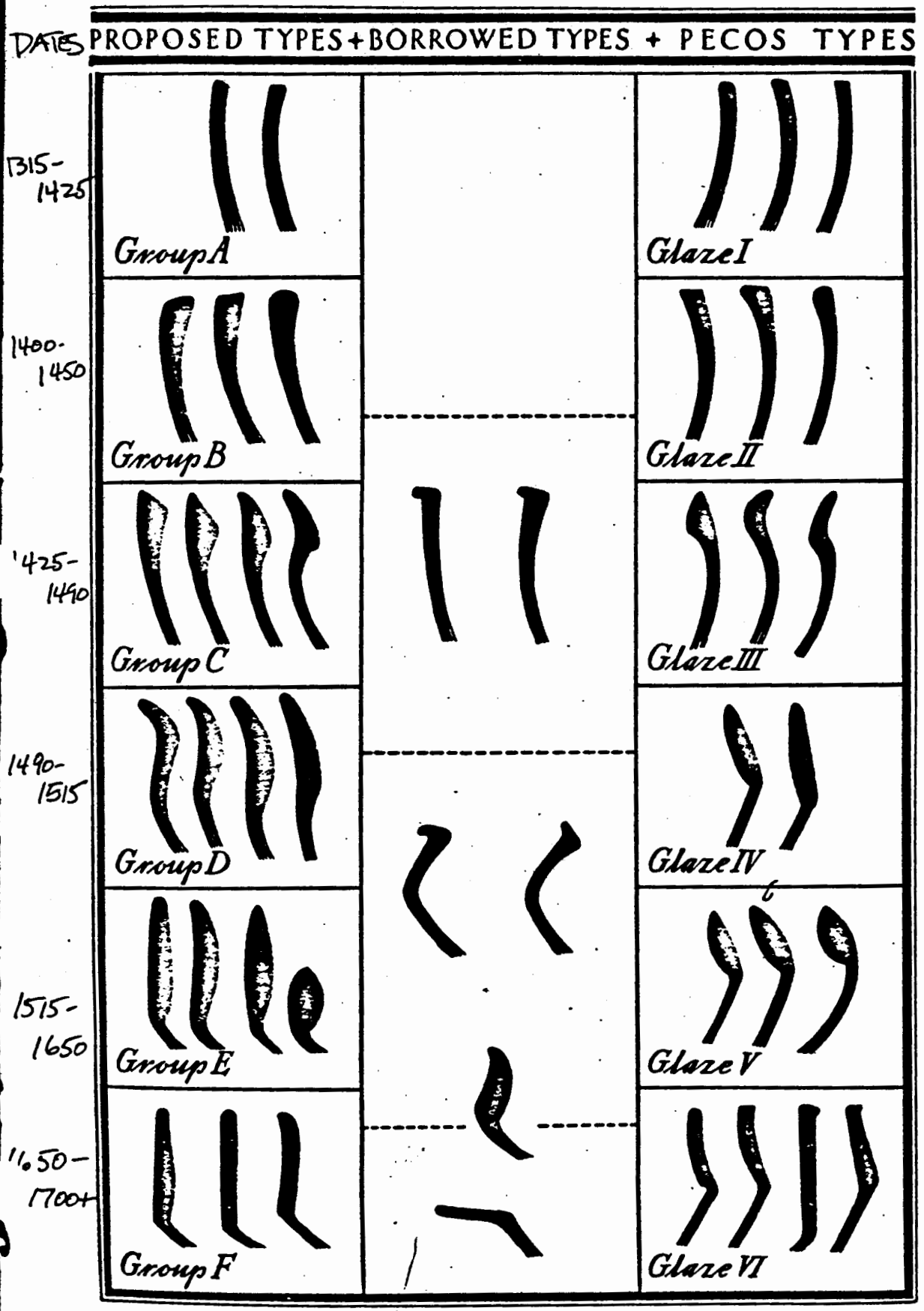
Dates: See accompanying charts.

Distribution: Along the Rio Grande and its major tributaries.

Associations: Varies by location.

Matte Paint Wares

These types came into existence after the Pueblo Revolt of 1680. "Matte" refers to the finish of the paint, i.e., flat, not glossy. They superceded



FROM : MERA 1933

the glaze paint wares in most areas, and were made up until the late 1800's. These types have both mineral and carbon paints.

Since these types are not frequently encountered on the Santa Fe Forest, being more common around the modern pueblo reservations, only brief descriptions of each type will be given, as summarized from Warren (1977:100, 1979b:237).

Tewa PC - Similar to Sankawi B/C but with the addition of a red slip. Tuff and pumice temper. Fine lined designs on polished white surfaces. Dates from AD 1675-1720.

Posuge Red - A well polished redware with no designs. Has tuff and sandstone temper. Dates to around 1675.

Tewa B/R - A black carbon painted redware. Dates to around 1680.

Kapo Black - Highly polished black or dark gray surfaces. Has tuff or sandstone temper. Had red slip before firing. Dates to around 1650.

Puname PC - Bowls with carinated rims. Has red and black mineral paint. Ollas have no necks. It usually has basalt or pumice temper. Dates to from 1680 to after 1780.

Ogapage PC - Distinguished from Tewa PC by its flared rims. Dates to from 1720 to after 1800.

Casitas R/B - This type has broad red lines on polished buff surfaces. Coarse grained tuff, sand, sandstone temper. Dates from about 1740-1900.

Powhoge PC - Principal features include non-carinated forms, red and black paint, crystal pumice temper. Dates to around 1760-1900.

Kiua PC - This type is carbon painted polychrome of the Cochiti area. It dates to around 1750 to 1900.

Matte Paint Series References: Mera 1939, Dick 1968, Harlow 1973, Warren 1977, 1979b.

Potsui'i Incised - This is the only incised pottery commonly found on the Santa Fe.

Description: This type is distinguished primarily by the presence of incised lines on the exterior surface. The designs made by the lines are geometric or rectilinear, sometimes in association with punch marks.

References: Kidder 1915, Jeancon 1923, Mera 1932, Warren 1977, 1979a.

Dates: 1450-1550 (Warren 1977) "Best between 1425 and 1525 plus (?)". (Breternitz 1966).

Distribution: Upper Rio Grande, Chama, Pajarito Plateau.

Utility Wares

This class of ceramics includes plain and corrugated types. Since little research has been done on these types, they aren't of great diagnostic value. Thus, when you observe utility ware sherds on survey you should note their presence and describe them (e.g. indentations, punching, smearing, obliteration, smudging, etc.).

Historic Non-Indian Ceramics

Here again, little work has been done, and it is beyond the scope of this paper to deal with the historic Spanish and Anglo types.

SUMMARY

I have presented in the preceding pages a summary of the most commonly encountered ceramic types on the Santa Fe National Forest and a brief discussion of important attributes used in describing and classifying ceramics. It is usually extremely helpful to be able to see examples of these types before attempting to identify them in the field. The Supervisor's Office Cultural Resource Staff maintains a small collection of a few of these ceramic types. However, the most complete and useful ceramic type collections are held at the Laboratory of Anthropology, Santa Fe. I would strongly urge anyone seriously interested in classifying ceramics to contact the Laboratory and go through their type collection. We would be glad to arrange the visit for you.

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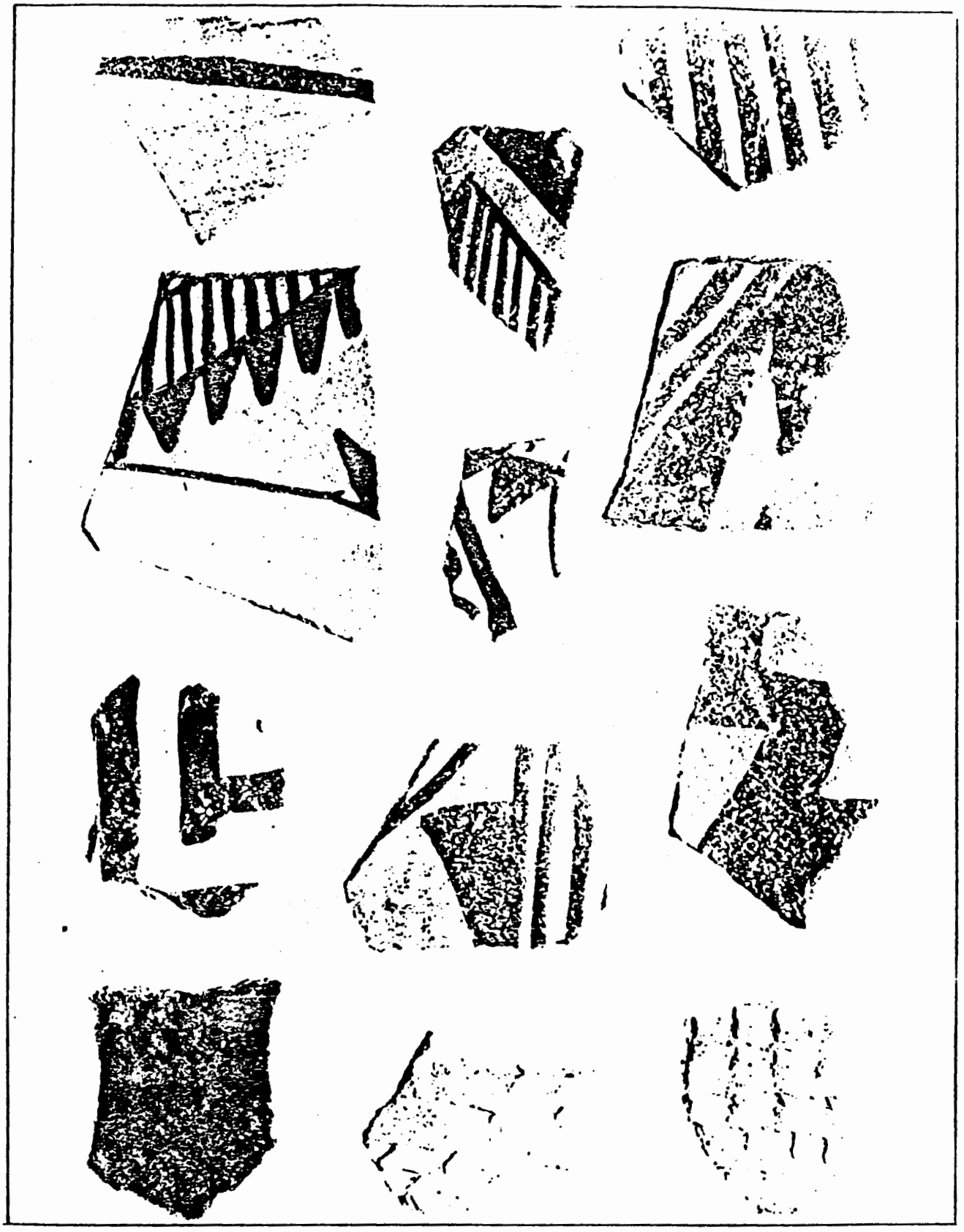
Black on White Ware.

1. *Kwahe'e Black on White* (Mera). M Paint
   A coarsened Escavada Black on White. No slip. Thin wash. Potsherd temper. Type site, L. A. 116.
   Reference:
   Mera, 1935.
2. *Taos Black on White* (Mera). M Paint
   An isolated northern Rio Grande form of Escavada Black on White, restricted to Taos district. Potsherd temper. Drawing poor; lines heavy; large solid elements.
   Type site: L. A. 260.
   Notes: Accompanied by culinary ware with smoothed surface decorated with incised decorations more elaborated than in P I. Also indented corrugated ware. Black on Red of Aff. Wingate type as accompanying trade ware.
   Reference: Mera, 1935.

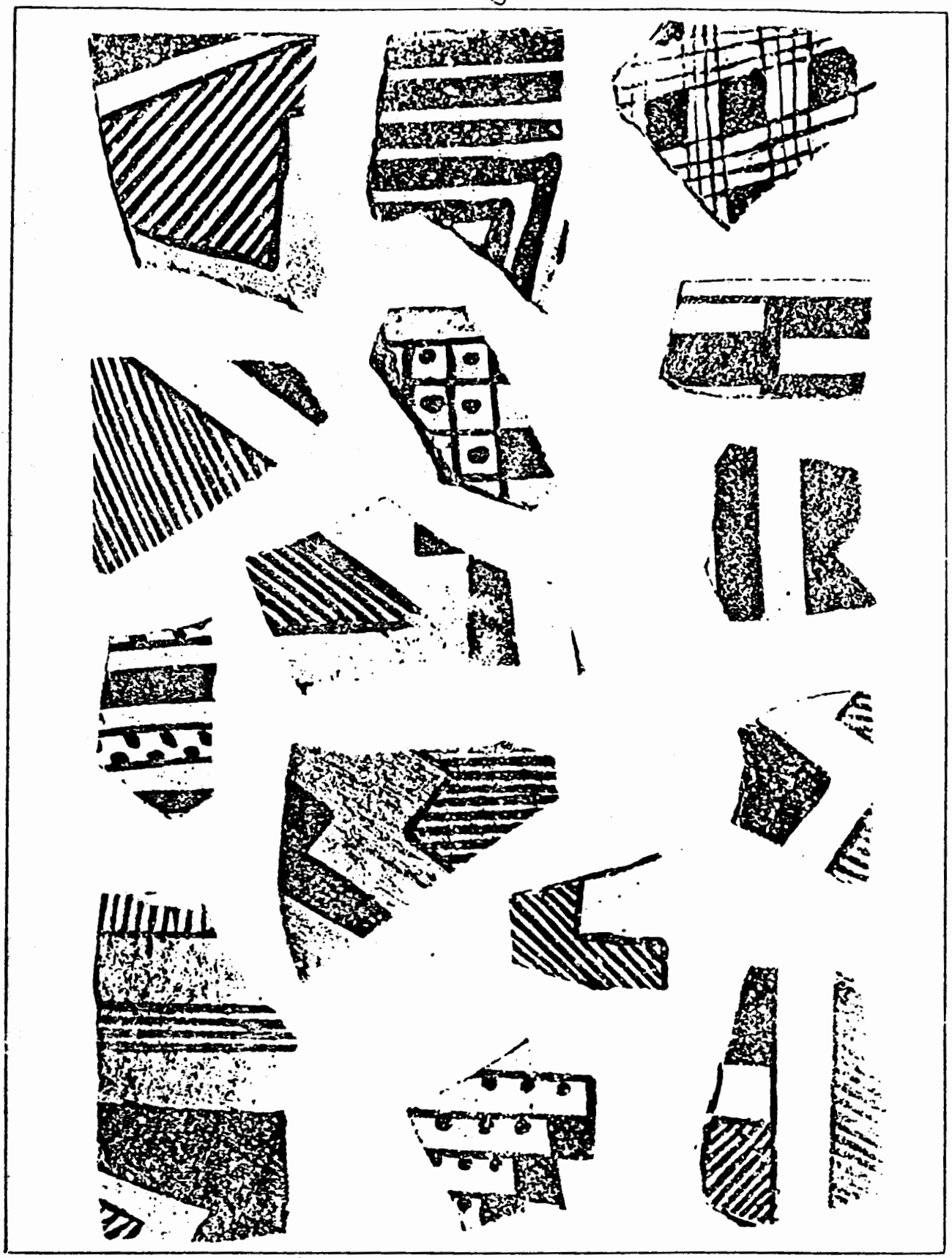
1. *Socorro Black on White* (Mera); local modification Escavada Black on White. M Paint
   Area: Socorro district west of the Rio Grande. Rio San Jose and Rio Puerco of the East mark northern boundary, east only to edge of Rio Grande valley, south to Socorro, west to lava flow south of Grants.
   Type site: L. A. 785 near Socorro.
   Derivation: Escavada Black on White.
   Construction: coiled.
   Wall:
   Paste: usually fine, light gray to dark bluish gray.
   Temper: fine sand and some crushed dark stone.
   Finish: thin white slip, matching the paste. Temper often apparent through slip on bowl interiors. Decorated surface shows matte finish. Undecorated exterior of bowl slipped but carelessly finished. Designs applied in black iron paint.
   Designs: show similarities to Escavada designs but also differences. Hatching lines broader than space between them; wide lines, checkerboard with or without dots, opposed hatched and solid figures. Drawing excellent.
   Forms: jars and bowls.
   Note: associated with Los Lunas Smudged Ware.
   Reference:
   Mera, 1935.

1. *Los Lunas Smudged* (Mera).
   Area: Same as for Socorro Black on White.
   Type site: L. A. 405.
   Derivation: southern brown ware group, Upper Gila Corrugated.
   Construction: coiled.
   Wall: c. 5 mm.
   Paste: soft, friable, brown to black, sandy.
   Temper: sand.
   Finish: slipping rare. One sherd reported by Mera shows reddish brown slip. Ornamentation consists of the carefully coiled clay fillets, leaving surfaces only 1/16 inch wide exposed. Coiling apparent over whole bowl or only on upper body; lower body smoothed or polished. Coils often incised or indented in vertical and diagonal patterns, or indented coils were alternated with plain coils. Bowl interiors more or less polished, smudged black.
   Forms: bowls.
   Notes: associated with Wingate Black on Red, and with several local brown paste wares, Pitoche Rubbed-ribbed, a plain ribbed ware, being the only one yet named.
   Reference:
   Mera, 1935.

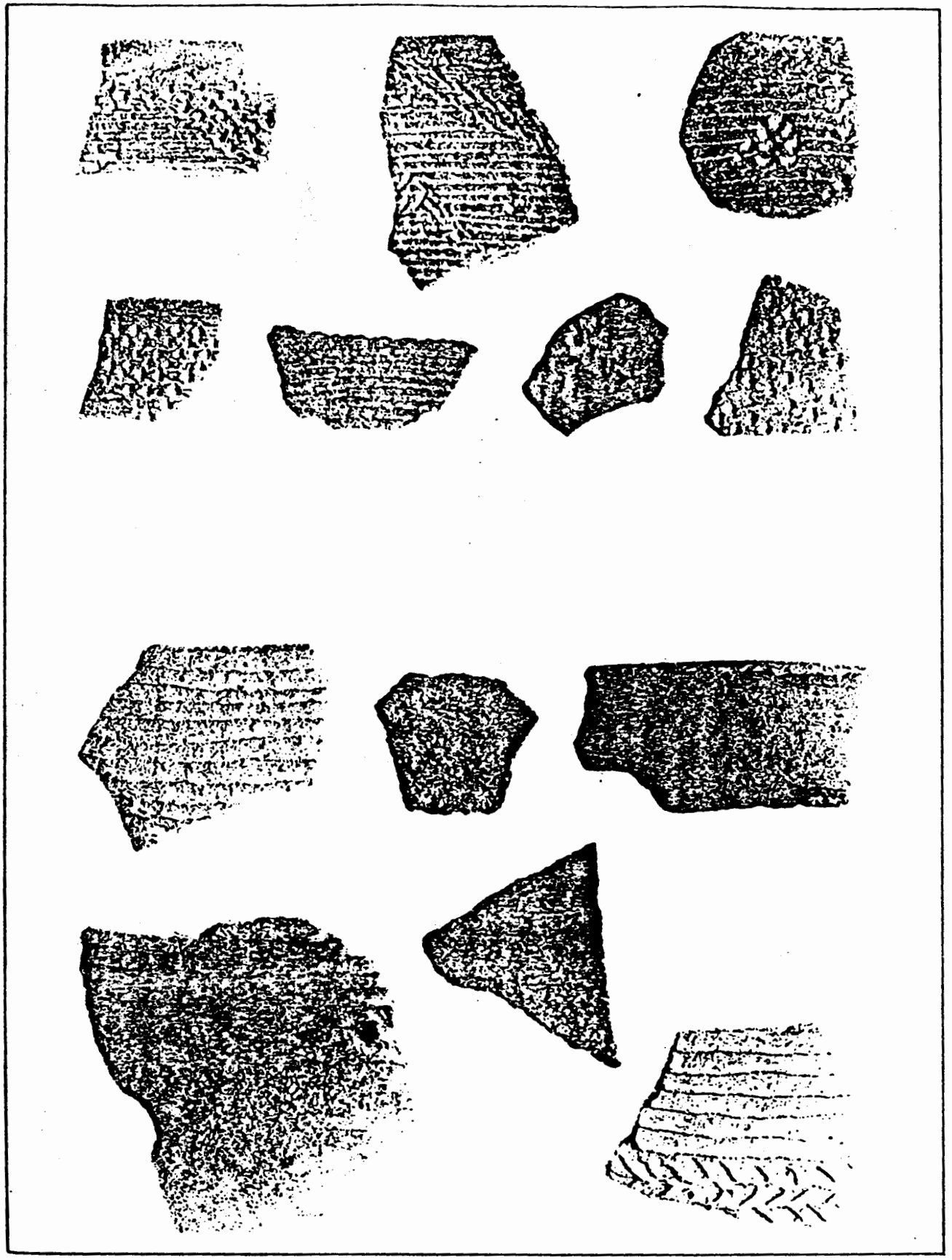
C. Corrugated Ware.
   1. *Pitoche Rubbed-ribbed* (Mera): a brown paste utility ware with coiled body showing narrow plain ribs evened by rubbing. Mera, 1935.



Kwahe'e Black-on-white and accompanying utility ware.



Socorro Black-on-white.



Upper group, Los Lunas Smudged; lower group, Pitoche Rubbed-ribbed.

1. *Gallina Black on White* (Mera).
   Area: Highlands of Continental Divide between Rio Chama and Gobernador and Largo drainages.
   Type site:
   Derivation: San Juan B M III.
   Construction: coiled.
   Paste: fine and homogeneous or coarse. Always sandy in texture.
   Temper: "water worn inclusions."
   Finish: floating. Inner surfaces of bowls somewhat polished; no gloss. Exteriors merely smoothed or, rarely, left showing the flat coils. Jars show finer surface finish than bowls. Designs in dull black carbon paint.
   Designs: bowl interiors quartered or divided into panels of parallel horizontal lines just below the rim. Elements: dots, groups of parallel lines, cross hatching, checkering. Better later pieces show some slight Mesa Verde influence.
   Forms: bowls, seed jars, jars with horizontal flattened lug handles.
   Reference:
   Mera, 1935.

B. Plain Utility Wares.
   1. *Gallina Plain and Indented* (Mera).
      Area: Highlands of Continental divide and headwaters of Rio Chama and Gobernador and Largo drainages.
      Type Site: L. A. 1710, pit houses near Lindrith.
      Derivation: possibly from Lino Gray; possibly from an outside source.
      Paste: coarse, sandy.
      Temper: sand.
      Finish: a plain or pinched fillet of clay was applied on the outer rim, directly or shortly below the lip, of jars. Subtypes show "washboard" appearance of partially obliterated coils. A few indented coiled sherds are found for late sites of this period, and sherds with indentations produced with a pointed instrument are found.
      Forms: conical bottom jars.
      Notes: treatment and form of this ware show a striking resemblance to Navajo pottery.
      Reference:

Jemez Black on White (Kidder) P III, IV. C Paint
Area: restricted Jemez drainage of northern Rio Grande.
Type site: Unshagi.
Derivation: Santa Fe Black on White with influence possibly from Mesa Verde.
Construction: coiled.
Wall:
Paste: gray, dense and fine grained during early period. Later coarser.
Temper: tuff.

Finish: early pieces show inner surfaces of bowls smoothed and slipped; exterior surface poorly smoothed. Later pieces show smoothing and slipping of both surfaces.

Designs: early designs resemble those of Santa Fe. Later designs simpler, often of heavy line combinations ticked lips, spotted background. In latest periods, exterior designs immediately below the rim were added. Designs from glaze paint ware were copied. Mera suggests the early type may be given the name of Vallecitos Black on White if a name is needed, with L. A. 258 as the type site.
References:
Kidder, 1931. p. 154
Mera, 1935. p. 22
Kidder and Shepard, 1936.

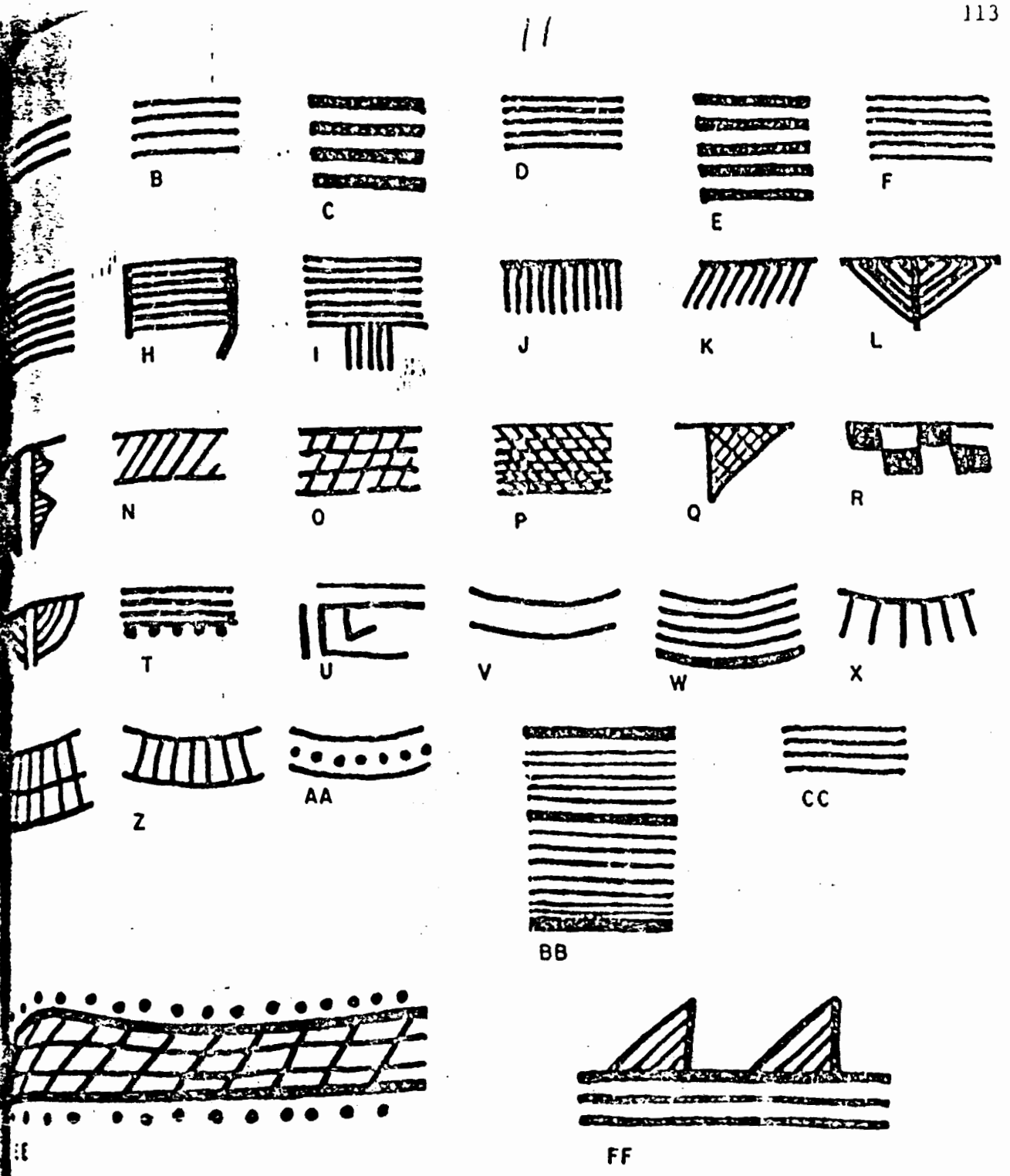
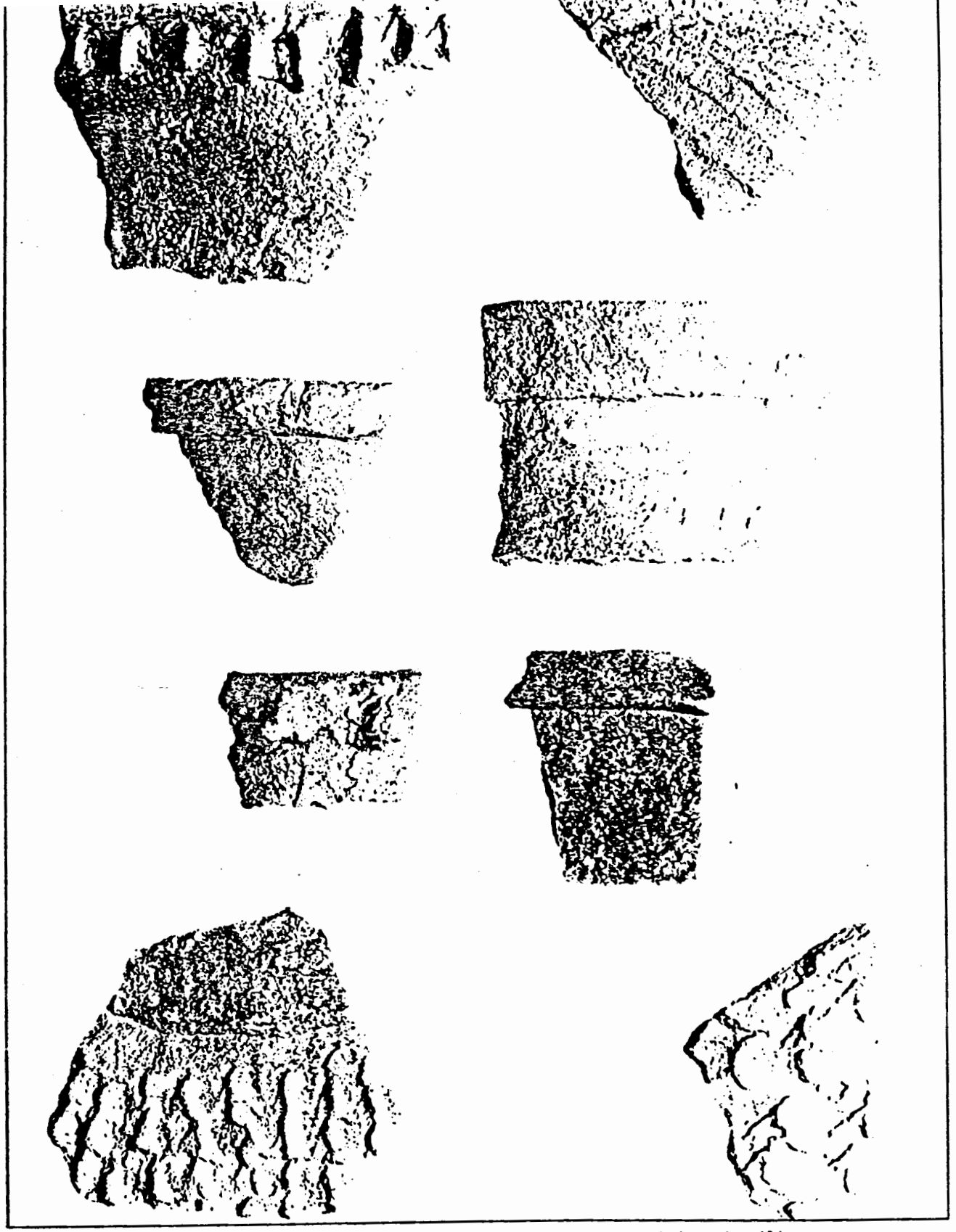
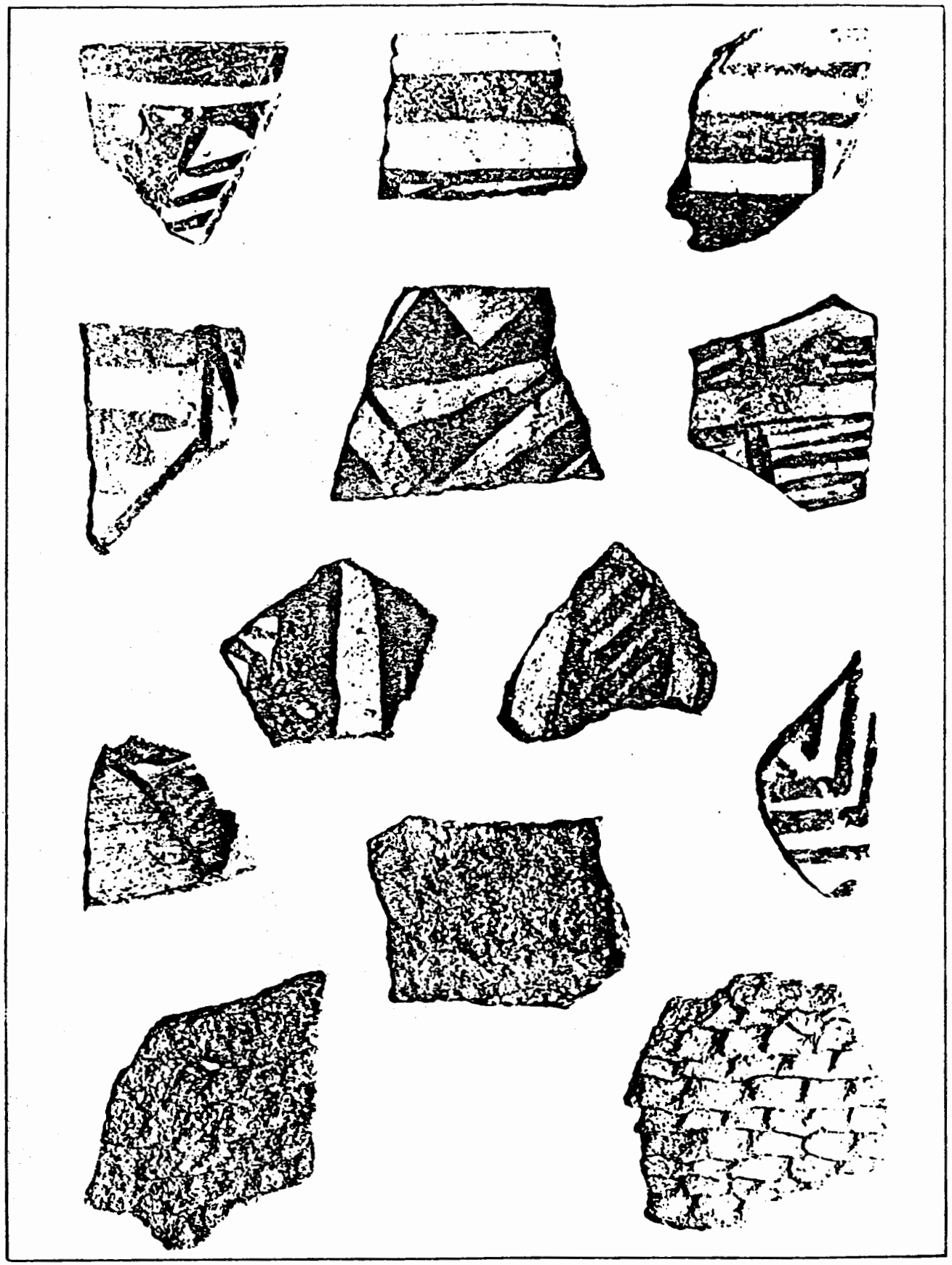


Figure 38. Gallina Black-on-gray, Design elements.

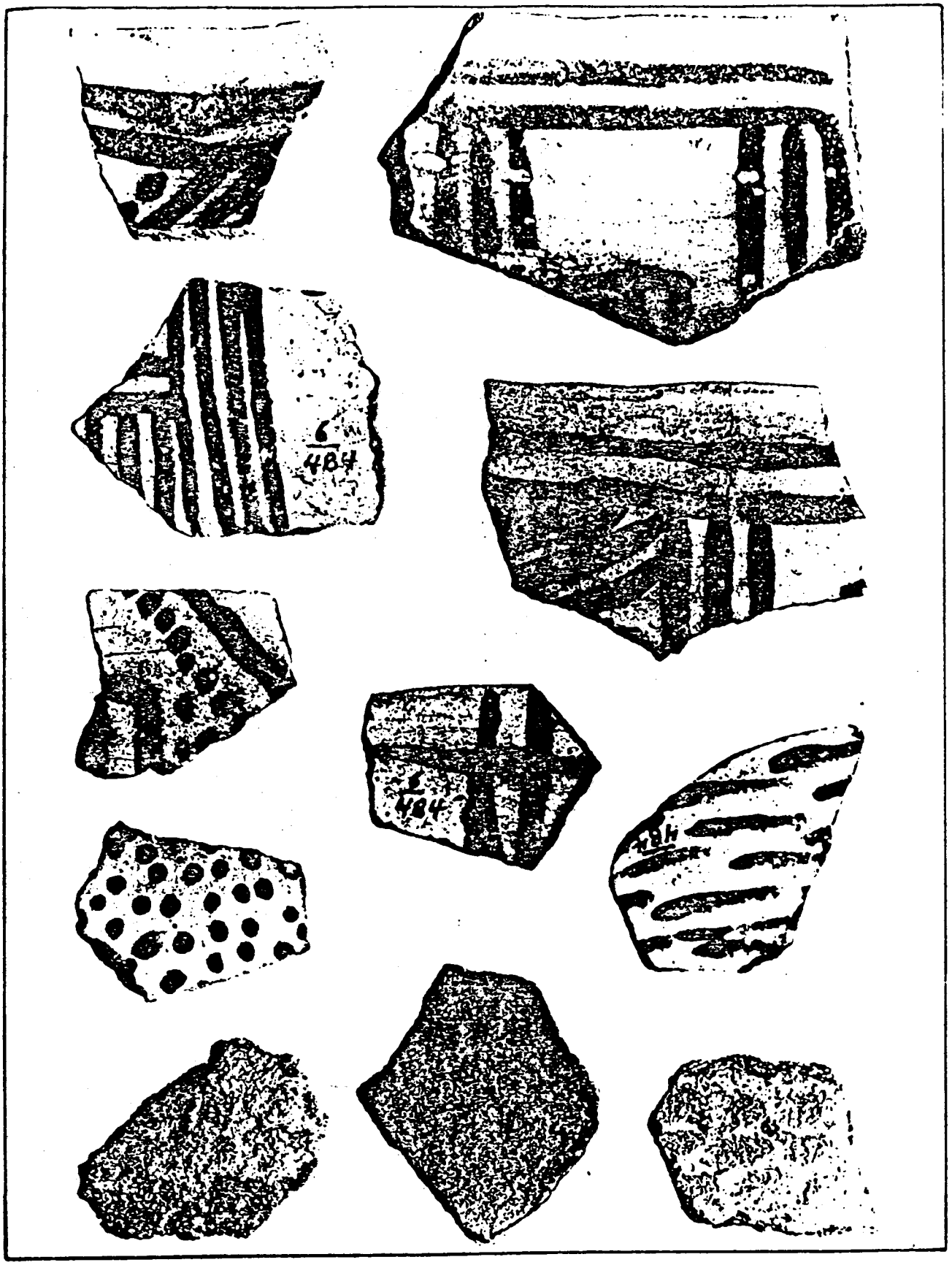


Fillet treatments on Gallina utility ware and imitated indented coiling.

Gallina conical bottomed utility vessel showing washboard coiling.



Vallecitos Black-on-white and accompanying utility ware.



Jemez Black-on-white and accompanying utility ware.

2. *Galisteo Black on White* (Mera). C Paint
Synonym: Crackled Black on White.
Area: northern Rio Grande, especially the Galisteo Basin.
Type site: Forked Lightning (late period).
Derivation: possibly from Mesa Verde influence on Santa Fe Black on White.
Construction: coiled.
Wall: c. 6 mm.
Paste: bluish gray, frequently with dark central streak due to poor firing. Cleavage rough and uneven.
Temper: coarse, crushed sherds.
Finish: hard, glossy, smooth, frequently showing fine crackling. Used on both interior and exterior. Decorated in black carbon paint, often showing as a deep dull gray. Polish over paint.
Designs: solid stepped lines, triangles, and keys used in a paneled banded pattern on bowl interior; top banding line narrow. Wide line just beneath rim. Occasional decoration of lines or of isolated geometric figures on exterior.
Forms: bowls, some small canteens, rarely dippers.
Notes: in the central and western districts this type is so similar to Mesa Verde Black on White that it can be distinguished only by detailed observations. Contemporaneous with Wiyo Black on White. Late developments of Galisteo Black on White at Pecos show a soft friable paste and decadence in workmanship. This late subtype has been designated as Rowe Black on White. Amsden, 1931.
Mera, 1935.
Kidder and Shepard, 1936.

1. *Santa Fe Black on White* (Mera). C Paint
Synonyms: "Blue-gray type" and "White wash slip ware."
Area: northern Rio Grande, Jemez Mountains.
Derivation: combination of Gallina and Kwahe'e Black on White types, plus a Mesa Verde influence.
Construction: coiled.
Wall: c. 5-10 mm.
Paste: gray clay, soft to hard, usually medium soft; homogeneous; well fired, giving entire wall uniform gray appearance. Absorbent. Surface rubs off in fine dust. Cleavage straight, even.
Temper: coarse sand, scarce or plentiful, sherds, volcanic tuff.
Finish: exterior of bowls rough, often horizontally striated. Subtype of "white wash slip ware" shows thin white wash on rough unpolished bowl exteriors. Used on bowl interiors, poorly polished. Decoration in gray black carbon paint.
Designs: "A paneled band decoration, frequently extending to the very rim without upper framing line is most characteristic of this type. Hatched triangular figures are much used."
Forms: bowls.
Notes: dominant for early Forked Lightning; almost extinct in late Pecos, a very variable type, representing a period of flux. Ancestral to Wiyo Black on White. Period of existence marked by common trade wares—Wingate Black on Red to St. Johns Polychrome, Mimbres Classic Black on White to Chupadero Black on White.
References:
Amsden, 1931.
Mera, 1935.

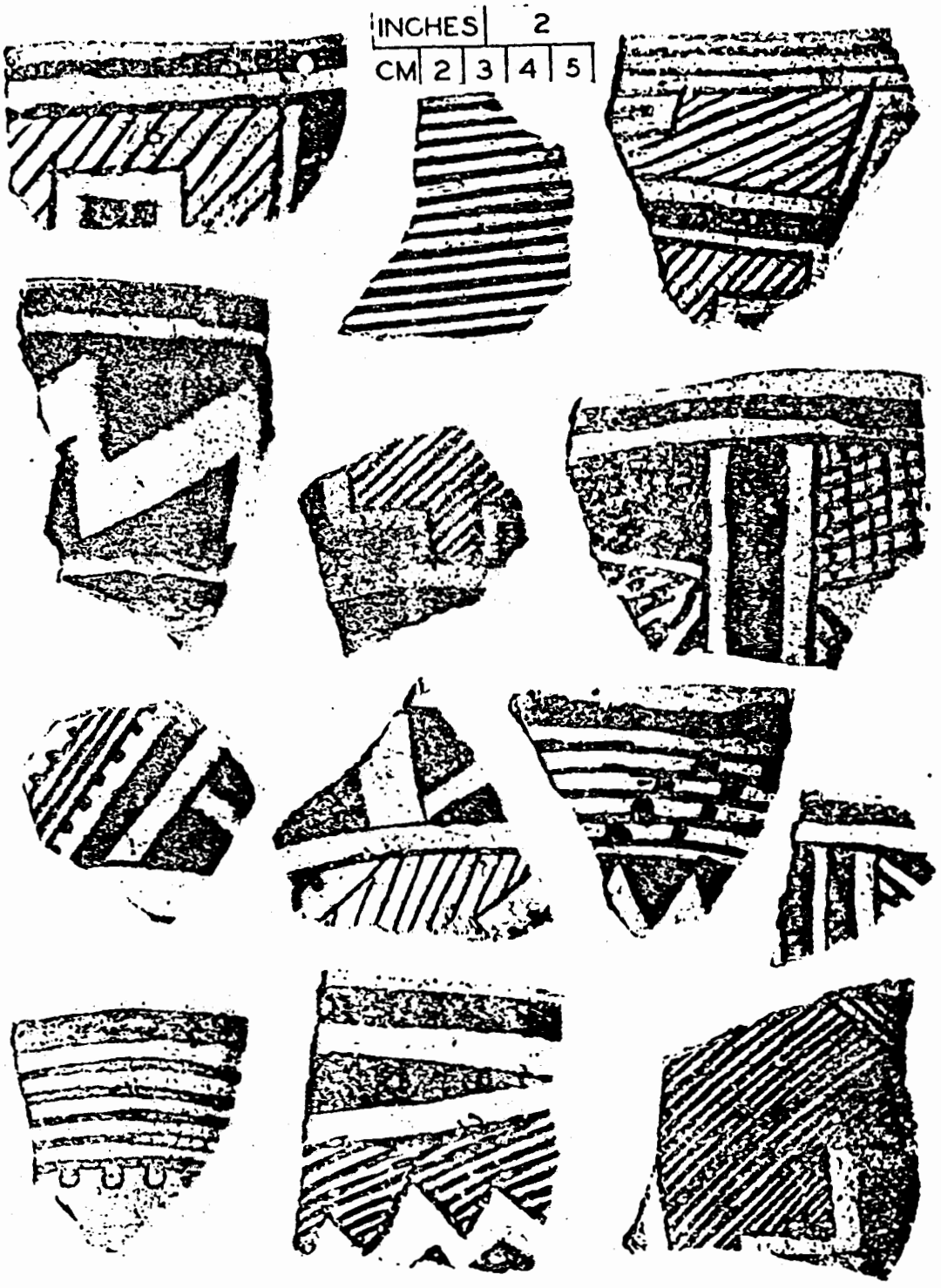
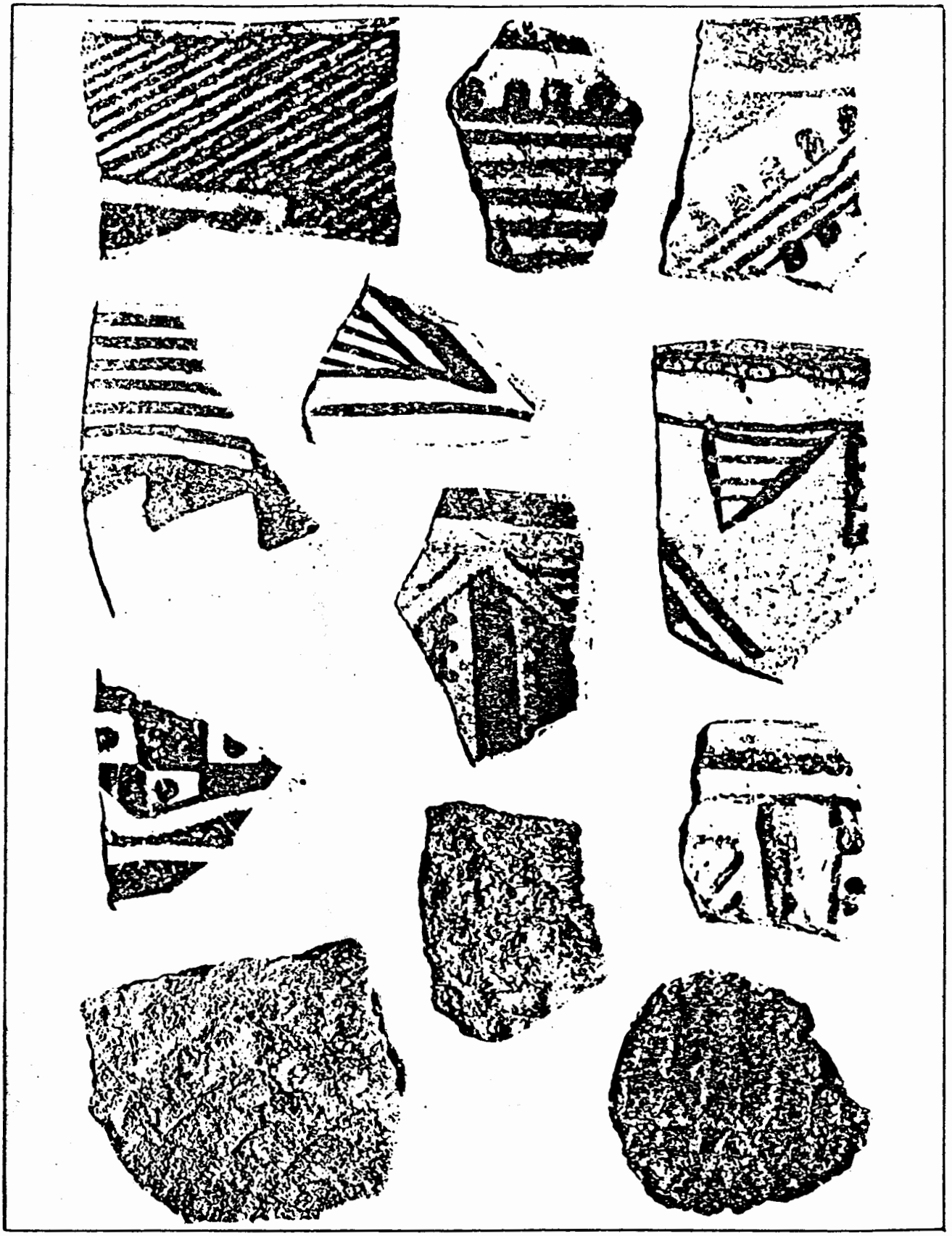


PLATE 10

Galisteo Black-on-white. Typical Sherds.



Galisteo Black-on-white and accompanying utility ware.

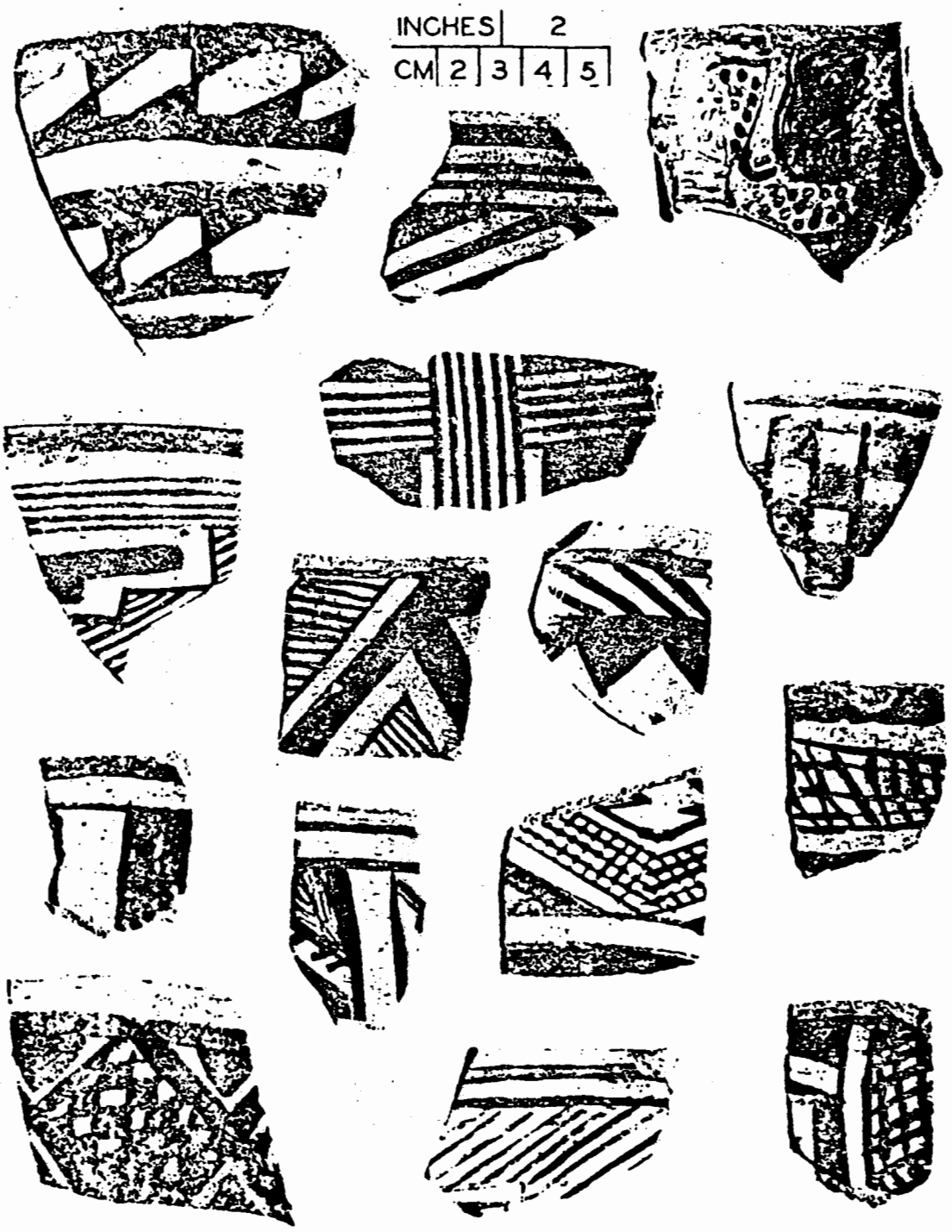
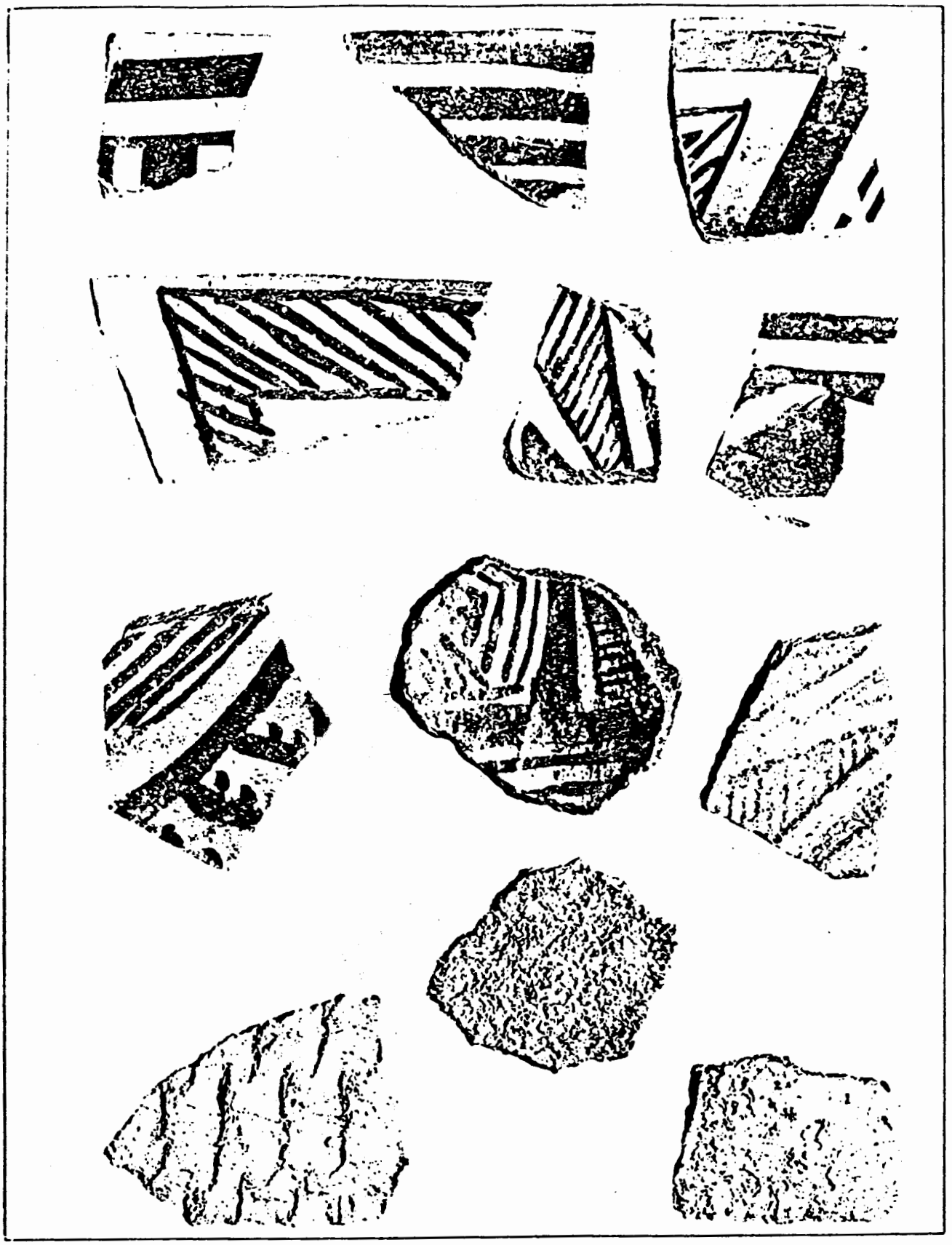


PLATE 7

Santa Fe Black-on-white. Typical Sherds.



Santa Fé Black-on-white and accompanying utility wares.
Two sherds of the latter illustrate Tesuque Smeared-indented.

Pindi Black-on-white (Plate 9). New type. Type Site: LA:1, Pindi Pueblo. Type sherds and specimens at Laboratory of Anthropology. Range: Crescent area following around the southern tip of the Sangre de Cristo Mountains from Pecos to Pindi Pueblo in the vicinity of Santa Fe, New Mexico. Sporadic occurrences of sherds are noted from sites outside this crescent, but the area of production appears, from surface collections, to be rather limited.

Pindi is a limited local type evolved from Santa Fe-Wiyo Black-on-whites by the use of a distinctive temper. Instead of using fine volcanic tuff the potters used crushed pumice, which shows up in the paste as rather large, soft white inclusions in a gray to tan soft paste. Bowls and dippers only are known. The exterior is rough and pitted, interiors are slipped with a thin white or grayish-tan, or are unslipped without too great attention to polishing. Designs are executed in carbon paint and are similar to Santa Fe-Wiyo, but with less use of hatched elements.

The distinctive feature of the type is the rough, pitted exterior and the use of crushed pumice tempering.

The time span of Pindi Black-on-white is approximately A.D. 1300 to 1350, with the greatest popularity ca. 1325.

Emphasis is placed on its extremely localized production and limited time span.

Poge Black-on-white (Plate 11). New type. Type site LA:1, Pindi Pueblo. Type sherds and specimens at Laboratory of Anthropology. Range same as Pindi Black-on-white.

Poge, like Pindi, is a local development. In part it is the same as Amsden's "late crackle type" but is distinguishable from the late phases of Galisteo Black-on-white. The type is evolved from Galisteo. It is characterized by a soft, thin, gray-white slip which has a strong tendency to slough off. The temper is sand or culinary-ware sherd. The paste is very soft and friable, and ranges in color from a tan to almost black. Vessel walls average much thinner than Galisteo. The design style follows Galisteo, but with much poorer line work. The time range is approximately A.D. 1325 to 1350.

A possible excuse for this ware, and for Pindi, is that the crescent area of its distribution was occupied principally by Towa (Pecos-Jemez) speaking peoples, distinct in dialect from the Tewa to the north and south.

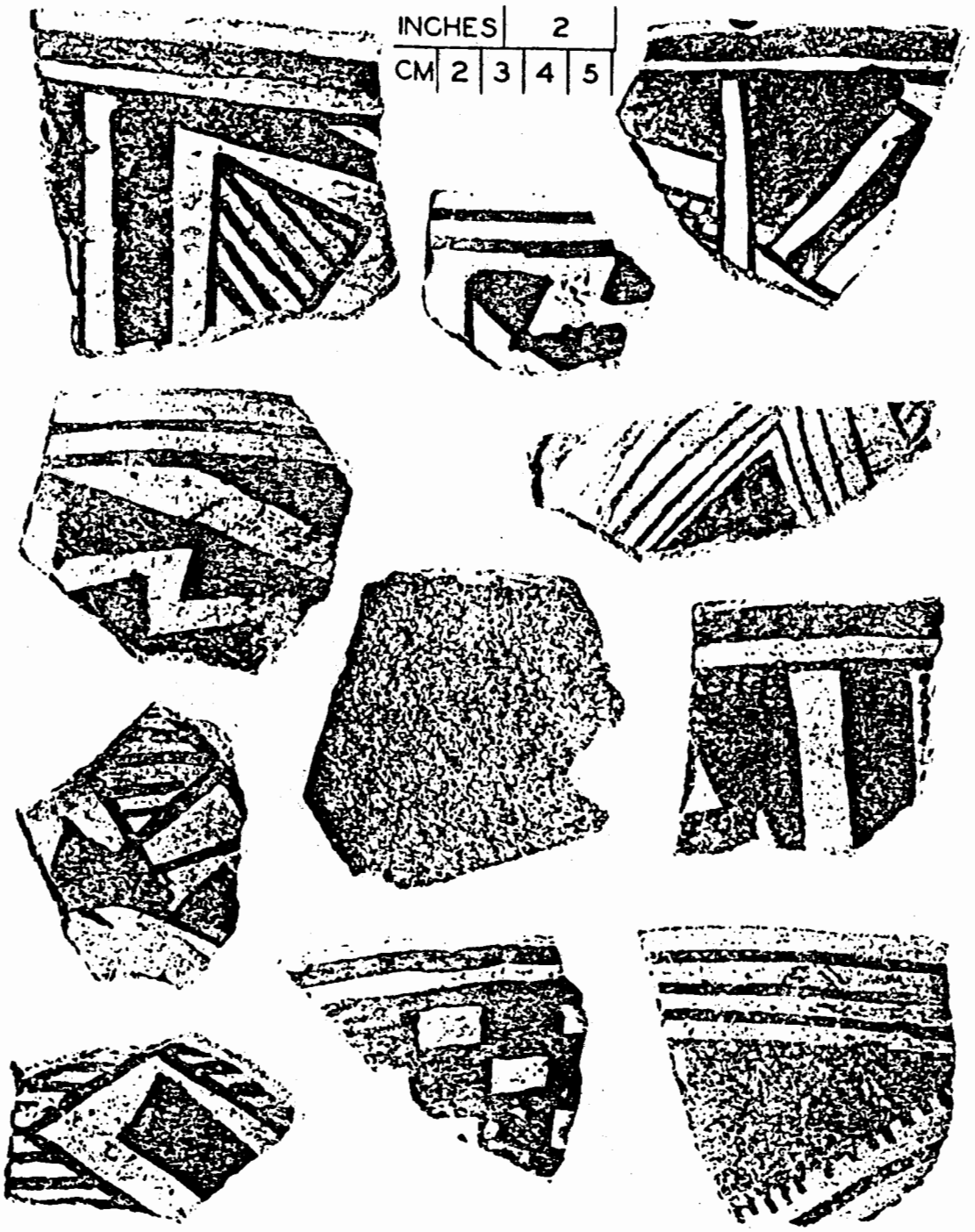


PLATE 9

Pindi Black-on-white. Typical Sherds.

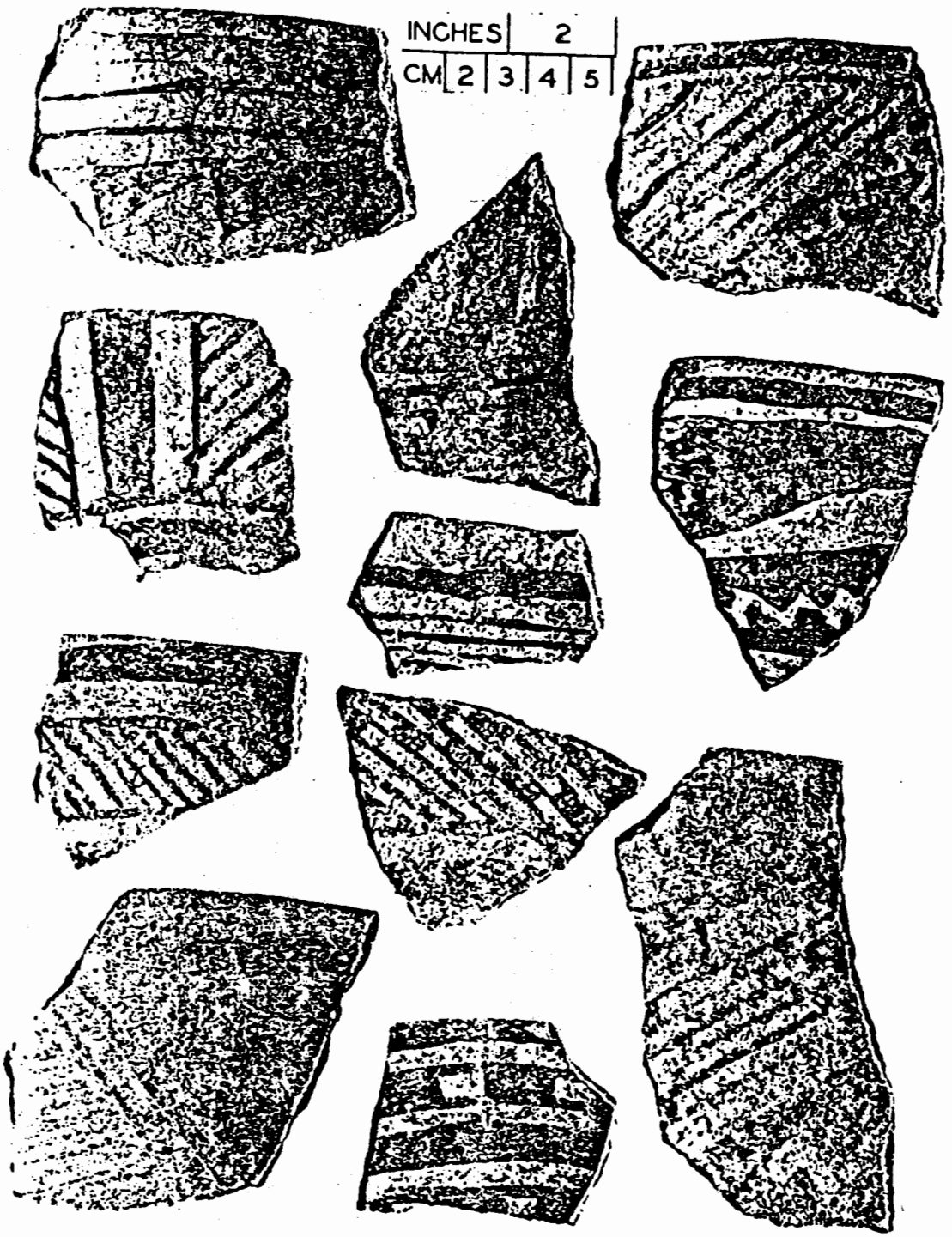


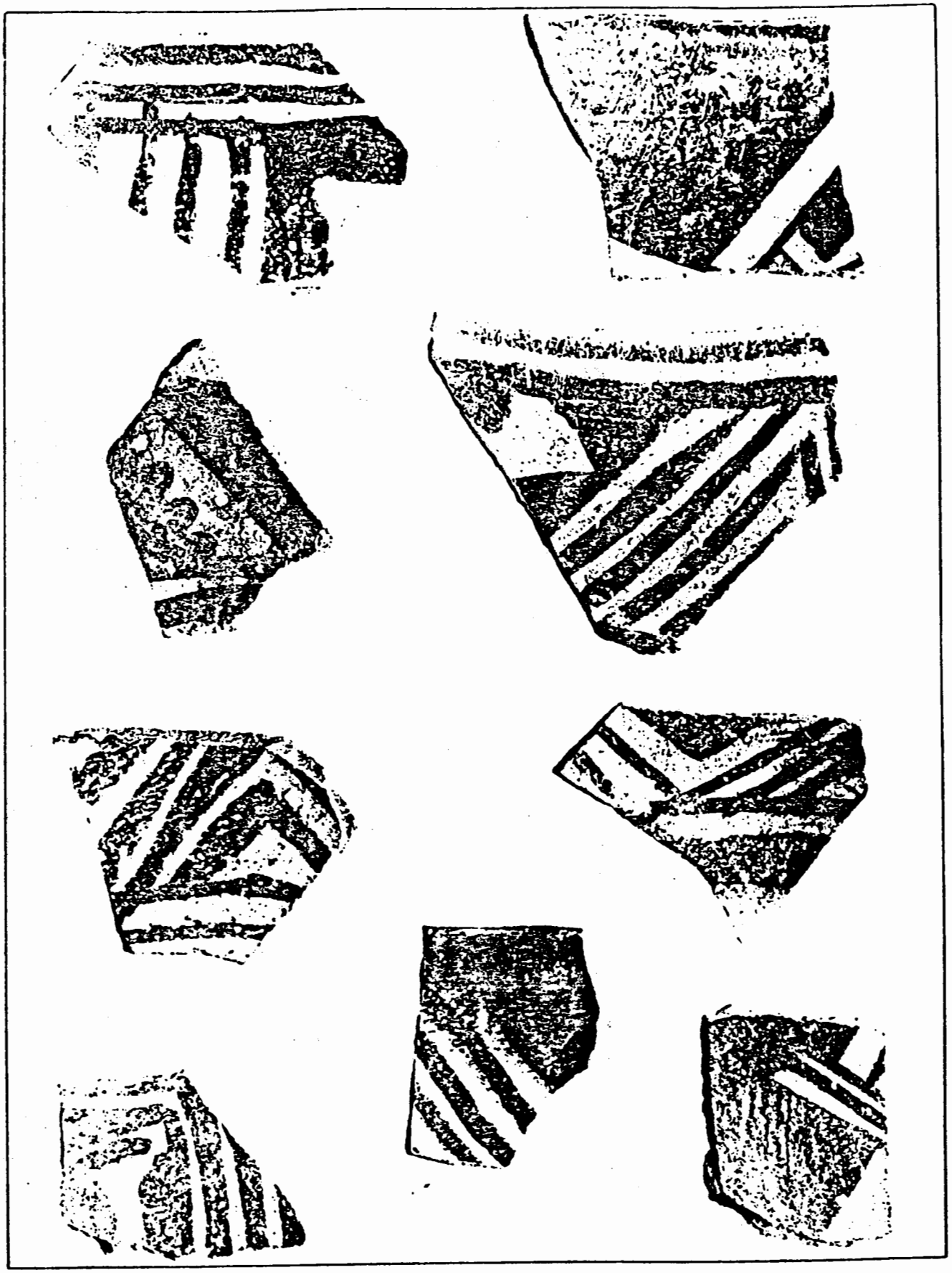
PLATE 11

Poge Black-on-white. Typical Sherds.

3. *Wiyo Black on White* (Mera).
Synonyms: Biscuitoid and Clay Ware.
Area: northern Rio Grande.
Type site: Forked Lightning Ruin.
Derivation: Santa Fe Black on White.
Construction: coiled.
Wall: c. 5-8 mm.
Paste: light brown clay, smooth and homogeneous. Core sometimes slightly darkened. "Soft, scratches easily and wears down uniformly." Cleavage flat, even.
Temper: fine dark gray crushed tuff, but almost invisible.
Finish: interior of bowl thinly slipped with same color as paste, light tan tending toward a tint of olive green, decorated in black carbon paint, highly polished. No slip on exterior.
Designs: paneled band with oblique subdivision and heavy, solid-colored triangular and key figures most characteristic. Generally single broad top framing line. All lines bold and broad.
Forms: bowls.
Notes: dark tuff temper one of best distinguishing criteria Accompanied with Cundiyo Micaceous and Cordova Micaceous ribbed utility wares.
References:
Amsden, 1931.
Mera, 1935. p. 16
Kidder and Shepard, 1936.

1. *Abiquiu Black on Gray* (Kidder). C Paint
Synonym: Biscuit A.
Area: Northern Rio Grande.
Type site: Pecos.
Derivation: probably from Wiyo Black on White, although there are distinct differences that may show use of a new clay type.
Construction: coiled.

Paste: soft, fractures cleanly, lack of ring, light in weight, dark gray to white, usually darker toward the exterior rather than in the center.
Temper: not distinguishable with a hand lens.
Finish: slip applied to interior of bowls, extending over lip. Slip lighter than the paste, light gray to dirty white in color, sometimes with a slight olive cast. Crackling very rare. Slip dull, smooth, but not glossy. Designs applied in dull black carbon paint. Exterior unslipped, shows fine horizontal scratches from scraping tool.
Designs: usually confined to interiors of bowls, in three or four divisions covering bowl walls, but leaving bottom plain. Ticking on some rims. Elements: heavy dashes, short bent lines, zigzags, small hatched triangles, checkerboards, crosses, awanyus. An occasional use of a single naturalistic figure in bottom of bowl. Rare specimens show exterior slipped and painted, but distinguished from Bandelier Black on Gray by thin flaring rim, and lack of ticking, which are characteristic of some Abiquiu Black on Gray specimens but never of Bandelier Black on Gray.
Forms: bowls with direct, flaring, and semi-standing rims.
Note: contemporaneous with Glazes A through D.
References:
Kidder and Amsden, 1931.
Mera, 1934.
Kidder and Shepard, 1936.



Wiyo Black-on-white.

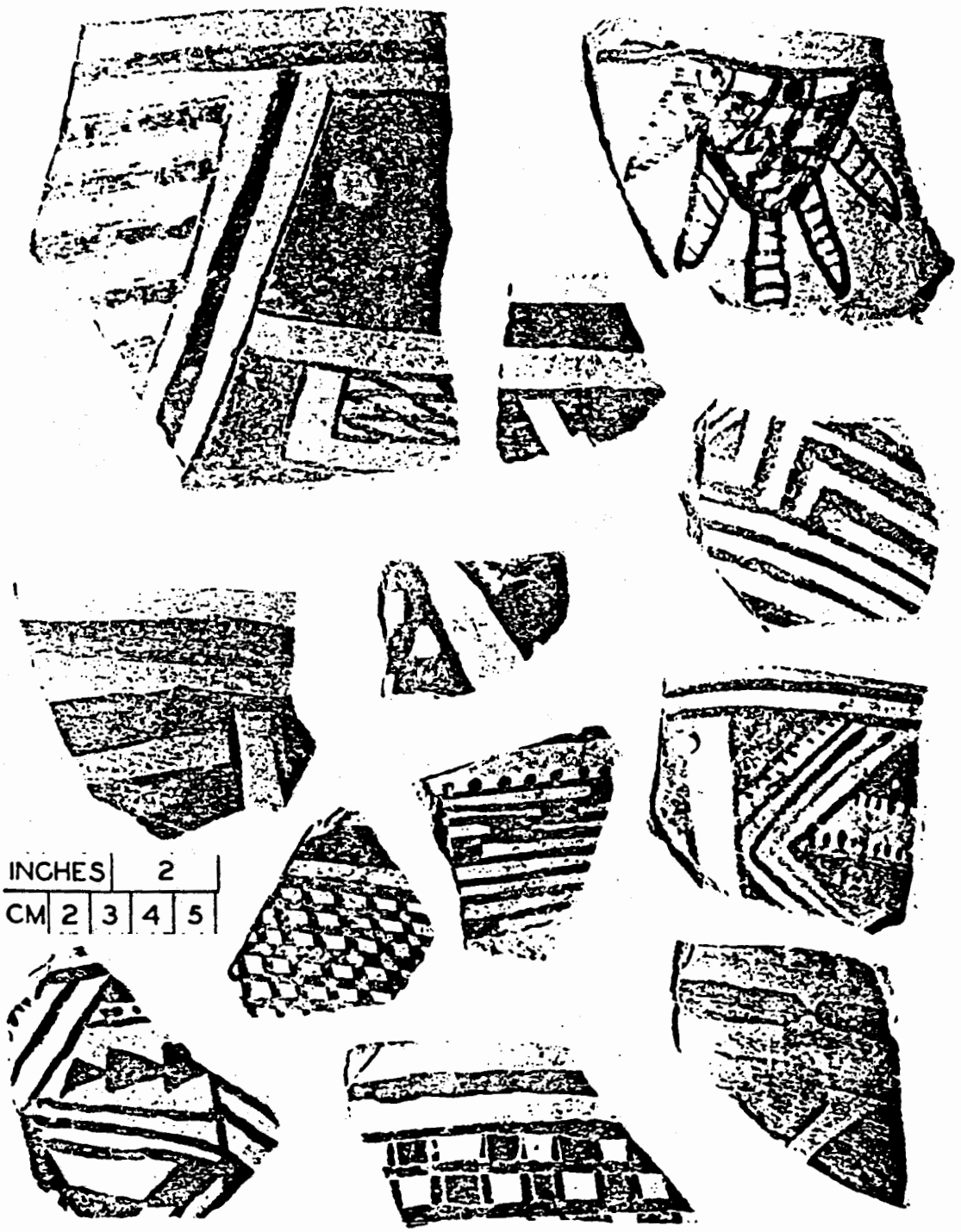


PLATE 8

Wiyo Black-on-white. Typical Sherds.

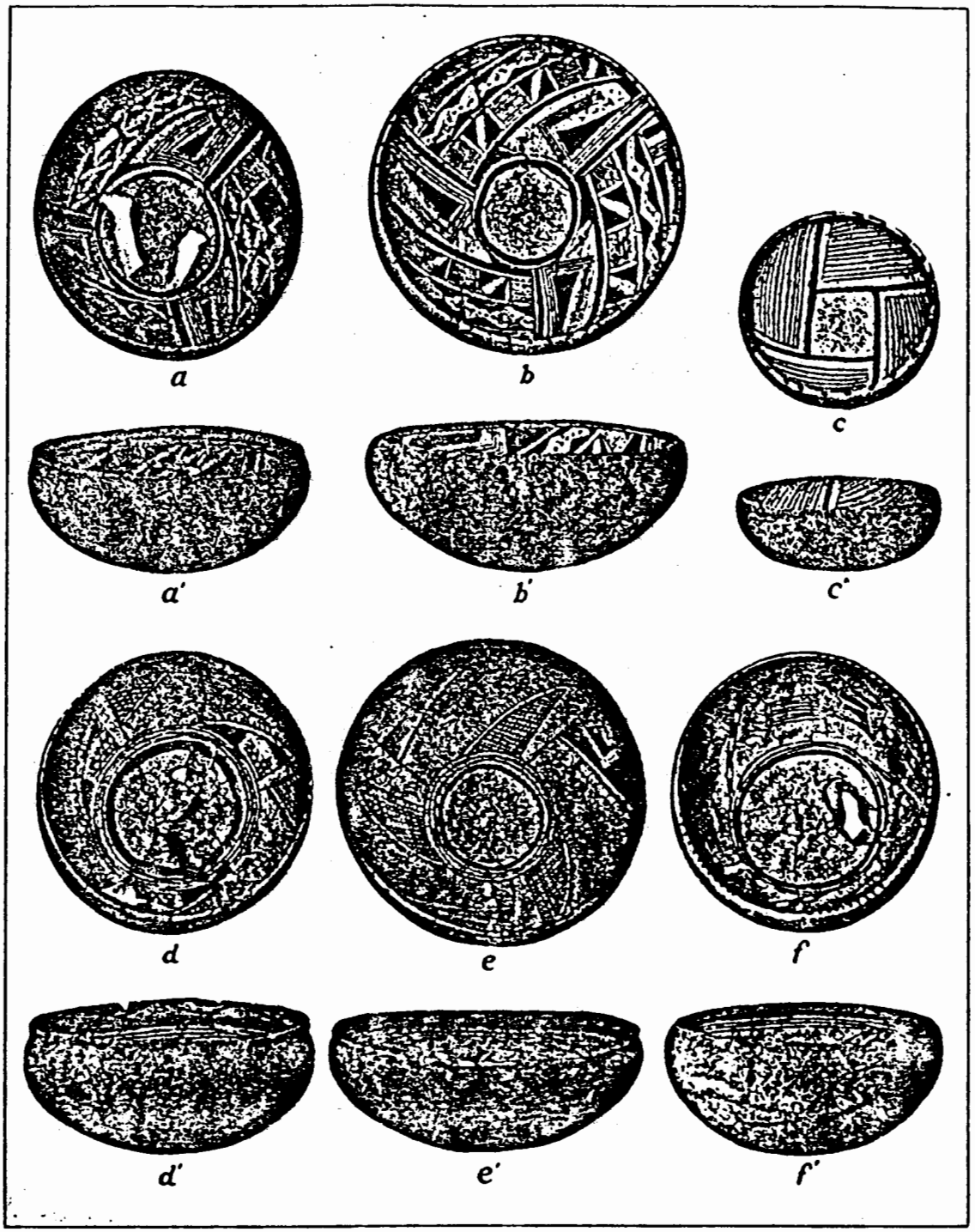
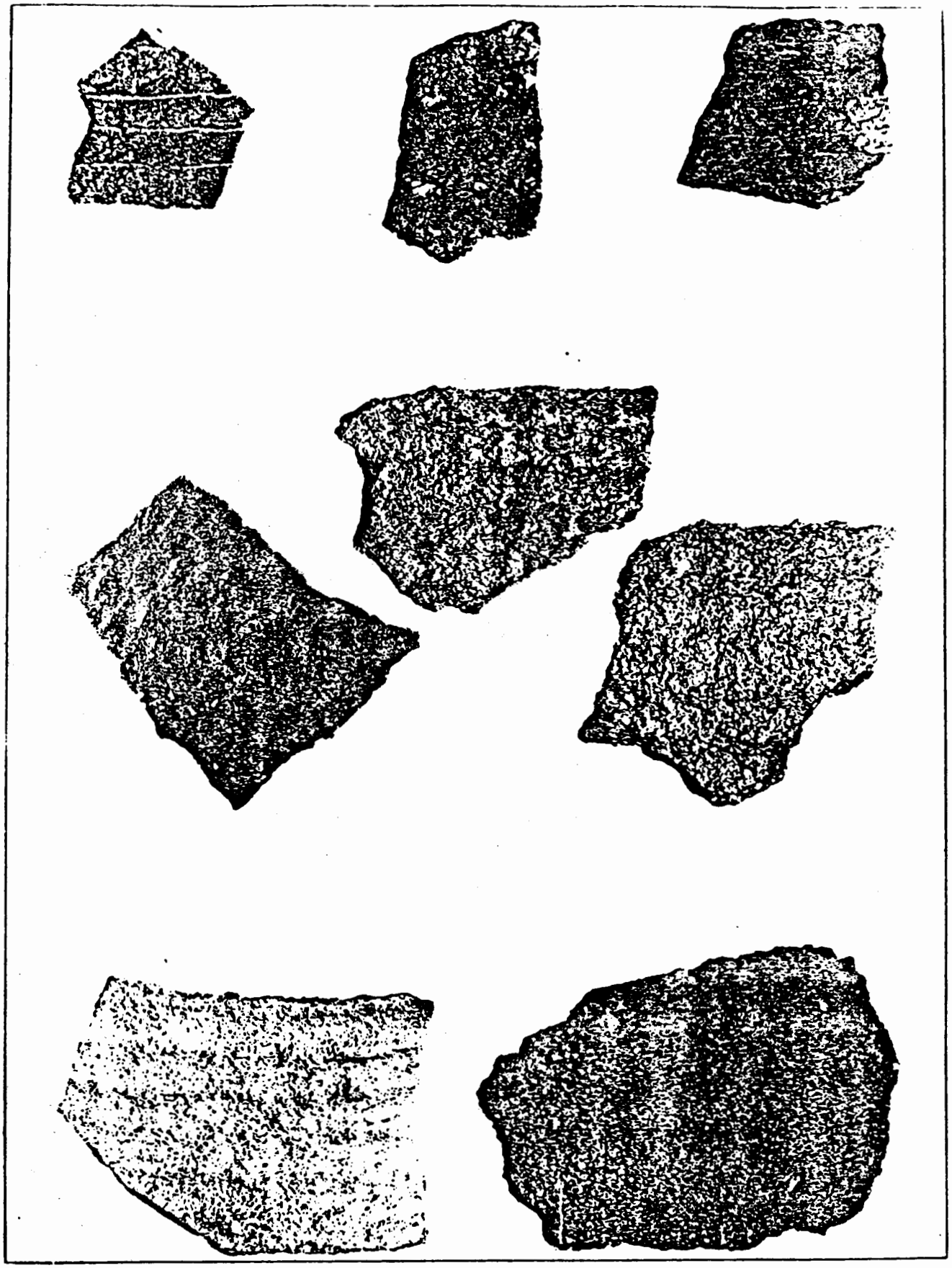


Fig. 21. Biscuit A. Typical bowls. Note undecorated exteriors and elegance of shape. *a, i:* Bar paneled band decoration. *c:* Quadrate pattern with pendent triangles. *d e:* Standard band decoration. *f:* Band *Awanyu*. Diameter of *b*, 15⅛ inches.

2. *Tesuque Smeared-indented* (Mera).
   Area: Upper Rio Grande.
   Type site: Forked Lightning.
   Derivation: P II Corrugated.
   Construction: coiled.
   Wall:
   Paste: hard to friable micaceous.
   Temper: sand to mica.
   Finish: indented corrugated growing more smeared in appearance as the period progressed and the potters became more careless.
   Forms: jars.
   Notes: accompanied Santa Fe Black on White.
   Reference:
   Mera, 1935.
3. *Cundiyo Micaceous Smeared-indented* (Mera).
   Area: Upper Rio Grande.
   Type site: L. A. 31.
   Derivation: Tesuque Smeared-indented.
   Wall:
   Paste: brown, micaceous.
   Temper:
   Finish: smeared carelessly indented corrugations, giving a crude hammered effect.
   Forms: jars.
   Notes: differs from Tesuque Smeared-indented in more micaceous paste and more pronounced smearing of surface. Accompanies Wiyo Black on White.
   Reference:
   Mera, 1935.
4. *Cordova Micaceous-ribbed* (Mera).
   Area: Upper Rio Grande.
   Type site: L. A. 158.
   Derivation: ribbed ware accompanying Chupadero Black on White to the south.
   Construction: coiled.
   Wall:
   Paste: brown, micaceous.
   Temper:
   Finish: coils were worked into an appearance of prominent ribs.
   Forms: jars.
   Notes: accompanies Wiyo Black on White.
   Reference:
   Mera, 1935.
5. *Sapawe Micaceous-washboard* (Mera).
   Area: Upper Rio Grande.
   Type site:
   Derivation: combined Cundiyo Micaceous Smeared-indented and Cordova Micaceous-ribbed.
   Construction: coiled.
   Wall:
   Paste: micaceous, brown.
   Temper:
   Finish: vestiges of ribbed coil marked with shallow indentations, producing a washboard-like appearance.
   Forms: jars.
   Notes: accompanies Biscuit wares.
   Reference:
   Mera, 1935.

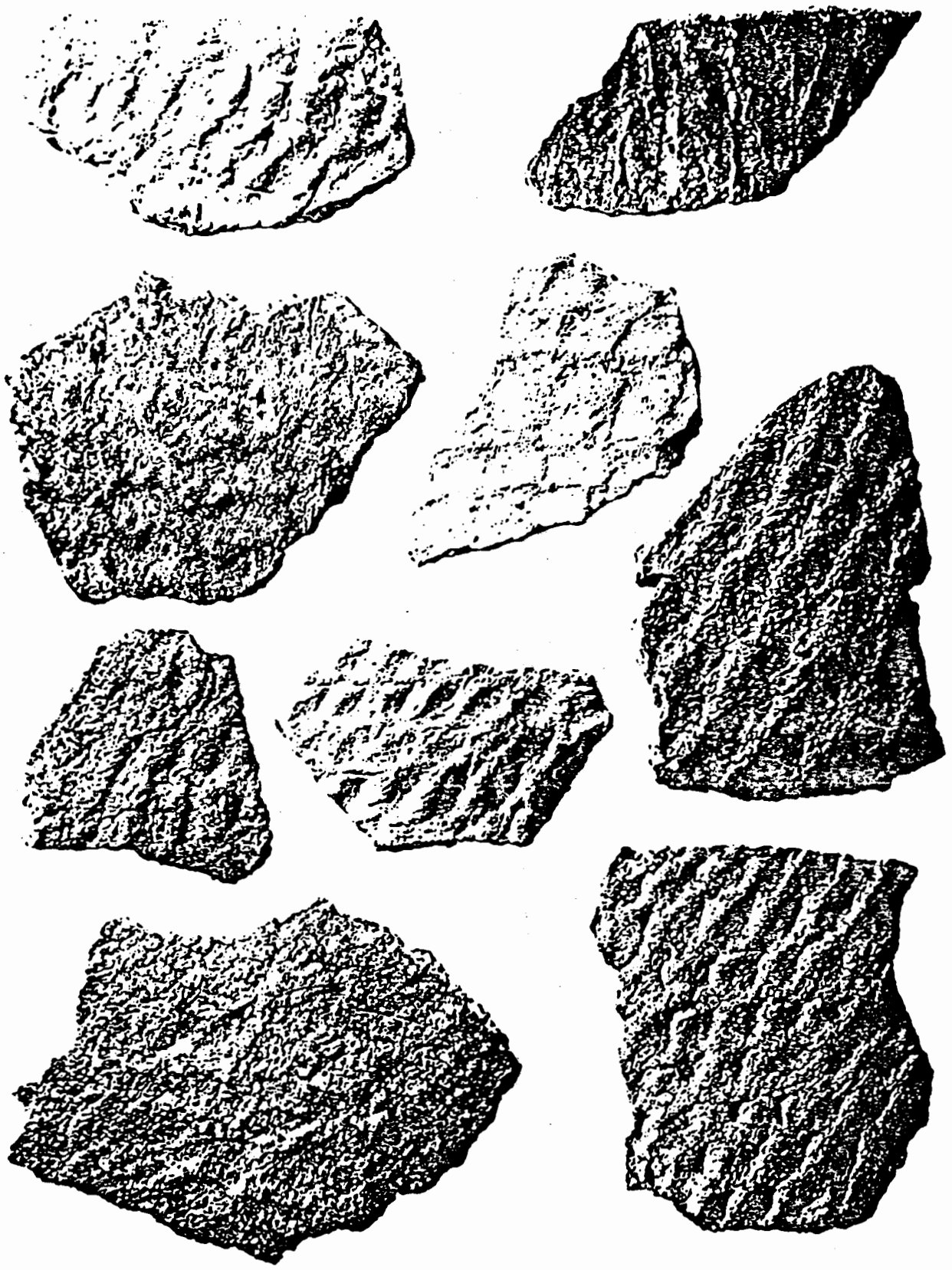
Pajarito Smeared Indented (New Type Name)

Brief Description: A doubly tempered dark gray to black or brownish paste that is moderately hard and feels porous. Sand containing coarse, high-quartz-crystal fragments was added to a clay heavily tempered with finely crushed pumice or vitric tuff to make a plastic paste used to form indented smeared corrugated vessels having smoothed inside surfaces. Large and small vessels were globular, with a moderate flare to their rims about fairly wide openings.



The three upper sherds are Cordova Micaceous-ribbed; the three central, Cundiyo Micaceous-indented; and the two lowest, Sapawe, Micaceous-washboard.

Figure 82 Pajarito Smeared Indented Culinary Ware, Variety C2
A Jemez Mountain Trade Ware



2. *Bandelier Black on Gray* (Kidder). C Paint

Synonym: Biscuit B.

Type site: Pecos.

Differs from Abiquiu Black on Gray in use of exterior as well as interior slip on bowls, the slip usually being identical with the paste in color, in progressive lengthening and heightening of rims, in more diversification of bowl forms, in use of jars, in decoration on both interior and exterior surfaces of bowls, in simplification of designs, and in tones of gray yellow-orange in the paste.

References:

Kidder and Amsden, 1931.
Mera, 1934.
Kidder and Shepard, 1936.

1. *Sankawi Black on Cream* (Mera). C Paint

Area: Pajarito Plateau.
Type site: Sankawi Pueblo.
Derivation: Potsuwi'i Incised.
Construction: coiled.
Wall: c. 4-6 mm.
Paste: same as of Potsuwi'i Incised, although usually redder in color and harder.
Temper: sand.
Finish: smoothed well and evenly slipped with a thick cream colored slip tending toward light shades of yellow and orange. Never glossy. Tendency toward fine cracking. Bowls slipped on both interiors and exteriors, decorated on exterior in black carbon paint.
Designs: derived from Biscuit ware, but usually more open. Lines thinner. Lines, dots, triangles, solid or hatched.
Forms: bowls, jars.
Notes: associated with Glaze E and F. A biscuitoid ware, ancestral to Tewa Polychrome. Made about 1600 A. D.
References:

Mera, 1932.
Kidder and Shepard, 1936.

1. *Potsuwi'i Incised* (Mera).

Area: Northern Rio Grande and Pajarito Plateau.
Type site: Potsuwi'i.
Derivation:
Construction: coiled.
Wall: c. 4 mm.
Paste: micaceous, coarse to fine, denser than Biscuit, light to reddish brown.
Temper: sand.
Finish: surface incised after having been well smoothed and floated. Thin micaceous slip applied to decorated surfaces on top of incisions, producing a sparkling appearance.
Designs: geometric, rectilinear. Some use of punched designs.
Forms: jars most common. Bowls rare.
Notes: made in the Pajarito Plateau region at about the period of Glaze IV and Biscuit B. Considered by Mera as ancestral to Tewa polychrome.
References:

Kidder, 1915.
Jeançon, 1923.
Mera, 1932.

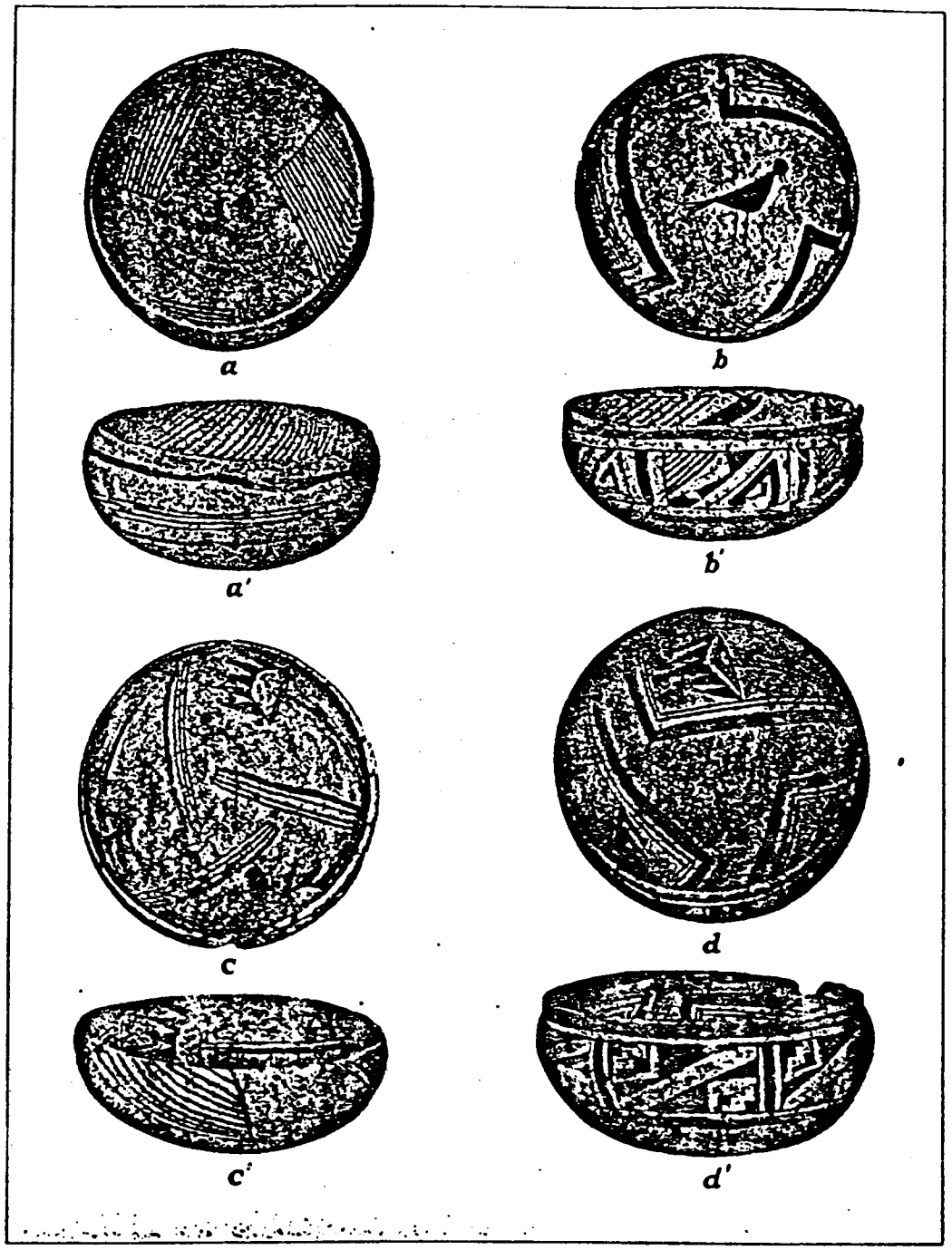
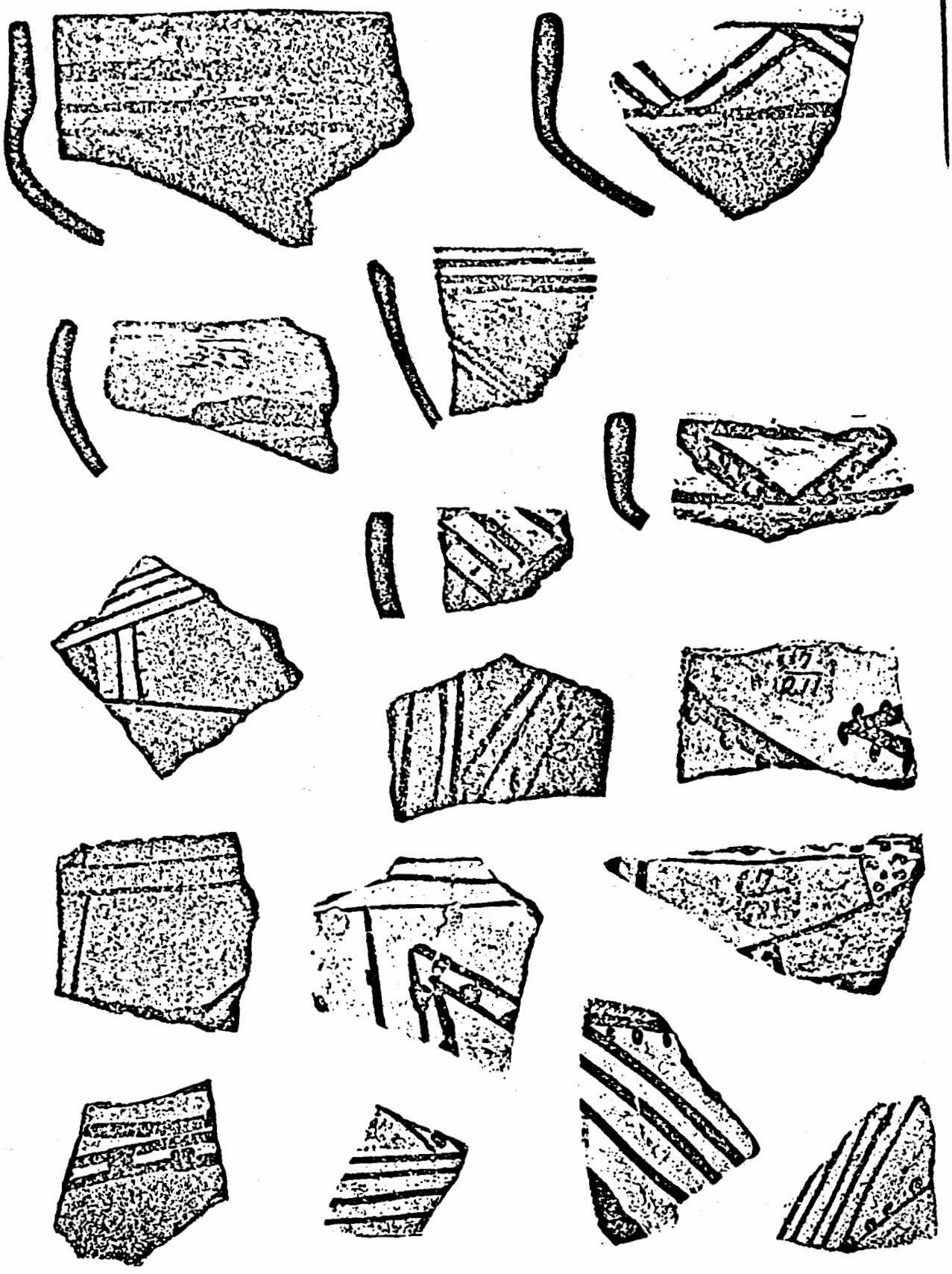
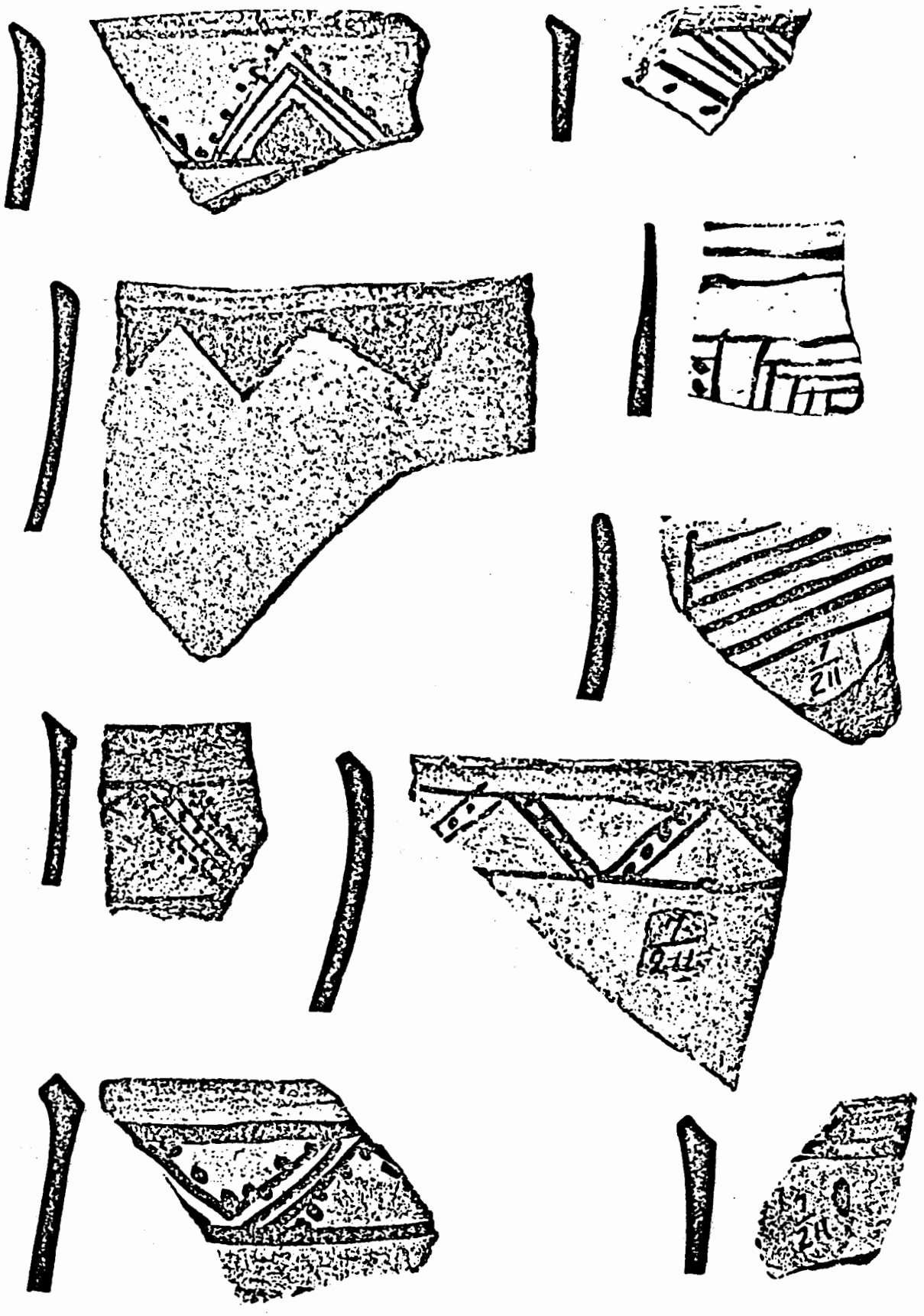


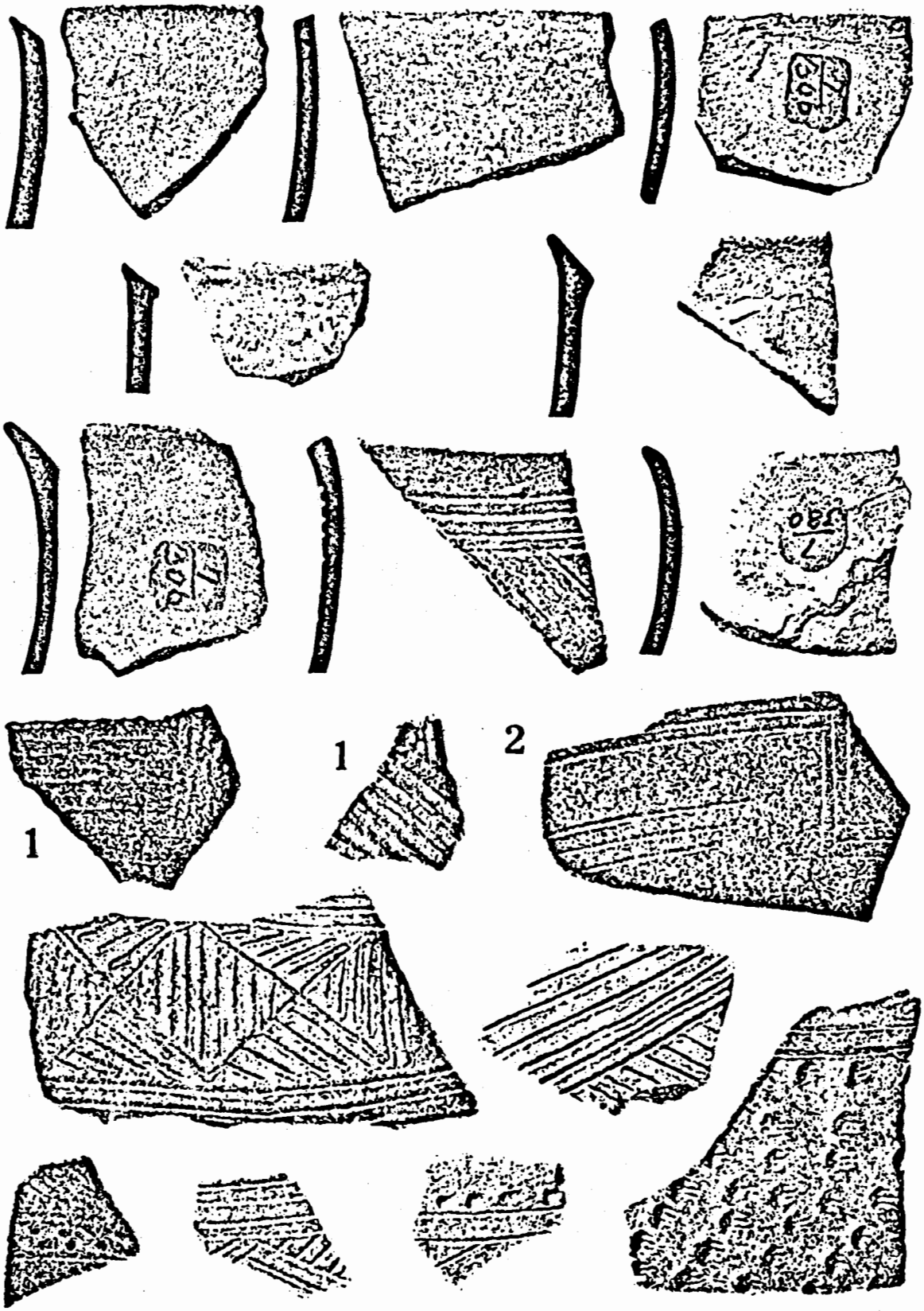
Fig. 56. Biscuit B. Small bowls. *a:* Pendent triangle pattern. *b:* Pendent triangle pattern with bird. *b':* Standard band. *c:* *Awanyu*. *c':* Pendent triangle. *d:* *Awanyu*. *d':* Standard band. Bowls *b* and *d* are early specimens, possibly made during the Biscuit A period. Diameter of *d*, 9 3/8 inches.



Sankawi bowl Rims



Sankawi jar rims



Potsuwi'i Incised

A VERY BRIEF OVERVIEW OF RIO GRANDE GLAZE AND MATTE-PAINT CERAMICS

Prepared for: New Mexico Archaeological Council
Rio Grande Ceramic Workshop
Santa Fe, New Mexico

April 6, 1989

Prepared by: David H. Snow
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Santa Fe, NM 87501

INTRODUCTION

The protohistoric Rio Grande glaze-painted series, and the subsequent matte-painted Pueblo pottery of the historic period, consist of a large number of formally and casually described types and varieties, the identification of which requires a degree of specialization beyond the intent of this brief overview. Indeed, so many "types" and varieties have been accepted and/or proposed that it is difficult to provide a useful overview at all. This proliferation of types and varieties within the two sequences, for the most part, the result of increased archeological investigations in the Rio Grande over the past 30 years or so, clearly addresses Joe Brew's admonishment that we need more pottery types. The reasoning, of course, is recognition and definition of spatial and temporal variations in Southwestern ceramic production is necessary if we are to understand the role of pottery in local and regional processual and historical developments among the Anasazi and their Pueblo descendants.

Whether you are a lumper or a splitter---or a splutter or limper as I have heard them referred to---you must remember that either process should reflect a specific data set and the hypotheses or models underlying their ordering and ultimate interpretation. The inability to split one's vote, as it were, when faced with mounds of newly excavated sherds, has often led to failure to see the trees for the forest---or vice versa. My purpose here is provide some indication of how to recognize some of the components of the forest of Rio Grande glaze-wares; as well as to outline the configuration of the matte-painted forest, whose components are scarcely as yet adequately identified.

A. The Rio Grande Glaze-wares

First recognized by N. C. Nelson from stratigraphic trenches in the late prehistoric pueblos of the Galisteo Basin and nearby pueblo ruins, the glaze-painted ceramics of the region were described in detail by A. V. Kidder, based on his preliminary explorations of the trash deposits at Pecos Pueblo. The Pecos sequence, designated as Glazes I through VI, was formalized by Kidder and Shepard (1936), a year after H. P. Mera's (1935) more broadly conceived alphabetically-sequenced "revision" of the glaze series from the Rio Grande Valley. These are the familiar glazes A through F, but both the Pecos and the Rio Grande types I-IV and A-D are the same, for

the most part. The Pecos series differs only insofar as Kidder's Pecos Glazes V and VI are the first Pecos-made glazes, and they diverge from the more widespread Rio Grande (Mera) Glazes E and F. The latter were made at a number of pueblos, and were widely traded, unlike the Pecos types. The difference is visible in the primary attribute of rim-modeling on bowls between the four contemporaneous types.

The two sequences purported to reflect a unilineal and temporally sequent development, progressing 'logically' from A (or I) through F (or VI), and were ordereed on the basis of modeled or sculpted bowl rims, spanning the period ca. AD 1350 to 1680±. The two sequences are identified primarily from bowls, since jar rims were seldom (if ever) modeled in characteristic shapes to match those of the contemporaneous bowl forms. (This classificatory bias characterizes several other Rio Grande ceramic series as well: the Biscuit-wares, for example---Abiquiu Black/gray and the succeding Bandelier B/g---are named only for the bowl forms, jars being referred to only as "Biscuit jars"; the matte-paint Tewa series of the historic period, similarly, consists of several sequent jar forms, with virtually no effort as yet made to identify and describe the wide variability in the accompanying bowls of the series).

In addition to the standard Pecos and Rio Grande Glaze-ware series, a local Acoma glaze sequence, to which are assigned Greek letter designations (Alpha, Beta, etc.), has been minimally defined by Dittert (1965), following Harlow (n.d.). The Zuni sequence, which was terminated at about AD 1400 (to be briefly revived during the Pueblo Revolt Period), consists of type names and is, presumably, the source of inspiration of the Rio Grande sequence of types, each of which is slightly later than its Zuni counterpart. Finally, local geographical variants of Mera's A-F series, have been identified as specific products of individual Pueblos (or at least linguistic areas): Picuris (Dick 1965), San Juan Pueblo (Honea n.d.), the Pajarito Plateau (Harlow 1988), and the Jemez Valley pueblos (Harlow 1988). Petrographic studies by Warren (1969) have identified specific centers of production at various times at Tunque, Abo, Zia, Cochiti, and various non-specific sites in the Galisteo Basin (see also, Honea n.d.). A Jornada "variant", referring to the late E-F types characteristic of the Rio Grande below Albuquerque, has also been described by Shepard (1942). A recent study by Snow (1987) has suggested that the entire Rio Grande Glaze sequence, however, may well not be the temporally sequent development of one rim form into the other envisioned by earlier investigators.

Recent work (Snow 1987; Cordell and Earls 1984), including re-examination of 1935 stratigraphic results from a ruin near Albuquerque, provide good evidence that Mera's original sequence from A-F consists, in reality, of two broad groups of modeled rim varieties characteristic of the Rio Abajo and of the region north of Albuquerque: A-D, and E-F. These early and late groups consist of varieties of near contemporaneous, certainly broadly overlapping characteristic bowl rim forms, given both "type" names and letters by Mera and others, and these serve to identify both temporal and geographical variations assumed to have represented an evolutionary development through time. It is clear, however, that the sequence differs between the Rio Abajo and the Rio Grande north of Albuquerque. For example, Glaze B is virtually absent in sites below Albuquerque or east of the Manzano Mts. (an observation that led Mera to postulate the complete abandonment of the region early in the 15th century; Mera 1940); and, in general, white/yellow or light-colored slips were never particularly popular in the Rio Abajo until minor production at Abo (?) occurred late in the 16th century or later. In that region, Glaze A continues to be made---or at least used---until late in the 15th century, contemporaneously with C-D forms. Northward, Glaze B apparently represents a short-lived rim variant that was never very popular; and it can be assumed that Glaze A varieties were also in use until the late 15th century along with the more popular C-D forms.

For the moment it appears that Mera's group A-D was popular throughout the Rio Grande (and at Acoma) from ca. AD 1350-1460± or slightly later, while the E-F group, beginning in the period ca. 1460-80±, lasted until at least the 1680 Revolt. From its inception in the Rio Abajo, the local series reflected a preference for red slips of the basal White Mountain Redwares, in contrast to an early preference in the Galisteo Basin centers for introduced light (white or yellow) slips, characteristic of contemporaneous Zuni types (Snow 1982).

By 1693 Pecos Indians were offering glaze pottery for sale to Vargas (Snow 1973), and Warren (1979) has speculated that glazes were still being produced in the early 18th century in the Cochiti area. Nevertheless, the 1680 Revolt resulted in the disappearance of most of the former glaze-producing pueblos in the Galisteo Basin, the Tiwa pueblos of Albuquerque, and the Piro-Tompiro-Jumano pueblos east of the Rio Grande and Socorro area. When the dust had settled (and even though minor production may have continued locally for a short time), the use of glaze paint as a decorative medium had been

abandoned, to be replaced locally by non-glaze mineral (essentially, the Keres and Zuni west of the Rio Grande) and carbon paint (the Tewa Basin and, interestingly, Santo Domingo and Cochiti).

B. The Rio Grande Matte-painted Wares.

Systematic study of these fully historic period series was not initiated until the classic work by Kidder and Shepard (1936) based on observations at Pecos Pueblo. Subsequent isolated studies of materials by Toulouse at Abo, and by Hurt and Dick (1946) and Dick (1968), added little to the elucidation of the post-Revolt period ceramic history of the region. Not until the advent of large scale salvage archeology in the Rio Grande was a sufficiently large data base available for descriptive purposes, and much of the literature is based on materials generated from such projects (an fundamentally important exception is the preliminary study by Mera, 1939, which serves still as the basis for much of the descriptive terminology in use today).

Nevertheless, Mera's original descriptions and observations were based on 17th century or early 18th century historic matte-paint jars, and the nomenclature reflects that bias for the most part. Lack of excavation in 18th and 19th century sites in the region (except, of course, at Pecos; the remainder are biased in that they reflect Spanish Colonial occupation and use, rather than pueblo), has left a major gap in our efforts to understand the outlines of the local matte-paint developments in time and space. Efforts to fill in this gap have been published (Harlow 1965, 1973; Frank and Harlow 1974; Dick 1968; Carlson 1965; Snow 1972, 1973, 1973a, 1976, 1982, 1984; Ferg 1984; Hering 1985; Batkin 1987). The result is a confusing picture derived from too few archeological data, from Museum collections derived, for the most part, from the post-railroad era and, unhappily, from considerable speculation based on few if any facts (see, for example, Snow 1982, 1984).

Although the Rio Grande during the late prehistoric period (ca. AD 1350 through the 17th century) was dominated by production of glaze-paint wares, "traditional" Anasazi-inspired black-on-white pottery continued to be made in the region. Such types as Tabira B/w (and Polychrome), Jemez B/w, the Biscuit-wares and Sankawi B/c, and Vadito and Trampas B/w (Dick 1965), were produced contemporaneously with the glazes at some villages, or in lieu thereof in others.

In general, this preference for traditional black/white pottery in the pueblos of the Tewa Basin, in particular, is reflected by the scarcity of traded glaze pottery into that region. It is in the Tewa Basin, in particular, that the origins of the Tewa matte-paint series havd been tentatively identified (Mera 1939; Harlow 1973; Snow 1982). Local matte-paint sequences, following the Reconquest in 1693, have been outlined for the Zia area (Hering 1985; Harlow 1988), Cochiti (Warren 1979), Hopi (Wade and McChesney 1980, 1981), and even less satisfactorily for several other areas (see Harlow 1973; Batkin 1987). The result is a plethora of local nomenclature, often derived from a single collection of sherds, several (or one) complete specimen, or from extrapolation into the past from late 19th century Museum collections. Dating is currently very shaky for most of the sequences.

The continued use of carbon black paint designs on a white slip to produce motifs and elements clearly in the Biscuit-Sankawi tradition or style, is the hall-mark of the early Tewa Basin historic ceramics. The addition of a red-slip underbody, occasional use of red paint on the decorative field (generally on or just below the rim until after about 1700), and vessel form changes, clearly evidence the incorporation of late glaze style and treatment by Tewa potters (Snow 1982). These were widely traded in the 17th century and may often represent a higher percentage of the assemblage than the local matte-paint types. However, it must be remembered that these assemblages are, in most cases, those recovered from Spanish, rather than from pueblo sites of the period.

In general, historic period jars continue the Glaze F style with inward sloping underbody and tall slightly concave necks, separated by a rounded "inner-tube" just below mid-body; decoration occurs either on the tall neck and/or on the low-centered bulge. Bowls have either direct rims or are straight to slightly flaring as in the earlier Glaze E-F style (keeled, or shouldered bowls), with decoration on either or both the exterior and interior rims, and often in the interior center. This is true for both the carbon and mineral series. Exotic forms, produced presumably for Spanish Colonial use, also occur in both series, the most commonly found being the soup-plate (or bowl), with a wide horizontal flared rim, decorated on the rim (and seldomly in the interior).

Significant historic ceramic trends in the Rio Grande (and related western Keres pueblos of Acoma and Laguna) include the incorporation of designs and motifs assumed to have emanated from Hopi and/or Zuni; the increasing

frequency of undecorated vessels, slipped overall red or smudged grey to black; polished (and perhaps slipped) interiors on "utility" jars; and the modification of vessels forms to accomodate changes in vessel functions. The latter process must reflect, in part, specialization of vessel categories resulting from both the needs of Spanish Colonists, as well as from the gradual incorporation of Spanish foodstuffs and food preparation processes into the Pueblo lifestyle and repertoire (e.g., Snow 1982). These modifications include the development of the deep, large dough bowl with "standing" rim (reflecting the increased use of wheat bread), the development of two jar forms, one for water storage, the other for grain and other foodstuffs, and the reduction of formerly standardized prehistoric bowl size to a variety of smaller bowl forms; the increasing use of the soup-plate form and---perhaps, most importantly---the apparent specialization in the production of one or another of these forms by specific pueblos, or groups of pueblos.

Generally speaking, pueblo ceramics begin to show a decided decrease in assemblages prior to the arrival of the railroad and, in most cases, are restricted to a few specialized forms (dough bowls, bean pots, water jars, and soup-plates). Descriptions of later Pueblo pottery, such as those found in Frank and Harlow (1974), Harlow (1973), and Batkin (1987) are, for the most part, based on museum collections, purchased directly from the pueblos during the period ca. 1880-1920. Consequently, their relevance to earlier developments is speculative; moreover, most are clearly the result of production for sale to those very collectors (exceptions, of course, are clearly evident in the collections made by James Stephenson in the 1870s).

C. General Characteristics and Distinguishing Attributes.

The purpose here is to highlight significant attributes and attribute differences which characterize temporal and spatial variations among the diagnostic types that make up the Rio Grande (and, where appropriate, the western pueblo) matte- and glaze-paint sequences. No effort is made to detail the entire range of types (accepted or proposed) for either category, since descriptions can be found in the attached bibliographies for each. The focus is on the broader "types" (such as Glaze A), with brief notations of the characteristic ranges of varieties in each, as far as the glazes are concerned. For the matte-paint series, the focus is less on established (or proposed) types, than it is on reviewing those trends and/or attributes for geographical

areas within the region by which local sequences can be most readily identified.

A. Rio Grande Glazes: The following descriptions are abstracted from the edited and revised notes from the Eighth Southwestern Ceramic Seminar, as these appear in Warren and Snow (1976).

Glaze A:

Los Padillas Glaze-polychrome. oxidized firing; crushed local rock temper predominant; (Rio Grande volcanics) greyish paste w/red-brown margins, fine to medium texture; polished slipped surfaces, dark red to orange red; bowls only known; direct rim, slightly rounded, may be beveled internally; black to brown, occ. green glaze paint interior, white matte ext. designs, occ. w/black glaze elements (Arenal G-p, va.); most frequent in the region between Albuq. and Socorro; ca. AD 1275±-1350±; COMMENT: similar to Heshotauthla Polychrome, with attenuated Tularosa or Pinedale style, dominated by Eastern Anasazi paneled design layout and motifs.

Agua Fria Glaze-on-red. (Glaze I Red at Pecos); oxidized firing; crushed rock temper; greyish paste w/red-brown margins frequent, fine to medium texture; polished slipped surfaces, dark red to orange red; bowls, jars (Rayo Glaze Red) and eccentrics; direct rims, sides parallel, lip slightly rounded to flat, or internally beveled (Sanchez G/r, var.); thin to thick dark to pale black, occ. green, and brown glaze paint int. only; paired oblique or vertical slashes or crosses repeated on opposite sides below rims are frequent; overall designs are rectilinear and paneled; elements include cross-hatching, stepped lines, dots, ticks, etc.; rarely anthropomorphs; ca. AD AD 1325-1450 plus; COMMENT: Yellow-slipped variety is known as Cieneguilla Glaze-on-yellow, primarily found north of Albuq.; polychrome varieties, on either red or yellow overall slips, or alternating red and white int./ext. slips (San Clemente G-p), are referred to as Sanchez G/y and G-p, and Cieneguilla G/y and G-p. In the Cieneguilla var., the polychrome effect is from the addition of red paint design elements, generally only on the ext. below the rim. The Acoma type, Alpha-One Poly., and Zuni, Kwakina Polychrome, are characterized by white/yellow int. and red ext. slips, from which the Rio Grande type, San Clemente G-p was no doubt derived (Harlow n.d.; Smith, Woodbury and Woodbury 1966). ~~Cienellegua LA/6 type site~~ 15 to 1 bowls to jars

Glaze B:

Largo Glaze/yellow, Glaze/red, and Glaze-polychrome. locally made at Cochiti Same as above in all respects, but with the exception of an exaggerated interiorly thickened Medio (San Clemente Glaze Polychrome with thickened rim

lip on bowl rims, flat to slightly rounded horizontal (common) or inward inclined (rare); bowls, jars, and eccentrics; predominates in sites above Albuquerque, and most frequently made in the Galisteo Basin; COMMENT: the rim treatment may have been inspired by similar exaggeration of Kwakina (Zuni) Polychrome glaze rims, est. from AD 1300-1425; Largo varieties in the Rio Grande are estimated between AD 1400-1425, but may occur later.

thickened rim - product of Northern Portion of Glaze area in Galestro Basin (traded around short lived?

Glaze C:

Espinoso Glaze-polychrome (Glaze III Poly. at Pecos); same as above descriptions with the exception of rims which are everted to recurved with blunt to sharply rounded lips on bowls and jars; rims are low-set with interior thickening and flexure distinctly rounded, although jar rims may be direct or thickened at the lip which is commonly rounded; red paint elements in the design produce the polychrome effect, rather than contrasting slip colors, although Honea's (n.d.) proposed Medio G-p, is a San Clemente with the B rim thickening; Pottery Mound Glaze-polychrome (Voll 1961) and Acoma Alphabeta Glaze-on-white (Harlow n.d.), and their apparent predecessor, Kechipawan Poly (Zuni), are similar in use of overall white/yellow slip with red and black glaze elements, but the Rio Grande Glaze C rim modeling is more pronounced, elongated, and recurved than in the western varieties, which seem to appear slightly earlier than the Espinoso and Pottery Mound varieties in the Rio Grande. Mera's Kuaua and Tiguex G-p (Fig. 1) are variants.

yellow slipped; also red slipped - no norm

exclusive to Pottery Mound Pueblo - contrasting slip

B+C contemporary 1400-1425 & may have lasted to 1450-1470 or so

specialized rim

Glaze D: cessation of white & red & yellow overall slips

primarily jar sherds bowls shouldered (may begin in late C) innovation of Rio Grande area idea may have been Caddoan from TX or OK. or Wichitaws

San Lazaro Glaze-polychrome. (Pecos Glaze IV Polychrome) oxidizing firing; paste fine to medium texture, reddish to buff throughout; crushed rock temper; jars may have been made in two-piece molds; all forms slipped/polished except jar interiors, light shades (fawn, tan, orangish, reddish pink, or pinkish white); jar bases usually slipped red in contrast to upper-body slip; shouldered bowls may have contrasting light-colored slips of the tones referred; jars, bowls and eccentrics; bowl shoulders usually angular, more rounded on jars; bowl and jar rims with inside gently convex beveling, and straight to slightly recurved ext.; marked inward bevel on shouldered bowls; lips rounded to sharp or tapered; thin dark-to-pale brown or black lustrous glaze and soft red matte paint designs; glaze is seldom runny and does not bead; edges are even and lines straight and well-executed; designs and elements are similar to earlier ones, and overall int. bowl designs are frequent; designs are paneled motifs, and exteriors of bowls may be embellished with glaze-outlined elements in red; dates est. AD 1450-60 to 1500 plus; COMMENT: there are no equivalent types

elongated C rim

well - etc than & hard

few K, orangish brown mixed colors

with the distinctive shouldered bowl that characterizes San Lazaro in the Acoma or Zuni sequence; although Acoma Delta varieties have modeled rims in the range of Espinoso and San Lazaro, these are characterized by contrasting red and white slips (as are the equivalent Glaze C, Gamma series there, and the Pinnawa series at Zuni). For the first time in the glaze sequence, jars are produced in great quantities, such that the ratio of bowls to jars drops from 15:1 (A-early C) to 2.5:1 (C-D); San Lazaro was, apparently, produced not only at Tunque, but at Abo and Picuris for a short period. In general, this is the finest of the glaze-ware types, in terms of shape and symmetry, and quality control and execution of design.

Glaze E:

Puaray Glaze-polychrome. Oxidizing firing; buff-to-reddish, medium-to-fine paste texture; crushed rock temper; both surfaces bowls slipped/polished over fawn, tan, orange, pink, yellowish-to-creamy white on bowl interiors and partial exteriors, and jar ext.; the latter may be slipped red on basal portions; bowls have high, thick, convex to straight inner surfaces, with gently convex to recurved outer surfaces, and sharp-to-rounded lips; jar rims are slightly recurved or inwardly beveled; pain is thick brownish-black, occ. green, lustrous-to-matte glaze and dark red matte paint; glaze tends to run, marring the design layout; est. dates, ca. AD 1490-1500 to 1600±; no comparable types are described from the western pueblos, although the medium-colored slips may be copies of the slightly earlier Sikyatki, from Hopi, or Matsaki Polychrome from Zuni (both matte paint types); partially contemporary but provisional types are Yunque G-p, a variant of San Juan Red/orange with glaze paint; Escondido G-p, with rectangular rim cross-section; and Encierro G-p, with partial ext. bowl and jar slips.

Glaze F:

Kotyiti G-p, G/y, G/r. As above, with the principal difference lying in the generally parallel sided standing (vertical) bowl rim forming a distinct keel; these may be slightly thickened just above the juncture with the body, with a slight inward convex surface, and straight or slightly concave ext.; jar rims are slightly flared, short and may be beveled on the int.; both E and F bowl rims vary significantly from the equivalent Glazes V-VI Polychromes at Pecos (Fig. 1); slips revert to the more characteristic dirty white/yellow or red (in contrast to the dull, intermediate tones of Glazes D and E; glazes are quite runny, ranging from lustrous black to watery, pale green and brown;

Spanish-introduced forms occur, apparently, only on Glaze F types and include soup-plates, candle holders, chalices, mugs and occ. pitcher forms; est. dates, ca. AD 1550-1700± (Hawikuh Polychrome, produced at Zuni during the Revolt, is a distinctive, high quality dark red slipped type with good greenish brown to black paint, but is seldom found in the Rio Grande); COMMENT: an unglazed redware from the Las Humanas area, termed Salinas Red, is a glaze F without the glaze; Snow (1987) has recently identified such vessels with rims modeled in the mode of Glazes E & F rim styles from Las Humanas; the "Jornada" variant described by Shepard (1942) are unslipped bowls with tall parallel-sided rims made, apparently at Abo, with brown to red bodies and no red paint designs.

Parallel sequences in slip use + rim preferences lots of variability

2 types - Early A-D contemporary Late E+F contemporary

preference in southern area (S of Albq) for red slip (Mountain Red ware tradition)

Summary: The early Glaze groups (A-C), including variants of minor geographical importance, are characterized by generally direct rims with sculpted or modeled lips, white or red or contrasting white and red slips, usually int. designs on bowls (with minor ext. embellishments), and minor use of red matte paint in the designs. The later group (D-F), including variants, are characterized generally by intermediate tones for slip colors, with elaborate use of red matte paint to create the polychrome effect; keeled or shouldered bowls with standing rims generally thickened at or below the mid-point, and creating a sharp angle on the interior with the bowl body; on the shouldered form, the angle is apparent on the ext.

Glazes cease southern area pre pueblo revolt
Glazes cease Galestea Basin pueblo rebilt because area abandoned
May not have continued post pueblo revolt because spanish occupy Cerrillos mines

Mera Catalog Style Trends in Pueblo Pottery

late prehist glazes + B/W in relation to modern painted wares

B. Rio Grande Matte-paint Ceramics: The following outline derives from a large number of sources, both published and unpublished, and almost exclusively from sherd collections; whole vessels from the Spanish Colonial Period are scarce, and post-railroad types are infrequently encountered since pueblo pottery was rapidly being replaced by imported ceramics. The focus here is to outline trends by geographical districts, rather than to describe types in detail.

Tewa Basin. Predominant "types" are polychrome varieties named almost exclusively from jars. Beginning with the addition of red paint around the int. and/or ext. of jar rims on otherwise Sankawi Black/cream, called Tewa Polychrome by Mera (1939) and Toulouse (1942)---and Sakona Poly. by Harlow (1973), but not recognized by the archeological community---the polychrome sequence lacks adequate definition. Sherds and a handfull of whole bowls from the 17th century suggest considerable variation in color scheme and design and design field. Classic Tewa Poly. presumably lacks, or has

infrequent black carbon designs on the upper white-slipped neck; a bulge between neck and lower body, with frequent black designs; and a lower body which tapers to a small kick-up base. The lower body may be entirely red-slipped (as Mera imagined), or merely a wide red-slip band (as Batkin 1987 argues). In any event, a diagnostic attribute is that the white decorative slip was applied after the lower red paint, such that the overlap (white on red) is usually apparent. Designs are frequently in the style of the Biscuit-Sankawi tradition, usually fine-lined, rectilinear with triangles and dots; in general, the black painted designs make no effort to fill up the white field of decoration on the neck or mid-bulge. Pojoaque Polychrome, made certainly prior to the Revolt and, perhaps into the first half of the 18th century, differs only in having the entire tall neck slipped red, leaving only the mid-bulge for the decorative field. The succeding type, Ogapoge Polychrome---which may, in fact, also be a late-17th-to-mid-18th century variety---retains the white-slipped upper neck on jars, but has only a wide (6 to 9 cm) red band applied over the bottom edge of the white upper slip, in contrast to the Tewa Polychrome practice. Designs are curvilinear, often stylistic or anthropomorphic, with feathers, sun-bursts, black-filled zig-zags, or lightening designs, and usually incorporates matte red in the design; the mid-bulge may or may not contain black carbon (and/or red) designs; these are characteristically applied to the open white-slipped tall neck. The type may last until about the end of the 18th century, by which time the gradually shrinking neck on decorated Tewa jars results in a thoroughly globular form, called Powhoge Polychrome, whose busy, space-filling and heavy carbon painted lines and elements cover the entire sphere, except for a narrow (3-6 cm) red band near the base of the jar. Bowl forms accompanying these jars represent a wide variety of contrasting slip application, in red or white, on the int. or ext., with black carbon painted designs on the interior and/or exterior rim. Rims in the earlier part of the sequence mimic the Glaze F standing rim; but become characteristically flared outward near the lip; the standing rim form becomes larger in the 18th century (holding as many as 11 dry qts) and are the familiar dough-bowls of more recent collections. Hemispherical bowls increase in popularity in the 18th century and outnumber the latter by about 1800 in most collections. Soup-plates are common throughout the sequence, with black carbon paint designs only on the flared, horizontal rims; later rims on these plates are frequently at a slight to moderate angle to the base of the 'bowl'.

Along with the decorated Tewa series jars and bowls are contemporary forms in overall red, grey or highly polished black, and are referred to in the literature as Posuge Red, Kapo Gray and Kapo Black. In each case, the jars retain the classic early Glaze F-Tewa Polychrome, tall-necked water jar form, and do not develop into the globular storage jar of Powhoge and later Pueblo-specific types (such as San Ildefonso Polychrome). A minor variant is a black carbon painted on pink to pale red slip, made in the Tewa Basin, apparently as a vestige of the earlier glaze-on-red types, or possibly, in imitation of the black-on-red mineral painted Zia or Puname styles. It is the forerunner of San Ildefonso Black/red of the late 19th century.

Contemporary 'utility' vessels, jars only, are initially the same as Kidder's Faint Striated from Pecos, with smoothed but pitted and striated ext. and polished (sometimes slipped) interiors. These have been referred to as Santa Cruz utility varieties in the Cochiti area (Snow 1976); and one clearly Tewa product has a golden micaceous ext. slip with the junctures of the large, fat coils left un-obliterated, giving the ext. a decided rippled or washboard effect (Lopez Micaceous; however, see Wiseman 1987). Eighteenth century and later utility vessels are little studied, but range from smooothed and polished ext. and int. surfaces, to micacious slipped ext., or simply polished or unpolished buff ext. surfaces; jar forms only are known, including pitchers. Some of these are clearly similar to what are referred to as Apache vessels, except for the characteristic tuff or sand temper (as at Nambe).

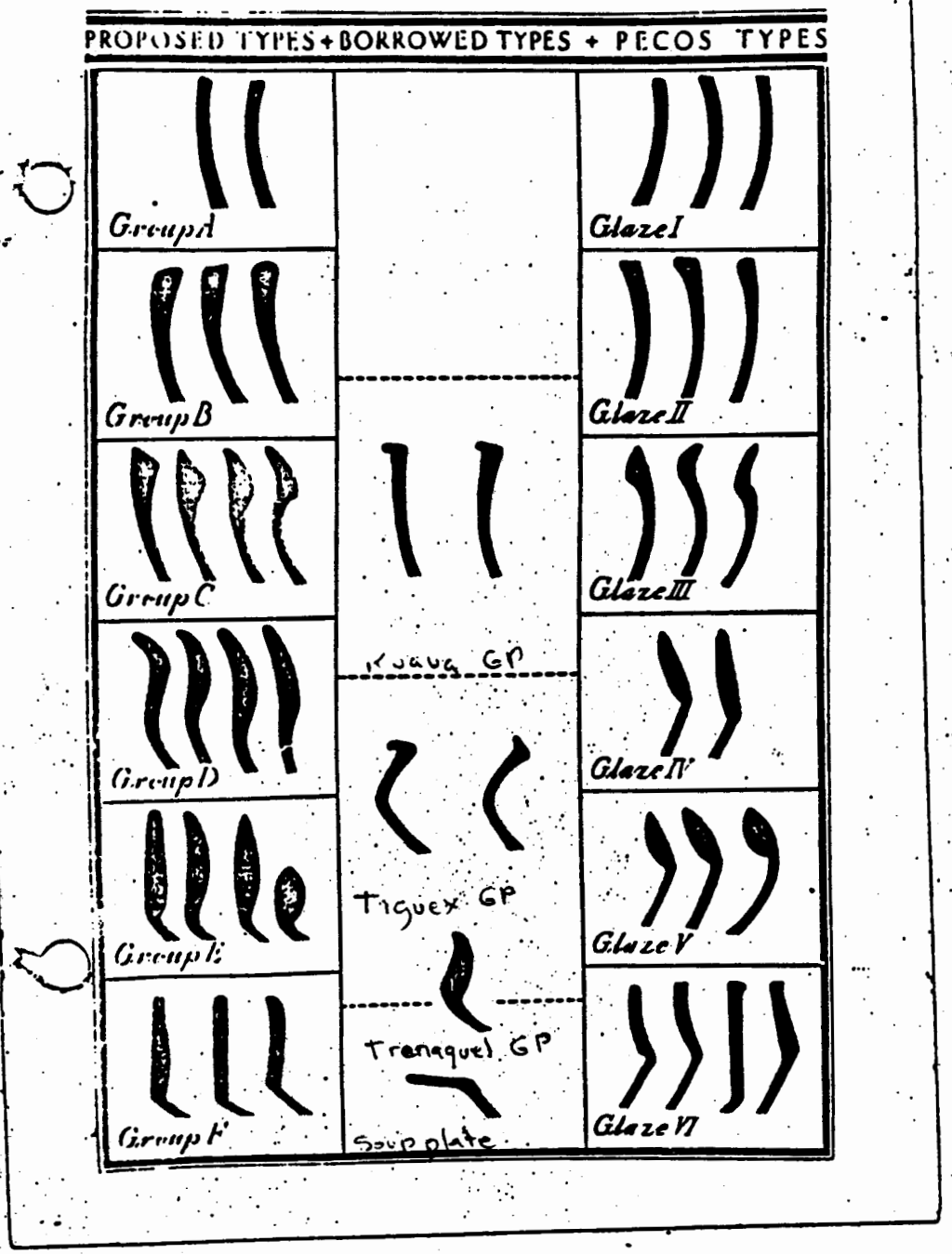
The Jemez Valley. Other than the decorated types, beginning with Mera's (1939) Puname Polychrome, through a series of provisional types named and described by Harlow (1973), little is known of the complete sequence and its varieties for the general Santa Ana, Zia and Jemez pueblo region. Puname Poly and subsequent 18th century types may or may not have a creamy streaky slip, with black mineral and matte red painted designs. Jar forms and, presumably, bowls as well, differ little from those described for the Tewa Basin, although jars tend to be frequently less elongated with a lower center of gravity than the Tewa series. Temper distinguishes the pottery from Zia (diorite basalt) from Santa Ana (sand) consistently after the 17th century; but pre-Revolt Santa Ana pottery has not been described. A provisional description of 17th century Zia and Jemez ceramic types and trends has been recently put forth by Harlow (1988), but the source (s) of his information are not revealed. Jemez B/w was made until and into the Pueblo Revolt.

Although some investigators (e.g., Ferg 1984; Batkin 1987) believe Harlow's provisional Zia-Santa Ana series polychrome descriptions are more or less valid, little archeological work supports his conjectural data. One possibly useful attribute, temporally, is an apparent change from red-topped rims to black-painted rims at about 1800±; a sequence which was more or less followed by Domingo, Cochiti, and in the Tewa Basin pueblos somewhat later. Hering's (1985) recent thesis on Zia ceramic history accepts Harlow's scheme, but focus primarily on the post-railroad development there.

Other areas. The disappearance, following the Pueblo Revolt, of most of the formerly occupied regions such as the Galisteo Basin, the southern Tiwa, Piro, Tompiro and Jumano pueblos, was obviously the end of the local ceramic sequences in those areas. Although both Sandia and Isleta made pottery in the 19th century, descriptions of which suggest was primarily utility ware, little archeological evidence has been generated which might provide adequate descriptions. Such types as those offered by Hurt and Dick (1946) and Dick (1966) as having been made by "Spanish Americans" remain to be verified as such (see Snow 1983); these include Carnue Plain, Manzano Plain and Manzano Brick-ware, etc.; each has obvious, indistinguishable cognates produced at a variety of pueblos, primarily in the Tewa Basin, but also at Isleta Pueblo throughout the 19th century, contemporary with the purported "Spanish American" types. In general, the historic matte-paint types produced at Acoma/Laguna and Zuni, except for slight variations in vessel form and striking contrasts in style of design, elements, and motifs, follow closely the pattern described for the Tewa Basin sequence. Jars are squat, nearly as wide as tall, similar to the Zia Puname style, and the three areas clearly were closely allied in terms of design and form. Dating for most of these western (and for the Zia-Santa Ana) types depend on acceptance of Harlow's unsubstantiated dates for each (Harlow 1973; Frank and Harlow 1974). Utility wares are virtually undescribed, if available. Hopi trade sherds appear consistently in the Rio Grande well into the first half of the 18th century; these are primarily Sikyatki Poly., Jeddito or Awatobi Yellow, and San Bernardo Polychrome, and are characterized by matte mineral and red paint and yellow-burning clay bodies; forms are not dissimilar to the historic Tewa Basin forms for both jars and bowls. The latter, however, are frequently deep with flared rims, referred to as food bowls, not found in the Rio Grande. Designs are elaborate and often busy, frequently incorporating anthropomorphs and other stylized elements not found in the Rio Grande.

Cochiti-Domingo. While temper and paste differ (generally, a rhyolite tuff and brick-red paste) from contemporary Tewa Basin varieties throughout the sequence following the Reconquest, pottery from this general area (possibly including San Felipe), virtually duplicate the latter sequence---including, curiously, the use of carbon black paint, unlike their Keresan neighbors in the Jemez Valley. Harlow (1973) and Frank and Harlow (1974) have illustrated examples of the late end of the local sequence, and assigned names for the cognates of the Tewa sequence which it duplicates.

Summary. The post-Revolt period in the Rio Grande and, apparently, among the western pueblos as well, was a period of considerable re-adaptation and obvious experimentation with new ceramic technology and styles. Glaze was abandoned as a decorative medium, and was replaced by either mineral (in the west and in the lower Jemez Valley---Jemez Pueblo retaining its earlier carbon paint) or carbon (among the Rio Grande Valley Keres and the Tewa Basin Pueblos). Early vessel forms differed little from the glaze predecessors, but parallel forms evolved from these to fullfill specific functions and roles absent in the 17th century and earlier (dough-bowls, large decorated storage jars, replacing former 'utility' jars, now relegated solely to cooking). Design or stylistic influence from Hopi-Zuni, emphasizing curvilinear, anthropomorphs, and the abhorance of empty space, characteristic of 17th and 18th century western pottery, is apparent in the Rio Grande (above Albuquerque) by perhaps the end of the 18th century---certainly apparent by mid-19th century. Such convoluted curvilinear and space-filling motifs and design structure, assumed to be the result of Spanish influence, most frequently seen on museum collection materials from the period ca. 1870+, most likely owes its popularity to Euro-American sources more than to earlier Spanish Colonial influences. Particularly in the large storage jar forms, there is some evidence that the capacity was a function of Spanish, and later, American standard dry weight measurements (almud, fanega, and bushel).



Characteristic Rio Grande Glaze rim forms (adapted from Mera 1933). In the center column, from top to bottom, are Mera's proposed types: (top) Kuaua G-p; (mid) Tiguex G-p; (lower) Trenaquel G-p and a typical soupplate rim.

CHARACTERISTIC SURFACE COLOR ON GLAZES FROM THE SOUTHERN DISTRICT:
ALBUQUERQUE TO SOCORRO, INCLUDING THE SALINE AND JORNADA PUEBLOS

Glaze Group/Dates	Contrasting Slips	Red Slips	Yellow Slips
Group A Types: (1275-1490)	San Clemente G-p Pottery Mound G-p	Los Padillas G-p Arenal G-p (var.) Lincoln B/R Agua Fria G/R Sanchez G/R Rayo G/R (var.)	Pottery Mound G-p
Group C Types: (1450-1490)	Kuaua G-p	Espinoso G/R	Espinoso G-p
Group D Types: (1490-1515)		San Lazaro G-p	
Group E Types: (1515-1625)	Puaray G-p Trenaquel G-p Escondido G-p	Puaray G/R	Puaray G-p
Group F Types: (1625-1680)	Socorro Late Variant Kotyiti G-p	Kotyiti G/R Polvadera G/R Jornada Late Variant	Polvadera G/Y

Adapted from Mera 1935; Shepard 1942; Voll 1961; Hayes 1970; Warren and Snow 1976.

CHARACTERISTIC SURFACE COLOR GLAZES FROM THE NORTHERN DISTRICT:
ALBUQUERQUE TO TAOS, INCLUDING PECOS PUEBLO

Glaze Group/Dates	Contrasting Slips	Red Slips	Yellow Slips
Group A Types: (1300-1450)	San Clemente G-p	Los Padillas G-p Agua Fria G/R Sanchez G/R	Cieneguilla G/Y Sanchez G/Y Cieneguilla G-p Sanchez G-p
Group B Types: (1400-1450)	Medio G-p	Largo G/R	Largo G/Y Largo G-p
Group C Types: (1450-1490)		Espinoso G/R (?)	Espinoso G-p
Group D Types: (1475-1515)		San Lazaro G-p	
Group E Types: (1515-1625)	Puaray G-p Tiguex G-p Encierro G-p	Pecos G-p	
Group F Types: (1625-1700)	Kotyiti G-p San Marcos G-p Cicuye G-p (?)	Yunque G/R Kotyiti G/R San Marcos G/R Cicuye G/R (?)	Kotyiti G/Y

Adapted from Mera 1935; Warren and Snow 1976.

CHARACTERISTIC SURFACE COLOR ON GLAZES FROM THE ACOMA AND ZUNI DISTRICT

Glaze Group/ Dates	Contrasting Slips	Red Slips	Yellow Slips
Early and Intermediate: (1275-1475)	Alpha I Poly	Heshotauthla Poly	Kwakina Poly
	Alpha-Beta Poly	Heshotauthla B/R	Pinnawa B/W
	Beta I Poly		Kechipawan Poly
	Beta 2 Poly		Alpha-Beta B/W
	Gamma I Poly		Gamma I B/W
Late: (1475-1700)	Gamma 2 Poly	Gamma 2	
	Delta I Poly (?)	Gamma 3	
	Delta II Poly (?)		
	Hawikuh Poly	Hawikuh G/R	

Adapted from Smith, Woodbury, and Woodbury 1966; Dittert and Ruppe 1965.

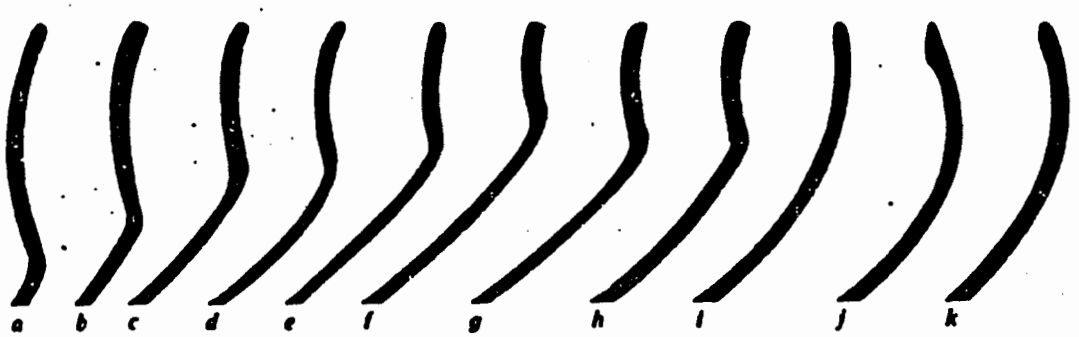
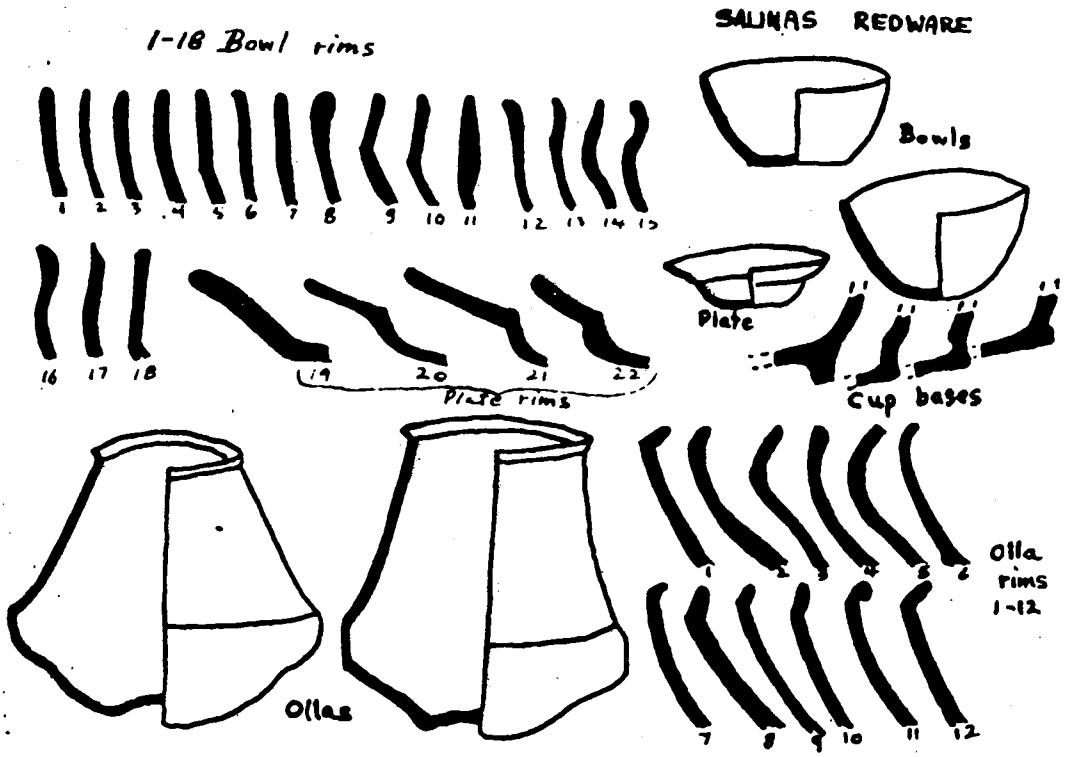


Fig. 85. Modern painted ware. Rim forms. *a-h:* High rimmed bowls. *i-k:* Plain rimmed bowls—the thickening of *j* is unusual. Height of sections about 3 inches.



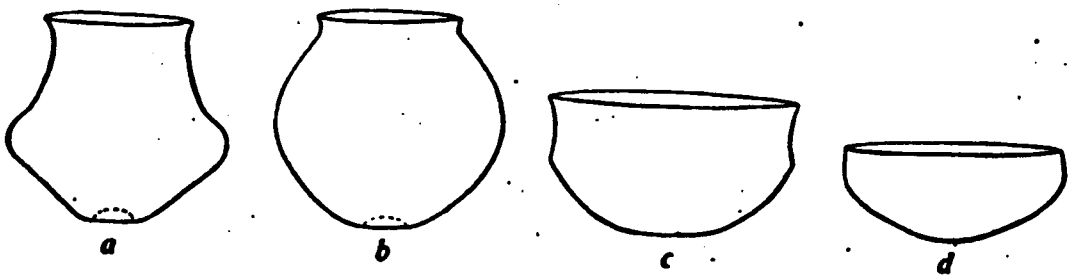
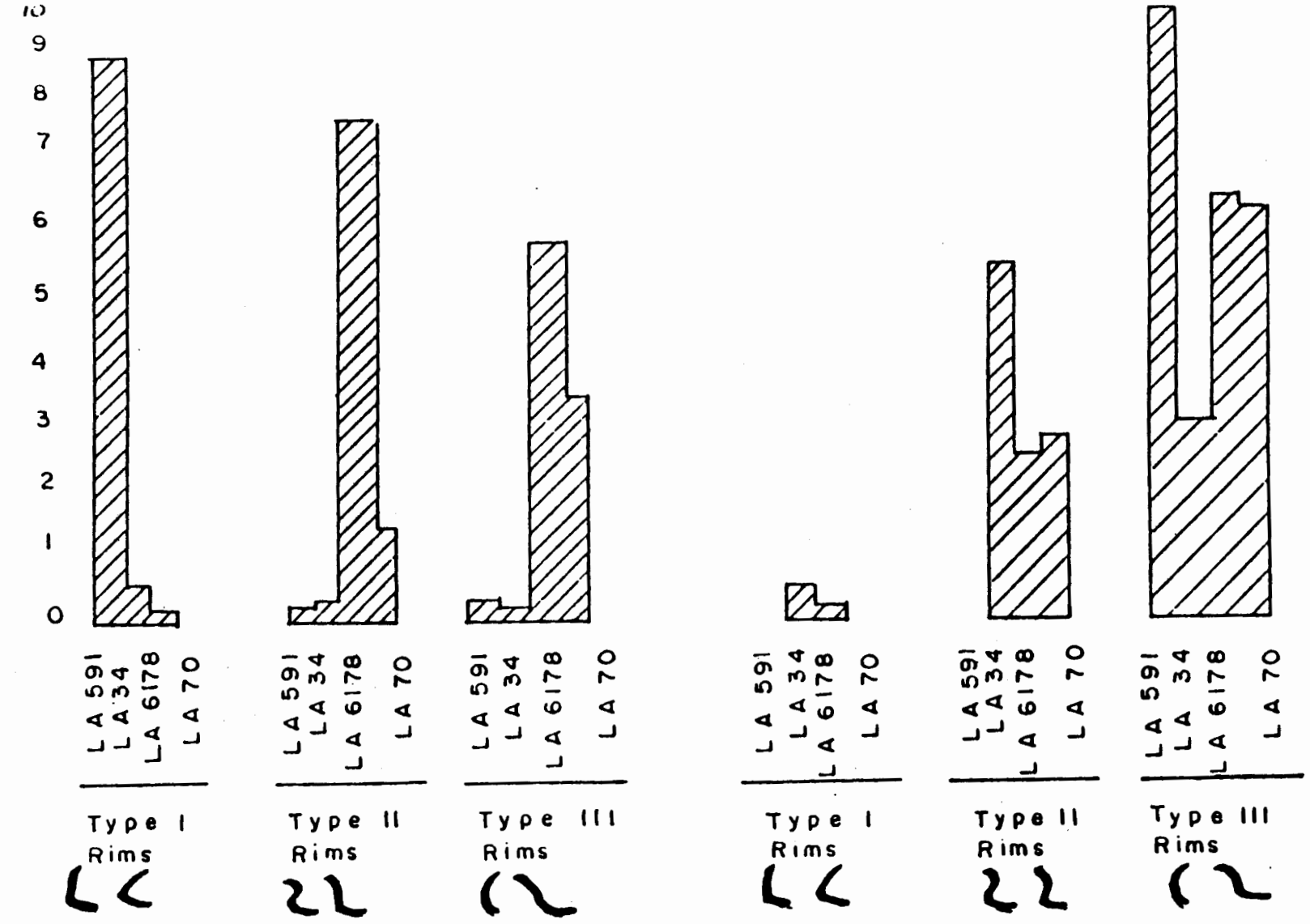


Fig. 84. Modern painted ware. Vessel shapes. *a:* High necked olla. *b:* Round bodied olla. *c:* High rimmed bowl. *d:* Plain rimmed bowl. Diameter of bowl *c*, 17 inches.



A. Percentage of Rim forms from Undecorated Bowls.

B. Percentage of Rim forms from Matte Decorated (non-glaze) Bowls.

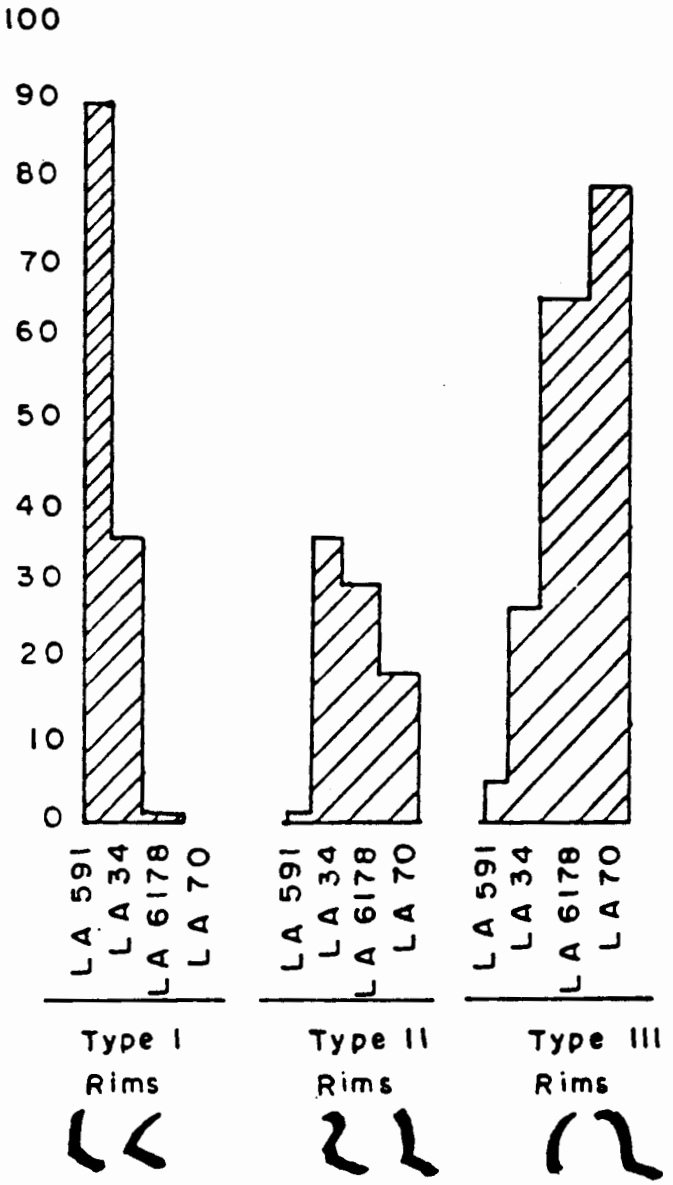


Figure E 3. Percentage of all Rim forms from four historic Cochiti area sites**

** LA 591 and LA 34 are 17th century Sp. Col. sites; LA 6178 is ca. 1700-1750; LA 70 is tree-ring dated to ca. 1780-1795+ (from Snow 1976).

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