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# AN OUTLINE OF YUMAN PREHISTORY

MALCOLM J. ROGERS

#### INTRODUCTION

THE FOLLOWING OUTLINE has been prepared to serve as a condensed version of a future and more detailed report on a Southwestern archaeological field of considerable geographic extent and cultural complexity; namely, that field in which the Yuman culture complex is thought to have had its origin, subsequent developments, and greatest diffusion. The explorations, field and laboratory researches requisite to an understanding and presentation of the subject have extended over a period of twenty-five years; as the results are as yet unpublished, formal knowledge of its nature has been unavailable. Then, too, work in contiguous fields whose cultural problems integrate with Yuman problems has been hampered. Because of this situation both the editor and the author believe that even a synopsis of what is known about a great Southwestern subarea will have its value.

Previously, available information on the subject has been limited to historic aspects, as that knowledge was gained through ethnologic and linguistic investigations among the surviving Yuman peoples. Some students, however, did not so delimit their data but projected it deep into the past in efforts to restore prehistoric stages. How successful those syntheses have been can be determined only by applying to them the yardstick of archaeologic fact, which in turn must be used with reservations due to the sometimes uncertain identity of the producers of the archaeologic evidence. This is a problem which becomes more perplexing with the increased antiquity of the evidence.

Ethnologic studies of the subject have produced a voluminous

literature and an understanding so complete that they preclude the necessity at this time to review such well known matters as: the geographic location of the various Yuman language groups of the Hokan family, the nature of their specific culture patterns, the focal center and character of the Yuman culture climax in the Colorado River valley and its relation to marginal manifestations of the complex. Therefore, the immediate need is to bring the reader's attention into focus with the prehistoric situation, whose study has disclosed a far different cultural and distributional picture.

In establishing a modus operandi which might lead to the restoration of Yuman prehistory every technique of analysis which had a bearing on the subject was utilized. If after making a coördinated attack on some specific problem it was found that two or more of the methods of approach produced the same result, that result was deemed to be the most probable solution. It must be said, however, that few problems having a greater antiquity than the protohistoric period yielded to this technique; and that the restoration in the main had to be devised through the synthesis of geological, archaeological, ethnological, and linguistical findings. These techniques have provided an hypothetical archaic horizon, thoroughly Californian in location and character, having an initial locale which was restricted to the Pacific slope of southern California, and with an as yet undetermined northern boundary. It seems culturally probable and linguistically even more probable that some two thousand years ago this area constituted the southernmost extension of the then statewide Hokan-speaking peoples. At this time all California, with the exception of its desert area, seems to have supported a rather uniform seed-gathering economy, supplemented with seafood-gathering in the littoral belt. The material culture pattern, although having a universal basic similarity, varied considerably in element composition and quality from zone to zone, a condition which can be most readily perceived through bringing together the archaeologic yields from different parts of the state. In general, simplicity and crudity of workmanship increases from north to south, attaining in Southern and Lower California the greatest degree of primitiveness, a condition which was undoubtedly due to the area being marginal to its ancestral hearth and farthest removed for many centuries from the points of ingress of foreign influence. The first departure from the archaic pattern came about some eight to nine hundred years later through the gradual easterly drift of Yuman groups across the Californian desert, a movement which culminated in the occupation of the valley of the Colorado River from Black Canyon south to the delta of the river. This brought about the first Yuman contact with Southwestern cultures and perhaps, on the northern periphery, with Great Basin influence. Those groups who settled near the confluence of the Colorado and Gila Rivers almost immediately, either through acculturation or merger with some already localized Gila-Sonoran group, turned to agriculture and pottery-making. Yuman culture was further enriched with new traits, whose number and method of acquisition archaeology has not as yet made clear.

Still bearing a California type of culture, which needed only the adoption of new implements to meet the exigencies of harvesting and preparing the foods of a different ecologic zone, the groups who reached the more northerly section of the Colorado valley for some reason hesitated longer in adopting the boons of Southwestern culture. Those who crossed the Colorado and kept up their easterly drift into the mountainous regions of northwestern Arizona never did completely divest themselves of their seed-gathering type of subsistence. Their descendants, as late as historic time, maintained a culture and a method of subsistence having much closer analogies to certain Yuman groups of the Pacific littoral than to the intervening river and desert groups.

It was probably at least five centuries after the peculiar river aspect of the Yuman culture had its origin, that the last major trends, which were to fix the mold of the entire Yuman complex for all future time, set in. It was also after the beginning of that epoch that much old terrain was abandoned and that the last Yuman expansion into new lands took place. In so far as culture alterations stemming from the Yuman stock were concerned, the changes were due to the spread of river culture, which in an attenuated form reached out as far as the old Yuman homeland on the Pacific coast. Some marginal Yumans, however, were more strongly influenced by foreign contacts.

In this manner the expansion and retraction of Yuman people left a trail of greatly diversified archaeologic debris over most of southern California, the southern tip of Nevada, the western half of Arizona, the northern half of Mexican California and even a portion of the Mexican west coast opposite Tiburon Island.

#### PART I. PRE-CERAMIC ORIGINS

Although the archaeologic field covered in this report is known through historic and archaeologic studies to have been occupied by the Yuman stock for hundreds of years, there is little evidence for allocating the local manifestations of a millenium ago to these people. Perhaps the best evidence for so doing lies in the widely spaced islands of Hokan-speaking groups, which extend from northern California, south into Lower California, western Arizona and Mexico, being separated by other linguistic wedges of some antiquity in themselves For example, Kroeber, using the specialization of languages as a diagnostic, has found it quite possible that the Shoshonean wedge extending out of the Great Basin to the southwest, reached the Pacific Coast as early as 1000 to 1500 years ago.1 This movement seems to have split the Yumans off from the Chumash, and was possibly contributory to the momentum which carried the Yumans across the California desert to the valley of the Colorado.

On turning to the pre-ceramic material evidence which the area has produced, we encounter difficult problems on every hand, difficult in that in most regions there is little to work with and no overall uniformity of culture pattern. The last factor is undoubtedly due largely to the great amount of territory involved, embracing as it does four radically different ecologic zones; namely, maritime, forest, desert, and major river valley. Following the abandonment of the area by the early hunting peoples there seems to have ensued a period during which much of the region was unoccupied. On the Pacific littoral of Southern California and Lower California there was no interval of nonoccupation, nor in a belt of terrain extending across the north half of the Mohave desert and into northwestern Arizona. However, farther south, the country extending from the Peninsular Range of Southern California and Lower California across the Colorado desert to the lower basin of the Colorado River

<sup>1</sup> Kroeber, Handbook of Indians of California, p. 278.

has produced no intervening culture of a definite nature between the last hunting pattern<sup>2</sup> and the beginning of the Yuman pottery complex in the river valley. When one considers the favorable habitat which the Colorado valley has continued to provide since the advent of man, this seems an improbable situation. As even remains attributed to the first phase of Yuman occupation in the valley are extremely scarce, due to the settlements having been located on the overflow plain of the river, it is possible that if there had been a pre-ceramic phase similarly located, the material pattern was of such a perishable nature that nothing of it has survived. This, however, does not explain the absence of any evidence in the terrain marginal to the valley.

On examining the patterns of the two areas mentioned as having produced evidence of occupation, probably of an early Yuman facies, we find at the beginning in the Pacific littoral an amazingly simple picture. Immediately after the disappearance of the San Dieguito people<sup>3</sup> with their excellent stone-flaking technic, a new stock with a seafood-seed-gathering complex and no ability to work stone moved in, probably from the north at the beginning of the Christian era. From this time on down until historic time the archaeologic history is well recorded in a succession of numerous shell-middens. Stratigraphic studies have established that the middens are of three different ages, but that only those of the last period are definitely of Yuman origin. The provisional name La Jolla culture has been given to the earlier cultural manifestation, and its two developmental phases are spoken of as La Jolla I and II. The material pattern of this culture is so poor that it seems necessary to conjecture whether the producers might not have been proficient in some of the perishable arts such as the wood and fiber crafts. However, even such decay-resistant objects as shell and bone artifacts are also absent. Apropos is the fact that Yuman material culture everywhere and even at its apogee produced but few skilled arts. Yumans may be considered to have attained their highest proficiency in the field of ceramics. Basketry, although well made by the Diegueño and certain eastern groups of Arizona, never equalled the products of the non-Yuman tribes of California; among the his-

<sup>2</sup> Rogers, Early Lithic Industries, p. 69.

<sup>3</sup> Rogers, op. cit., p. 70.

toric river tribes it was such a minor art that there is some doubt as to its having been indigenous. Some informants stoutly maintain that all baskets were obtained through trade. Perhaps this only indicates a late decadence brought about by a stronger emphasis on pottery-making. The local archaeology sheds some light on the problem in that, although it has not produced so much as a basket fragment, it has yielded coiled basketry imprints on pottery dating from the beginning of that industry. In the main, most Yumans adhered to the use of hardwood points throughout their history, stone points being made only by marginal groups; of these only the Northern Diegueño attained a high mastery in pressure flaking, their finely controlled flaking not being excelled by any aboriginal American group.

At the time of its inception the La Jolla material pattern, as known, consisted of: a basined metate, unshaped mano, a few primary flakes of stone, and an even lesser number of crude, beachcobble choppers. If the bow and arrow was used, the latter was tipped with a wood point. Unsegregated interment without mortuary offerings was the method of disposing of the dead. With time there came an increased use of the metate and an improvement in the flaking technic, although the pressure method remained unknown. New tools were invented and stone-flaking became as common as it was scarce in the initial phase. The La Jolla II pattern was evolved gradually through the agencies of technology and cultural enrichment, with the result that there is no abrupt change in the nature of the middens and their contents, except in instances wherein middens of the first and second periods are separated by natural formations. Consequently some middens which suffered few interruptions in their building present a slow cultural transition record from bottom to top. Sometime during the second phase, burials became more segregated and true cemeteries were formed. At this time trade connections were effected either with the Channel Island natives or an intermediate littoral people to the north, such as the coastal Shoshoneans, with the result that typical Channel Island shell beads and stone digging-weights were included with the burials, which were marked with one or more inverted metates.

The La Jollan people were a mixed physical group from the first.

Their burials provide both dolichocephalic and mesocephalic types. However, the ratio changed during the second phase in that the long-headed type became more rare. The early type (pseudo-Australoid) can still be found among the historic Diegueño of this area, but has little diagnostic value because the latter in post-Spanish times became hybridized through the Spanish bringing in foreign Indians from Lower California and other parts of Mexico. On the other hand the condition could have arisen through miscegenation during prehistoric time. As the Diegueño practised cremation previous to the Spanish era, no skeletal material of that period is available for comparison with that of the La Jollan people. Although some post-Spanish material has been obtained, we can not be certain that it duplicates the aboriginal Diegueño composition.

In accounting for the appearance of the Diegueño type of culture during the fifteenth century we have the choice of two theories: one, that the traits of cremation, pottery-making, use of stone arrowpoints and bone awls were the results of Colorado desert acculturation on a local Yuman group (La Jolla II); the other, that the culture was migration-borne by an actual movement of Diegueño from the desert to the coast. Although such innovations as these usually permit the proper allocation of their middens, Diegueño midden-artifacts are so few in number and the balance of their lithic pattern so similar to that of La Jolla II, that in some instances it is impossible to distinguish a La Jolla II midden from the Diegueño midden. This is especially true in Lower California where middens with a Western Yuman material pattern gradually diminish in number in a southerly direction until they disappear completely from the archaeologic picture in the latitude of Ensenada, even though in the Peninsular Range and particularly on the Gulf of California side, Yuman sites with pottery extend at least 120 miles farther south. Because of this condition it is apparent that there was a positional, consistent La Jolla II time-lag to the south on the Pacific littoral.

Returning to the other area mentioned as probably having produced a Yuman pre-ceramic phase—namely, the Mohave desert—we find ourselves on less doubtful ground. Extending from the western boundary of San Bernardino County across the desert to the Colorado River and into Mohave County, Arizona, the Amargosa

complex4 is replaced with a pattern which needs only the addition of native pottery to make it Yuman; an element which it eventually acquired.

During the initial stage the pattern in question is composed of the shallow-basined metate, unshaped mano, small round stone mortar, triangular knife, triangular arrowpoint, and bone awl. Trade to the west is reflected in the presence of Pacific coast shell jewelry and pelican-bone whistles. The house type, except for some details, is not known. It seems to have been a circular or oval brush-covered type with a basal retaining circle of rocks, and a flat to shallowbasined floor. Cooking was performed out of doors on cobblestone hearths. Although we have some data on burial practices and the physical type of the period, they are hardly adequate. Typical Yuman cremation cemeteries at two different sites in the Mohave Sink region have each provided a single interment beneath the cremation strata, without funerary offerings except for personal shell jewelry of Pacific coast origin. Both crania were mesocephalic types. This material evidence, suggestive as it is of a pre-cremation period, is corroborated by inference in a vague manner in most Yuman origin myths wherein the culture hero Matavilya is declared to have been the first man cremated.

The non-ceramic pattern in time became modified and enriched, until the aspect it presented eventually and throughout the latter half of its duration was more typically that of the Colorado River. There is some evidence that along with pottery-making, agriculture was practised in favorable places, as corncobs have been found associated with house sites of the ceramic period. The seat of the culture climax in so far as present knowledge permits determination, was in the Mohave Sink region, wherein the Mohave River, during a rather prolonged moist period, maintained at least two permanent lakes for several centuries. During this period a higher water-table and a more favorable climate than have been known since, prevailed throughout the entire Mohave desert. However, more data on that section of the Colorado River valley which lies across the eastern section of this field must be obtained before the ethnographic center can be located with certainty.

<sup>4</sup> Rogers, op. cit., pp. 61-69.

Fortunately the presence of dated intrusive Anasazi pottery types, characteristic of parts of northern Arizona, provide approximate inception and duration dates for the occupation. Although Lino Gray and Lino Black-on-Gray are the earliest types to occur, it is thought that they preceded the first Yuman incursion in that they and a few other Basket Maker III artifacts are associated chiefly with the local turquoise-mining industry.<sup>5</sup> The most widespread and common intrusive types occurring with the non-ceramic Yuman horizon are Deadman's Gray, Fugitive Red and Black-on-Gray. Judging from this and some other substantiating evidence, the inception date would fall sometime during the ninth century.

The importation of a wide variety of foreign pottery types from the Puebloid foci of northern Arizona and southern Nevada continued for several centuries; and because of the advantageous intermediary position occupied by the local group and the amount of shell artifacts the archaeology has produced, it is most probable that their principal mediums of exchange for pottery were Pacific coast shell and some steatite jewelry. Practically all the Nevada Puebloan pottery types are present, some as the result of trade and some left at temporary camps by the Pueblo groups from Muddy River in Puebloid occupation of this nature, however, did not penetrate California to any appreciable extent. Although the writer has had to study, name, and describe the types as a part of the local research, their further consideration here would not be of benefit to the purpose of this paper as they have not been dated. During these pre-ceramic times, all the Prescott Gray Ware types were traded for and are now found surficially associated to some extent with the first importations of early Yuman types from the Lower Colorado Focus. Although the latter outnumber all other intrusive types and are probably indicative of intimate relations between this Mohave desert center and the Lower Colorado Focus, the fact contributes little to a solution of the problem of whether or not the up-river people and the down-river people were at this time of the same stock. However, that matter will be taken up in the section dealing with the origin and development of the Yuman ceramic complex. Further evidence of weak contacts with the south and

<sup>5</sup> Rogers, Report of an Archaeological Reconnaissance, pp. 1-7.

southeast is that with the exception of shell frog-pendants no other Hohokam material has been found north of the latitude of Parker, Arizona.

The Mohave desert, in so far as a settled occupation is concerned, seems to have been abandoned around 1400 AD; at least, Jeddito Black-on-Yellow (dating from this period) is the latest trade type found in the local cremations. It is probable that small parties from the Colorado River continued to visit it occasionally for some time, but the increasing aridity and the expanding Shoshonean and Southern Paiute bands soon after made the Colorado valley a more favorable and a decidedly more hospitable habitat. Despite these conditions the Mohave-Pacific trail, which traversed the region from east to west, is known to have been kept open by traveling parties of Mohave men until historic times.

### PART II. ORIGIN AND DEVELOPMENT OF THE CERAMIC COMPLEX

When we seek to find the beginnings of historic Yuman culture and to reconstruct its pattern, our problem differs considerably from other Southwestern ones in that we have recourse to fewer avenues of attack. Archaeology at its best has its manifest weaknesses as an effective culture-restorative technic, and in this instance the approaches are unusually limited. Yuman ethnology has not penetrated nor cannot penetrate to any degree a thousand years of local history, nor can it be ascertained that it is relevant to what transpired during the better part of the prehistoric period. The approach through physical anthropology is completely denied us because of the practice of cremation, a practice which resulted in a very numerous people disappearing without leaving a trace of its physical composition. Furthermore, the living people of the Colorado River valley present a highly dubious anthropometric value because of several centuries of interbreeding with alien Indians and Europeans.

Although ethnology furnishes the proof that the river culture in its culminative period was based on a typical although modified Southwestern ceramic-agriculture complex, the archaeology of the

<sup>6</sup> Rogers, Aboriginal Culture Relations, pp. 1-6.

<sup>7</sup> Coues, On the Trail of a Spanish Pioneer, p. 237.

initial phase and most of the subsequent prehistory has provided but one aspect of this duality; namely, pottery. Nevertheless, being components of the Southwestern culture area, the early phases would be difficult to rationalize as non-agricultural, especially in view of the amount and the form-pattern of pottery produced. Although ethnologists working with the surviving tribes are in agreement, I believe, that the Mohave possessed the most energetic and elaborate culture (abstract and material) to survive until late historic time, it is probable that other tribes below them on the river had most to do with the origin and development of the Colorado River culture; and that the latter, either because of internecine wars or declining ability, became retarded sufficiently to permit the Mohave to raise the civilization to its climax. Certainly archaeology has shown that in early times the highest material culture was centered near the confluence of the Gila with the Colorado.

Thus we are brought to the critical point and immediate necessity of adopting an adequate name under which to marshal, present, and digest the archaeologic findings relative to the prehistory of the lower Colorado River basin and its marginal extensions, as well as to effect a logical connection with what in recent time has been called Yuman culture. As this term, so far, has been employed in the main for linguistic and ethnologic purposes and the general archaeology of the region has not as yet been presented under any term, a fortunate opportunity exists to avoid the nomenclature pitfalls which have created so much confusion in American archaeology.

Although Gladwin<sup>8</sup> as early as 1934 provided an archaeolgic name by inference, when he improvised the term Yuman Root in his Southwestern scheme for an over-all culture-designation system, he made no attempt to give the designation reality, except through equipping it with a meager group of elements collected during an earlier field survey of western Arizona. Furthermore, these elements were preponderantly those of a culture which bears little resemblance to that of the Colorado valley; namely, that of the Chino and Prescott Foci. This scheme appeared to be a frank attempt to make historic linguistic groups the originators of local prehistoric patterns. In this and other works he accounts for the

<sup>8</sup> Gladwin, A Method for Designation of Cultures, fig. 1.

differences between historic and prehistoric patterns by advancing the theory of cultural decadence, when conditions seem to him to indicate that necessity. Hence, in this instance, the fortuitous position of the Eastern Yumans made their ancestors the creators of the local archaeological remains.

Later on, Colton, through the use of new data on the area, was able to carry on the idea in a modified but more elaborate form, his chief departure being in taking exception to Gladwin's use of the word Yuman as an archaeologic culture term and substituting the term Patayan Root,<sup>9</sup> to which he gave a much broader geographic and cultural concept. Despite his objections to the word Yuman in an archaeologic sense he proceeds to use an historic Yuman pattern in a correlative study to validate his reason for merging Colorado River archaeology with the Anasazi and Hohokam marginal archaeology of northwestern Arizona. In this enlarged Patayan concept northwestern Arizona has provided practically all the material evidence, for the river contribution consists of a potsherd collection; furthermore, this collection is notably weak in indigenous wares but is numerically strong in imports from Arizona and Nevada.

The technique of making a single culture element serve in the capacity of a culture pattern was first employed in the Colorado area by Gladwin in 1930 when he extended the Hohokam culture into that area, solely on the basis of potsherd type distribution.<sup>10</sup> course the basic mistake was in not recognizing that the associated pattern was Yuman. However, even his ceramic pattern was distorted, probably because of unfamiliarity with the local indigenous types, certain of which have strong superficial resemblances to Hohokam types, especially the red-slip and burnished wares. This resulted in erroneous percentage counts of the culture types present; so that at the Bouse site, which has yielded a greater amount of intrusive Hohokam pottery than any other site in the lower Colorado basin, he got a Hohokam-Yuman ratio of 65:25, whereas my analysis not only reverses the situation but exaggerates the relative proportions. As the San Diego Museum's archaeologic survey of the Yuman area had progressed as far east as western Arizona in 1926, it

<sup>9</sup> Colton, Prehistoric Culture Units, p. 10.

<sup>10</sup> Gladwin, Western Range, table E:1, p. 144.

is only fair to record that the analysis of the Bouse site was approached with a more comprehensive knowledge of the Yuman pattern and the various pottery types involved.

Inasmuch as the writer hopes to be included in that category of workers in archaeology concerned more with facts than with quibbling over nomenclature, he regrets the necessity of having to choose the name under which his work must be presented. It would seem that in meeting this problem there are several factors to be considered. For instance, one should examine not only what the past associations in thought and especially in literature have been, but what the future may bring in discoveries which would render the term completely incongruous. Then, too, in this case there are marginal fields of archaeology which have certain relations as yet little understood. Some may be contemporaneous non-ceramic manifestations of the same people, others, earlier ancestral aspects. Although the procedure of using the geographic unit with which the culture phenomena are associated is probably the most desirable, the use of the term "Colorado River" in this instance would be inadequate in that the river valley is only the seat of the culture climax. To use either it or the word Patayan to describe Pacific coast archaeology would cause the utmost confusion.

My principal objection to the word Patayan is that it is presented as a cultural entity when the material evidence indicates that it is made up of ceramic fragments from diverse cultural complexes, in so far as the western marginal components are concerned. One example is the combining of potsherds of Nevada Puebloan origin (Boulder Gray), historic Mohave (Needles Red-on-Buff), and San Francisco Gray Ware.<sup>11</sup> On the other hand we have documentary evidence that the Colorado River valley was inhabited by Yumans as early as 1540 and archaeolgic evidence that a material culture similar to that period was in existence as early as the eleventh century. Therefore, I can not believe that any advantage is to be gained by discarding the word Yuman. Besides, there has already been built too great a literature about it. In using it for the local archaeolgy I would qualify that usage in but one way; that is, to point out that in presenting the subject in the form of three developmental phases,

<sup>11</sup> Colton, Archaeological Survey.

there is no intention to convey the idea that the people who produced the first ceramic phase spoke a Hokan language, for it is obvious that we shall never know. Yuman I archaeology, because of its present poverty and apparent uniqueness, must be considered factually and with a minimum of interpretation. If it presents elements or trends which show in the subsequent local horizons, those factors are believed to be indicative of acculturation in situ but by no means proof of an unbroken line of consanguinity in the peoples involved. At present, it would seem that the most that can be made of the evidence is that the cultural difference between Yuman I and II reflects a transitional step of little magnitude and that all three river-culture phases were based on a common economy.

Due to the extent of the territory involved (an area equal to one-half that covered by the Puebloan culture and greatly in excess of that of the Hohokam) surveys and excavations extending over a quarter century were necessitated to procure the information and material essential to the present status of understanding of the subject. The digest of the information so gained has resulted in the establishment of four archaeologic sub-areas of the Yuman complex: the Colorado Valley, the California Desert, the Western Area, and the Eastern Area. Within these large units, which are ecologically as well as archaeologically diversified, smaller culture foci have been recognized with their own peculiar histories and interrelations, all of which comprise a subject too complex to be dealt with under the restrictions of the present format. Therefore it has been thought advisable to concentrate on the prehistory of the Colorado Valley sub-area, wherein Yuman ceramics had its origin and all of its subsequent local developments are to be found.

Because the tribes of the Colorado and its confluent the Gila made their residence on the overflow plain and the islands, which were annually inundated, most habitational evidence has long since been obliterated. Few sites, even of the historic age, have escaped the ravages of flooding. Consequently, evidence relative to the earlier aspects has to be obtained mostly from outside the immediate environs of the river valleys. Spanish observers have recorded that during the summer flood months the river population dispersed in small units to favorable camp sites in the flanking desert mountains; archaeology indicates that during its earlier history even

larger migratory units moved back and forth from the Blythe valley to the delta. This is implied by the existence of well-developed trails which are strewn with thousands of broken vessels. Such trails in their better preserved sections produce a broken vessel in intervals of every ten feet, and even such heavy implements as metates are not rare associates.

On the trails over which long treks were made not only to make visitations and war, but to meet the exigencies imposed by seasonal adjustments, it was customary to erect trail-shrines, 12 usually at halfway points. These are composed of deposits of small stones, artifacts (mostly broken pottery), and dirt. In some instances they attained a volume of several tons and sufficient depth to be of stratigraphic value. It is from the trails, their shrines, and a few small cave deposits that all the information relating to the Yuman I phase has been derived. Thus it can be seen that in restoring the initial pattern and establishing variance or conformity within its subsequent growth, we are restricted largely to the use of one element, pottery. Furthermore, the possibilities for obtaining additional and more comprehensive data are negligible, for that could be obtained only by having a trained observer on duty during further development of the extensive canal-system of the river valley. Deep excavations of this nature have in the past produced some valuable evidence, as in one instance, what well might have been the house-type and method of burial during the first phase.<sup>13</sup> Invariably all such accidental discoveries have been brought to my attention too late to do more than gather conflicting stories as to what was seen and what became of the materials.

Before considering the origin of Yuman ceramics it is important to realize that indigenous, evolutionary series of types exist, and that the roots of recent manifestations are basically local in nature. Therefore the real problem is with beginnings. I make this point to off-set the occasional opinions which have been expressed in the past

<sup>12</sup> Rogers, in Jaeger, California Deserts, p. 128.

<sup>13</sup> I give a witness' report of this incident for what it is worth. In 1919, a dredge working on the Imperial Valley Canal intake near Andrade, Baja California, uncovered the remains of a burnt house of wattle-and-daub structure whose floor was beneath eight feet of river silt. Under the floor was an interment with two Red-on-Buff vessels. This find with a Gila-Sonoran aspect of culture, if it could have been properly recorded, would have proved invaluable.

regarding an Hohokam origin, wherein the authors compared historic Mohave Red-on-Buff to prehistoric Hohokam Red-on-Buff. Probably the opinion was conditioned by the coincidence of both people having used buff-burning clays and red-paint decorations, for in form and design painting there is little resemblance. It seems almost too obvious to suggest that it would have been better to wait until contemporaneous Yuman types were available for comparisons; yet the ill-timed guess was not exactly harmless in that it provided the idea that Yuman pottery was simply a marginal manifestation of Hohokam technicalities. With regard to Hohokam acculturation, it was found that even pottery-making can not be derived from that source, unless it came indirectly through an intermediate people.

The ever-growing accumulation of data has not tended to provide a solution, but actually to increase the complexity of the problem. Instead of finding a simple homogeneous product as one would expect at the inception of a new craft, we are faced with a product exhibiting so many incongruous cultural traits that it seems necessary to evoke at least two different lines of acculturation. In Yuman I pottery there are certain qualities which are characteristic of the Pueblo I and even Basket Maker III products of northern Arizona, such as the small-mouthed water olla with its chimney neck, heart-shaped body, and lug-handles. The collared tobacco pipe, fugitive-red wash, and punctate-incised technic of decoration are also present. In so far as is known, the Mogollon culture is the only other Southwestern culture to have produced the collared type of pipe with an all-over decoration of red paint. On the other hand, there are an equal number of traits, such as certain forms, red-onbuff decoration, body-incised decoration, burnished red slip, and paddle-and-anvil technique which point toward the Gila-Sonoran center. The fact that many of the properties are common to more than one major Southwestern culture renders them useless as diagnostics of acculturation. After eliminating all these characteristics there still remains a residue which seems unique. In this residue are certain forms, basket-molding, rim-notching, and the "Coloradoshoulder" (an acute bend of the shoulder wall on ollas and jars).

In making these comparisons the term Gila-Sonoran has been used instead of Hohokam because of the recently established Desert

Hohokam culture as exemplified by Withers' excavations at Valshni. As Vamori phase ceramics (800 AD) of the Desert Hohokam offer closer analogies to those of Yuman I than do those of the River Hohokam, an entirely new vista of approach has been opened. As Valshni lies two hundred and fifty airline miles southeast of the Yuman I center on the Colorado, much intervening archaeology must be found and digested before we can account for certain common traits in the face of the more numerous disparities. I find the greatest obstacle to overcome in accepting direct acculturation from this direction lies in the fact that no Desert Hohokam trade pottery older than Topawa Red-on-Brown (1100-1250 AD) has been found in Yuman territory. Our present information would seem to indicate the necessity of a third center which acted as an intermediary in the diffusion of those few things which Yuman I and the Desert Hohokam had in common. In view of the nearness of both to the Sonoran border the field of future research would seem to be indicated. Furthermore, there are some Mexican leads, such as the distribution of the offertory trail-shrine.<sup>15</sup> The custom of building these cairns has left an alinement of them from Central America throughout the length of the Mexican western cordillera to the northwest, where in emerging from Sonora they are found to extend into the basin of the Colorado and to end only at the northernmost limits of the Yuman territory. With regard to the origin and antiquity of this trait it is pertinent that many shrines in the Yuman area are pre-ceramic in age. 16 This has been determined from the fact that many are barren of sherds, while others yield sherds of the oldest types only in the crowns.

Judging from the present status of knowledge, the lower section of the Colorado valley at the time concerned was the recipient of ideas from several different centers and the exporter of few, if any. Although the Yuman I people ranged out and away from the river to considerable distances in some directions, their residence zone was a narrow strip of river valley extending from the delta up to the north end of the Blythe valley (map, fig. 1). On the Gila the occu-

<sup>14</sup> Withers, Excavations at Valshni.

<sup>15</sup> Alegre, Historia, vol. 1, p. 398; vol. 2, p. 217; Doc., 3rd series, vol. 4, p. 540; Beals, Comparative Ethnology, p. 127; Bennett and Zingg, The Tarahumara, p. 161; Lumholtz, Unknown Mexico, vol. 2, p. 282; Squier, Travels, p. 358.

<sup>16</sup> Rogers, Early Lithic Industries, pp. 11-12.

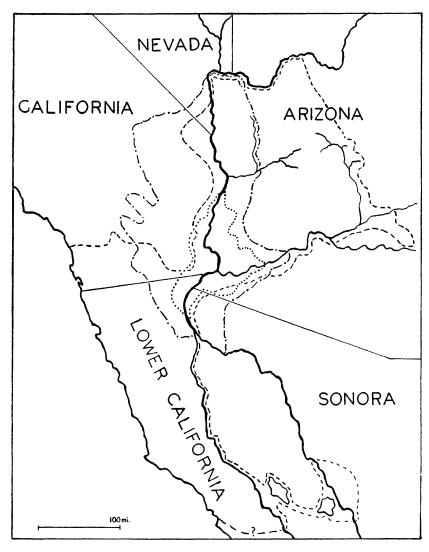


Fig. 1. Boundaries of maximum areas of Yuman I, dotted line; of Yuman II, dot and dash line; of Yuman III, dash line.

pational evidence is scant and thinly spaced, and has not been found upstream farther east than Palomas. Yuman I pottery types do not extend into the Hohokam territory, or if they do, they have not been recognized. Two of the very latest types have the greatest distribution and have been found as far away as the Mohave Sink, mixed with the melange of diverse cultural types hitherto described. The longest trade trails extended east to the Hohokam country, and the shortest southeast toward Sonora. If there was trade as early as 900 AD with the Pacific, it was over the Palo Verde-Coachella trail<sup>17</sup> where contact with coastal people to the northwest was effected through Banning pass in Riverside County, California. This trail can be traced today only as far as the Coachella valley, but it is reasonably certain that at some time during early Yuman history it did have greater extension, because of the occurrence of Pacific shells in its accompanying shrines. Although there has been found no definite evidence of contact with the Anasazi and Patayan centers, a few sherd types normal to these two areas have been found within the northeastern Yuman I boundary. As these are dated types, ranging from 1000 to 1200 AD, none could have been imported before the closing days of the first phase, and the majority would fall within early Yuman II time, if my local chronology is correct. More important to the subject is the fact that during the time range of Yuman I, all coeval intrusive pottery is of Hohokam origin and preponderantly of the Sedentary Period. Santa Cruz Red-on-Buff is the earliest type so far identified, although some Gila Plain sherds may be older.

No Hohokam sherds, except a few late ones, have been of benefit in attempting to set the inception of local pottery-making, as they have not been found in sub-surface positions. The only Hohokam types found in a stratigraphic section were of the Classic Period. In one trail-shrine, whose contents ran the gamut of Yuman I types, Casa Grande Red-on-Buff sherds were found in the surface layer. Using these data, it seems valid to set an initial date for Yuman I somewhere in the ninth century. It is thought to have ended *circa* 1050 AD.

Except for shell work, other elements of the early culture have

<sup>17</sup> Rogers, Aboriginal Cultural Relations, no. 2 on map.

been of but slight service in determining alien relations and influence. All shell used was of Gulf of California origin. All Glycymeris bracelets are what Haury has described as the Hohokam (C) type, a type which appeared in late Sedentary time. Conus tinklers, pecten pendants, and all the other forms of the shell-art are definitely of the Gila-Sonoran genre. Their gravel intaglio-pictograph could without much stretch of the imagination be interpreted as being allied to Southwestern ground painting. If it is, it might well be the ancestral form of the latter, for this peculiar type of work which is found throughout the arid parts of the Yuman area has an origin far earlier than the period herein dealt with. All the known pattern elements are presented in Table 1, but in correlating them with the richer Yuman II and III archaeologic patterns, only those elements of the last two which are analogous to the Yuman I pattern are listed.

During the first period it is quite evident that the river valley was divided into two definite spheres of foreign contact: that section lying to the north of Parker had its connections with the Pacific and certain Puebloid centers, and that section down-river from Parker with the Gila-Sonoran zone. The absence of any reflection of Pueblo pottery influence on the up-river pattern is most remarkable. When pottery-making was taken up at the beginning of Yuman II in that area it was strictly in the Yuman, or down-river, tradition.

The close of the initial phase marks the only break in the even tenor of the river culture development. As we are limited in gaging the degree and nature of the change mostly to observation of the alterations in pottery-making, the dislocation may have been greater than appears. This interruption offers the strongest reason for hypothesizing a non-Yuman beginning for the complex. The rather abrupt disappearance of certain types and treatments might be construed to be the result of some powerful sociologic change such as the coming of a new people into the field; or on the other hand, as simply due to one of the internecine wars which were so prevalent among the later river tribes. Some pottery types went through a transition so subtle that making a distinction between potsherds and

<sup>18</sup> Haury, in Gladwin, Haury, Sayles, and Gladwin, Excavations at Snaketown, p. 142.

<sup>19</sup> Rogers, Early Lithic Industries, pp. 9-16.

TABLE 1

Yuman Archaeologic Elements: Colorado River Focus					
Periods					
	Yuman I	Yuman II	Yuman III		
House types	? Caves (camping)	Circular, domed brush walls  Caves (camping)	Dirt-covered pole walls (winter); circular, domed, brush walls (summer) Ramada (summer) Caves (camping)		
Hearth	?	Circular (clay wall)	Circular (clay wall) Clay cone rests		
Metate	Flat, unshaped (from camps only)	Flat, rectangular, shaped	Flat, rectangular, shaped		
Mano	Flat, unshaped Single handed (from camps only)	Flat, rectangular, shaped. Single and two handed	Flat, rectangular, shaped. Two handed		
Mortar	3	3	Wood		
Bedrock mortar	?	+	+		
Jewelry	Pendants, bracelets, tinklers, beads. Gulf of California shell	ants. Gulf and	Beads and pendants. Gulf and Pacific shell. Bone and wood nose pins		
Pottery	Basket molded Modeled (small pieces) Paddle and anvil	Modeled (small pieces) Paddle and anvil	Modeled (small pieces)  Paddle and anvil		
Sherd disk	+ Plain	+ Perforated	+ Perforated		
Pipe	Conical clay	_	_		
Basketry	Coiled	?	Some coiled		
Arrowpoint	? (no stone)	? (no stone)	Hardwood—some stone up-river		
Cobble chopper	+	+	+		
Flake scraper	+	+	+		
Gravel pictographs	+	+	+		
Trail shrine	+ (food offering)	+	+		
Petroglyphs	+	+	+		
Disposal of dead	?	Cremation (ungath- ered ashes)	Cremation (ungathered ashes)		

TABLE 2

Correlation of (		Periods: Colorado	River Focus
	Perio Yuman I	ods Yuman II	Yuman III
Olla	+ (SM) (DW)	+ (WM) (RW)	+ (WM) (RW)
Canteen	+ (DW)	+ (RW)	+ (RW)
Seed jar	+ (DW)	+ (DW)	+ (RW)
Jar	+ (DW)	+ (RW)	+ (RW)
Bowl	+ (DW)	+ (RW)	+ (RW)
Scoops	+ (DW)	+ (DW + RW) (TH)	+ (DW + RW (TH)
Tray	<b>-</b> (?)	+ (DW)	+ (DW $-$ RW
Pipes	+	_	_
Effigy heads on scoops	+ (I) rare	+ (CBE)	+ (CBE)
Effigy forms	+ rare	+	+
Rims	rounded	flat	flat
Lug handles	+ rare	_	_
Loop handles	+ rare	_	_
Stucco finish	_	+	+
Colorado-shoulder	+	_	_
Rim notching	+		_
Incised decorations	+	_	_
Cylindrical neck coils	+ rare	+ rare	
Reinforcing rim band	_	+	+
Burnishing	+	_	_
Red slip	+	_	
Red wash	+	+	+
Red on Buff	+ rare (?)	+	+
Black on Buff		+ rare	+ rare
Red on Red		+	+
Black on Red		_	+
Design elements	(G + Z) (?)	(G + Z)	(G)
SM-Small mouth WM-Wide mouth CBE-Coffee bean eye	DW-Direct wall RW-Recurved wall	?—No stratigraphic e	Z-Zoic

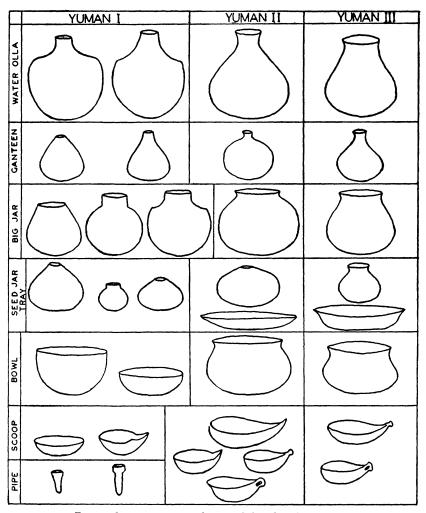


Fig. 2. Common pottery forms: Colorado River Focus.

even whole vessels of the Yuman I ancestral type and the Yuman II version is often impossible. Therefore, the change in the totality of the ceramic art is one of discontinuance of certain treatments and forms with the introduction of new forms, treatments, and painted designs. The ceramic details are presented in Table 2 and Figure 2.

Of the three divisions, the second period (Yuman II) is believed to have endured the longest, possibly from 1050 AD to 1500 AD. These are arbitrary dates arrived at through the use of diverse complementary data too involved to present at this time. With the beginning of Yuman II an era of rapid diffusion of pottery-making, with the probable expansion of Yuman groups, into new territory took place. Up-river the industry spread as far north as Black Canyon, possibly as early as 1150 AD, as some Yuman II trade pieces appear in the closing phase of the Puebloan occupation of the Muddy River Valley.<sup>20</sup> From the upper Colorado it soon afterward spread westward throughout the north half of the Mohave desert, adding the trait to the local non-pottery pattern which has been described above.

Throughout this period pottery-making continued to lag behind Yuman expansion away from the river into western Arizona; archaeology has also shown, however, that the Yuman non-ceramic expression had but little more momentum. In fact few Southwestern zones, comparable in area, have produced less occupational evidence than has Mohave County, Arizona (adjacent to the Colorado), if its extreme eastern margin is omitted. That there was some attempt at this time to expand or raid in Patayan territory may be indicated by the north-south alinement of fortified positions<sup>21</sup> which fringe the margin of the Aquarius Plateau. In the Gila valley, on the other hand, a more easterly penetration was effected, probably as far upstream as Agua Caliente. Again we find forts, 22 this time of the Sells Phase culture, at Gila Bend, blocking the eastward expansion of some group. As an exacting survey of the lower Gila region has failed to produce any archaeologic evidence of a non-Yuman nature in the vicinity of the western Sells sites, we can only ascribe these forts to necessary protection against Yuman aggression.

<sup>20</sup> Harrington, Archaeological Explorations, pp. 24-25; Rogers, field notes.

<sup>21</sup> Colton, Prehistoric Culture Units, pp. 30-31; Rogers, field notes.

<sup>22</sup> Lumholtz, New Trails in Mexico, p. 337; Rogers, Remarks, pp. 23-24.

Below the delta, on the inhospitable shore of the Gulf of California, no indication of a southerly expansion has as yet been found. On the other hand, the hitherto forbidding Salton Basin to the west (a depression below sea level) was suddenly transformed into an attractive habitat by an incursion of the Colorado River and the creation of the large fresh water Blake Sea.23 Colonists from the river gradually spread completely around its three hundred miles of This phenomenon seems to have had its inception slightly before the close of the first period, as a few late Yuman I sherds have been found intermixed with the local Yuman II types on the east shoreline. Although the Blake Sea strands and their associated archaeologic deposits testify to a complex history of surface-level fluctuations, the slight interruptions in the flow of the Colorado were not of sufficient degree over a period of four centuries to alter the size and salinity of Blake Sea to the extent where its waters ever became undrinkable. Somewhere around 1450 AD, however, it either became extinct or so saline that it was no longer potable.

In comparison with the first period, the second period archaeology has provided an abundance of evidence, especially more of the subsurface type; but again this has come largely from the lands marginal to the river and even farther removed. In the immediate valley such part of the material culture as has been recovered is still too overwhelmingly ceramic in nature to present an adequate concept of the culture as a whole.

The cultural origins and sequence of pottery types within the entire Yuman II area have, with the exception of those of one subarea, been fairly well determined. The main problem is connected with an up-river group of brown-wares whose distribution lies in an east-west belt across the Colorado from northwestern Arizona to the western margin of the Mohave desert. Somewhere near the beginning of the period appeared the first of this series of brown types, which were later to proliferate but not from a common hearth. Most if not all of these types seem to have been made of residual clays and their distribution from the earliest times was divided by a band of typical gray and buff-burning sedimentary paste-types on

<sup>23</sup> Rogers, Early Lithic Industries, p. 4.

the Colorado River. Because the pastes employed present a confusing similarity, very little headway has been made toward solving their origins, sequence, and peculiar overlapping distribution. Although thousands of potsherds are available for study, it has been the inability to find sufficient stratigraphic deposits and restorable pottery for form-studies which has kept the solution of these problems in abeyance for many years. The only intact specimens<sup>24</sup> to have been obtained from this great expanse of terrain have not proved of much value for comparative study, even though their origin is known. As they are historic and proto-historic vessels of Cahuilla origin, from the extreme western margin of the field concerned, they have little or no bearing on the provenience of the earlier brown wares.

All attempts to make a satisfactory analysis on the basis of current information, derived in the main from the sherds themselves, paste differences, rim types, surface treatments, and manufacturing methods, have failed. The principal cultural implication found in their study is that at least two different sources are involved, for both modeling by scraping and paddle-and-anvil techniques are represented. From a few stratigraphic excavations of cave deposits marginal to the Mohave valley, I have learned that one or two of these brown types were contemporaries of Pyramid Gray<sup>25</sup> and Topoc Buff<sup>26</sup> which are Yuman II types; also that some "browns" were made as late as historic time. These are such late contributions that only Walapai or Chemehuevi origins can be considered. Colton has named, described, and dated several of the "browns"<sup>27</sup> and I have done the same, yet it is not at all certain that the names are not synonyms. Certainly their cultural affinity is as yet a guess.

The beginning of the Yuman III period is marked by several population shifts, some of which must have been of considerable magnitude and rather abrupt in nature. Apparently, the extinction of the Blake Sea and the lakes in the Mohave Sink, as well as the passing of favorable living conditions in general throughout much of the California desert area, were all closely related in time. Of

<sup>24</sup> Campbell, Archaeological Survey.

<sup>25</sup> Colton, Archaeological Survey, p. 15.

<sup>26</sup> Ibid., p. 13.

<sup>27</sup> Ibid., pp. 8-12; Rogers, manuscript "Yuman Ceramic Types."

necessity the Colorado valley, from Black Canyon south to the delta, had to provide the major haven for these migrating desert groups and its ecology the additional strain of the sudden increase in population. It is even possible that the historic arrangement of the two well-marked speech groups,<sup>28</sup> designated as River and Delta by Kroeber, took location as early as this, but not without a certain amount of subsequent shifting of boundaries and positional jockeying about of the members within a group. After the first recording of tribal position, some four hundred years ago, few subsequent recordings, even at intervals of a few decades apart, agreed with previous recordings. Undoubtedly some of this disagreement was due to later observers employing different names for the same tribe, thus causing it to appear that the old locales were held by new tribes. Spier has well shown that speech-group dislocations were in effect as late as the first half of the nineteenth century when two Delta groups, the Kahwan and Halyikwamai, joined a River group, the Maricopa, on the Gila River.<sup>29</sup>

For gaging the effect of the impact on river society we are again, as with past problems, furnished with next to nothing by archaeological remains of circa 1500 AD, for we are still largely dependent on ceramic evidence. The latter indicates no disturbance nor accelerated transitional effects, probably because the return of a marginal form of the art to the older center had to adapt itself to a new economy and shed its specializations. It is only the accelerated expansion of Yuman boundaries to the east during Yuman III times which seems to give expression to the changed river conditions, for by the sixteenth century the Walapai-Yavapai speech group in its easterly expansion had moved halfway across the state of Arizona. A complementary movement by old river groups up the Gila valley culminated historically in the Maricopa reaching the vicinity of Phoenix.

Thus it is seen that the abandonment of the California area west of the Colorado caused an equidistant surging out into new lands east of the river. The former area was never again to be a

<sup>28</sup> Kroeber, Classification.

<sup>29</sup> Spier, Yuman Tribes, chapter 1.

<sup>30</sup> Based on the assumption that the Cruzados of Espejo (1582), Farfan (1599), and Oñate (1604) were the Yavapai.

Yuman residential zone. In the Mohave desert, Shoshoneans moved in from the west and Paiute bands down from the north, while farther to the southwest the Serrano and Cahuilla penetrated somewhat into old Yuman terrain; but as far as residence was concerned much of the desert remained foreverafter a no-man's land.

This readjustment was general in its scope, for the drying of the Blake Sea impelled the inhabitants of the west shore also to find new living room. Although desert Yumans had perhaps caused some pressure to be felt on the population of the Pacific slope of American and Mexican California slightly prior to this time, the sudden impact caused by large groups leaving the west half of the Colorado desert was transmitted into a less leisurely migration than that practised earlier. As the Pacific littoral to the north was already blocked by the Shoshoneans, the flow was directed principally into the Lower California peninsula, whose central mountainous area had but a meager pre-Yuman population if archaeology is The La Jolla people's habitat was confined to a thin Pacific frontage, and the war-like Yumans should have met with but slight opposition in driving them into the southern half of the peninsula. As the peninsula continues to narrow to the south and subsistence sources become critical in the latitude of 30°, overcrowding may well explain the peculiar position and culture of the Seri. Kroeber's ethnologic hypothesis31 suggests a former peninsular habitat, and I find nothing in the archaeology of Cochimí territory which is inimical to that theory except the absence of certain Seri elements. Most of these elements in which Seri differ from Cochimi, if not all, as has been shown, could have been acquired from the Mexican mainland.

In this manner and before the end of the third period, which began as prehistory and ended as history, the Colorado River culture attained its greatest migration-borne diffusion. Through acculturation, however, some of its elements passed well beyond its ethnographic boundaries, as has been shown in various ethnologic studies. Among these the greatest material contribution was pottery to such aliens as the Chemehuevi and certain Shoshoneans of Southern California.<sup>32</sup> On the other hand, river culture on the periphery

<sup>31</sup> Kroeber, The Seri, pp. 5, 49-50.

<sup>32</sup> Rogers, Yuman Pottery Making.

became considerably enriched through borrowing and inventing to meet the demands of new environments, and diluted through discarding non-essential elements. In the sphere of invention, the most astonishing feature was the development among the Northern Diegueño of a mortuary practice paralleled only by the Hohokam and at a far earlier date. This was the use of the cinerary urn with similar Hohokam accouterments. The local cremation cemeteries in Diegueño territory have provided the evolutionary stages leading to it, and glass beads its dating at the end of the eighteenth century. Therefore it is reasonable to believe that the abstract portion of the marginal culture contains more ancient elements than does the material portion. Knowing nothing of the former in its original form, we are left with the meager material yield from the Yuman I horizon for making comparisons. Perhaps because of this restricted knowledge, few Yuman I elements have been recognized in the richer archaeology of the western periphery, which conforms as would be expected, more closely to the intervening desert pattern. Among the Yuman I elements are the hardwood arrowpoint in Lower California and the more decisive ones to be found in Diegueño ceramics; namely, basket-molding, rim-notching, incised decorations, and certain red-paint design-elements, all of which disappeared from riverine ceramics at the end of the first period. That these are true residual traits is attested through finding them in the Yuman II ceramics of the Colorado desert, which provided an unbroken corridor for their transmission both in time and space. Here, too, and on the western periphery, the trail-shrine persisted.

The Yuman archaeology of western Arizona, at least in the sections distant from the Colorado and Gila, is notable for its poverty and spottiness. What it has produced is so meager that one could readily be led to believe that the Eastern Yumans had not held the territory longer than for a few generations. Probably no comparable area in the Southwest has so little to offer the prehistorian. Judged, however, through the mediums of linguistics, ethnology, and even history it is obvious that the occupation was of some antiquity. The archaeologic illusion is no doubt due to a small nomadic population, which possessed little of a non-perishable nature. It is even doubtful that the various groups, with the exception of the Walapai, made pottery before historic time, for on the

campsites of the former the potsherds, other than those of Colorado trade types, are of non-Yuman origin. Even Walapai potsherds, which, as Tizon Brown Ware,<sup>33</sup> I believe Colton views as pertaining to the Patayan Root, are by no means plentiful as compared with the amount of potsherds to be found in other Yuman centers. Thus it can be seen that the eastern periphery, with the exception of the Gila-Sonoran zone, offers next to nothing which could contribute to the solution of early riverine culture origin, and in so doing, adds more problems to those already known through ethnologic research. As an example we have the weakness and possible absence of pottery-making in some eastern Yuman areas, although surrounded on all sides by early centers of pottery-making. The leads provided both by archaeology and ethnology for determining the early habitat and basic culture pattern of the Eastern Yumans all point to the upper valley of the Colorado and the Mohave desert.

After coördinating all the available data which are relevant to a solution of Yuman I origins, it would seem that but two hypotheses could be derived therefrom, neither of which I am prepared to advocate until more evidence of a vastly superior weight is forthcoming. There is the idea of an advanced southern band of Hokan-speaking people arriving in the lower Colorado valley, who shortly afterward took up pottery-making with a culturally incongruous group of traits—traits derived from centers so far afield that it would take considerable credulity to accept the theory. The second hypothesis is that of a non-Hokan people coming into the area from the Gila-Sonoran field, carrying the same peculiar collection of technologic traits, who around 1000 AD were absorbed by an incursion of true Hokans.

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<sup>33</sup> Colton, Archaeological Survey, pp. 8-13.

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