

The Development of Cultural Sequences in the Mojave Desert: The Contributions of Malcolm J. Rogers

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Abstract

Malcolm J. Rogers was one of the first archaeologists to work extensively in southern California, including in both the Mojave and Colorado deserts. He faced many challenges in these efforts—a lack of funding, an archaeological terra incognita, harsh climate, rugged terrain, and less than efficient transportation. He also lacked modern archaeological tools, such as radiocarbon dating. Nevertheless, Rogers was able to propose a general outline of prehistory that, although since altered in detail and precision, is still broadly accurate and widely cited. An outline of his contributions to the development of the chronology of the Mojave Desert is presented in this paper.

Introduction

Malcolm J. Rogers was a pioneer, among the first archaeologists to work extensively in southern California (see Hanna 1982; Carrico 2008). In spite of the many hardships in doing fieldwork and issues in data collection and record keeping (e.g., Warren and Schneider 1989), Rogers laid the groundwork for the archaeology of a number of regions, including the Mojave Desert.

The primary goal of Rogers' research was areal synthesis (Hanna 1982:407). Rogers had a strong ethnographic interest, and he used the direct historical approach (Strong 1941; also see Warren 1998:15) in his evaluation of later prehistory. He developed a "fully systematic approach" to his fieldwork (Hanna 1982:401) that included field survey, collection management, trenching, and development of artifact

typologies. Trained as a geologist, Rogers relied on surface materials, and he based his cultural sequences, at least partly, on horizontal stratigraphy that revolved on associations with lakes and springs and the presence or absence of certain artifact types (e.g., pottery). Interestingly, however, his southern California coastal sequence was built from and confirmed by his stratigraphic excavations at the Harris site.

It seems that Rogers' primary goal was to discover the sequence of cultures (rather than denoting simple temporal periods), and he appears to have been more interested in the people behind the assemblages than in the absolute ages of the assemblages themselves. Only reluctantly did he assign "dates" to the Mojave Desert sequence (Rogers 1939:Plate 21). In 1939 he believed that people had only been in North America for a few thousand years (the "short chronology"), so the dates he assigned are now known to be much too late. Irrespective of the dating, the general sequence proposed by Rogers continues to influence our understanding of Mojave Desert prehistory.

Rogers commonly employed the terms "phase," "industry," and "complex" in his definitions of archaeological entities or cultures. He defined these classificatory units using specific artifacts to mark phases of an industry, and then he combined several industries to form a complex (Hanna 1982:381) but did not necessarily intend these classificatory entities to reflect temporal or even cultural constructs. These terms continue to be employed in California archaeology today, albeit

with different meanings, so it is important to account for the change in lexicon.

Regional Chronologies

Rogers worked extensively in three major regions of Alta California—the San Diego coast, the Colorado Desert, and the Mojave Desert—and developed basic chronological models for each of these regions. In the San Diego area, a modified version of his basic chronology is still used (Sutton and Gardner 2010) but is not without its critics. In the northern Colorado Desert of California, a new model to replace that of Rogers has only recently been proposed (Sutton 2011).

The development of Rogers’ Mojave Desert sequence (Figure 1) is discussed below. The Mojave Desert generally occupies the northern portion of the California desert but includes portions of southern Nevada and western Arizona. It is a region of very dry landscapes but with a number of fossil lakes and rivers, indicative of a much wetter past.

The Development of Rogers’ Mojave Desert Sequence

About 1925 Rogers began to reconnoiter the Mojave Desert, primarily the central Mojave Desert, to gather information for use in the construction of a cultural chronology. No previous work had been done in the Mojave Desert with this objective, so Rogers was essentially encountering an archaeological terra incognita. Rogers did not conduct any systematic survey (in the contemporary archaeological sense) (see Warren 1998:15), but he discovered many sites and described many landscapes. Artifacts were found, collected, or noted; associations with natural features (e.g., springs or lakes) were made, and a model of chronology emerged. Only occasional small excavations (“test units” in the contemporary archaeological lexicon) were made, mainly due to the general absence of large stratified site deposits and the presence of sites that contained numerous surface artifacts (Warren 1986:1–1). Lacking vertical stratigraphic data or chronometric dating, Rogers utilized horizontal stratigraphy, artifact

Figure 1. The evolution of Rogers’ Mojave Desert chronology and the current Mojave Desert sequence.

| Rogers’ 1931 Chronology | Rogers’ 1939 Chronology | Rogers’ 1945 Chronology | Rogers’ 1950 Chronology | Rogers’ 1966 Chronology | Current Mojave Desert Sequence (Sutton et al. 2007) | |
|-----------------------------|--------------------------------|----------------------------------|-------------------------|---|---|------------------|
| Eolithic | Malpais Playa I Playa II | | San Dieguito I | San Dieguito I | Pre-Clovis (hypothetical) | |
| | | | San Dieguito II | San Dieguito II | Paleoindian | |
| | | | San Dieguito III | San Dieguito III | Lake Mojave | |
| | Amargosa I (Pinto) | | | Pinto (and Deadman Lake) | | |
| | Amargosa II (Gypsum) | | | Gypsum | | |
| | Amargosa III | | | Anasazi (Rose Spring in the western Mojave) | | |
| Basket-Maker | Amargosa II | Basketmaker III | Basketmaker III | | Patayan I Patayan II Patayan III | Late Prehistoric |
| Desert Mohave Chemehuevi | Yuman/ Shoshonean | Yuman I Yuman II Yuman III | | | | |

types (many of which were first defined by Rogers), and geomorphic associations to construct a relative chronology. Among his earliest efforts was an attempt to discover the people responsible for the turquoise mining in the Halloran Springs area (Rogers 1929), whom he identified as Puebloan.

The 1931 Chronology

Based on his work from 1925 to 1930, Rogers proposed but did not publish his first cultural sequence for the Mojave Desert (Rogers 1931; also see Warren 1998:19–20). This sequence (Figure 1) consisted of four archaeological cultures, the first of which, “Eolithich” (Rogers 1931:7), included all materials from initial human occupation up to “Basket-Makers of Nevada,” after which came “Desert Mohave” and finally “Chemehuevi.” All Rogers’ archaeological cultures were assigned to fairly recent times.

The Eolithich (Rogers 1931:6–7) was “the first [earliest] evidence of prehistoric man” and was characterized by a “widespread chipped-stone culture of primitive technique.” Eolithich sites were to be found on gravel terraces in both the Mojave and Colorado deserts of California, Nevada, and Arizona, generally along the edges of the major river valleys but “occasionally outside the river basin on gravel mesas.” Characteristic of the heavily patinated artifact assemblage were “hand-choppers” and “percussive flakes” of “chert, felsites, quartzite, and chalcedony,” and an “absence of such stone forms in the other local cultures.”

Sites of the Basket-Makers were located along the shores of dry lake beds and at the turquoise mines. Artifacts characteristic of this culture were “atlatl dart points” and “BM III pottery” (Rogers 1931:7–8). Exploitation of turquoise was a major activity (also see Rogers 1929).

The Desert Mohave were a “branch of the Yuman stock,” who had occupied the area “as early as Pueblo

II or III times” (ca. AD 1000) (Rogers 1931:8). The Desert Mohave were identified based on sites containing “Mohave” pottery, Pacific Coast shell beads and ornaments, and cremations found in “cremation cemeteries” and as isolated mortuary features. Rogers (1931:9) thought that the Mojave Sink “seems to have been the locus of Desert Mohave villages” and further noted that the “Mohaves abandoned this desert area about the time of the seventeenth or eighteenth century to the Chemehuevi.”

The Chemehuevi, who followed the Desert Mohave (Rogers 1931:10; also see Lerch 1985), were identified by a sparse material culture consisting of an undefined “certain type of arrow point,” possibly some stone mortars, and the “freshest” petroglyphs that were “zoic” in form. Rogers (1931:9) noted that the “Mohaves abandoned this desert area ... to the Chemehuevi” (see Sutton 1986, 1994).

The 1939 Chronology

By the early 1930s other archaeologists such as Mark Harrington and Elizabeth Crozer Campbell had begun working in the Mojave Desert and had their own ideas about modeling Mojave Desert prehistory. Of particular note was the work of Elizabeth Crozer Campbell and William H. Campbell who had conducted major efforts at Pinto Basin (Campbell and Campbell 1935) and Lake Mojave (Campbell et al. 1937; also see Campbell 1936). The Campbells argued for a Pleistocene age for the Lake Mojave materials, although no method to determine their precise age was available at that time. Rogers did not agree that these materials were as old as the Campbells had suggested, and his position was generally accepted by the archaeological community (see discussion in Warren 1998:22–23).

Rogers (1931:7) had written that a report on his Eolithich culture was in preparation. It is possible that this manuscript formed the basis of his 1939 treatise *Early Lithic Industries* (Rogers 1939), in which he pub-

lished a general outline of Mojave Desert prehistory (Figure 1). It also seems possible that the publication of *Early Lithic Industries* was spurred on by his desire to respond to the work of Elizabeth Campbell, as Rogers included considerable criticism of Campbell's work (see discussion in Warren 1998:21–25). The time covered by his general Eolith culture was filled by four newly defined specific cultural units, beginning with the Malpais industry and ending with Amargosa industry. Late prehistoric cultures (Yuman and Shoshonean) were only briefly noted.

Malpais

The earliest of Rogers' industries was called Malpais. Rogers (1939:6–22, Table 2) reported that Malpais sites were located on gravel terraces above the river valley (recall this same criterion for the Eocene culture) and that "house" sites (rock rings) and intaglios were present on those same terraces. Artifacts included a variety of flake tools, choppers, and scraper types. All the cultural material was heavily patinated. Absent were projectile points or other bifaces.

Playa

The second major cultural unit was the Playa industry, a part of the larger San Dieguito/Playa complex. San Dieguito was the southern California coastal aspect, and the Playa industry was the desert aspect of the complex (Rogers 1939:28). Playa was divided into two phases, Playa I and II. Playa I was defined as having a variety of artifact types (Rogers 1939:Table 2), including stemmed points, crescents, and a variety of scrapers, choppers, and flake tools, located predominately along the margins of dry lakes. Phase II was similar in general nature, but the artifacts were less eroded and patinated. Pressure flaking was apparent, and obsidian was used for the first time.

Playa is the same basic archaeological entity that had been earlier identified along Pleistocene Lake Mojave

by Elizabeth Campbell (1936; Campbell et al. 1937), who called it Lake Mojave. Rogers chose not to follow the lead of Campbell in naming the unit, at least partly because he disagreed with Campbell's estimate of its age. Subsequent research has confirmed the nature and age of Campbell's Lake Mojave (Wallace 1962; Warren 1967, 1984), and Rogers' Playa phases have long since been incorporated into the Lake Mojave complex.

Pinto-Gypsum

Rogers' (1939) third major cultural unit was the Pinto-Gypsum complex. As with Playa (Lake Mojave), Rogers (1939) believed that the Pinto-Gypsum complex was much later than is now known, and he thought that it might be related to Basketmaker I in the Southwest. The Gypsum point and five different types of Pinto points were major markers, but a number of other artifact types were included (Rogers 1939:Table 2). Rogers (1939:71) argued that Pinto-Gypsum was so different from Playa that the appearance of Pinto-Gypsum "must mark the incursion of a new" people into the region, with little or no separation in time. Rogers (1939:72) further suggested that as the climate dried, Pinto-Gypsum people may have moved "toward the higher northern terrain" where Amargosa I later developed, perhaps as a "closing phase of the Pinto Industry."

In 1939 Rogers seems to have recognized that Pinto and Gypsum were separate entities or "industries" (see Rogers 1939:2, 72) but considered them to be "regional variations" (Rogers 1966:27). Mostly based on his work in the Salt Spring area (see Byrd et al. 1998), Rogers (1939:48) noted that while there were sites containing only Pinto or only Gypsum points, a number of sites contained both. This may have prompted Rogers to combine the two "industries" into the same complex in his 1939 work. After seeing the separation of the two in the vertical stratigraphy at Ventana Cave (Haury 1950), Rogers changed his mind

and considered the two to be chronologically separate, a conclusion supported by later research.

Campbell and Campbell (1935) had previously defined the Pinto period and dated it as following Lake Mojave, a time no doubt too early for Rogers. In addition, Rogers did not agree that a single type of Pinto point could be used to define the Pinto period (Byrd et al. 1998:653). A firm definition of the Pinto complex continues to elude us (Sutton et al. 2007), and research on this issue continues.

Amargosa

The fourth major entity proposed in 1939 was the Amargosa industry, divided into two phases, Amargosa I and II. Amargosa I was marked by large sites with Pinto and large side-notched points (Rogers 1939: Plate 16), while Amargosa II was marked by smaller sites with Elko and Rose Spring points (see Rogers 1939:Plate 18). Rogers (1939:72) suggested that Amargosa I might have been the “final phase” of the Pinto industry. Rogers (1939:61) further argued that Amargosa II was identical to “Basket-Maker III” and that it was intrusive in California, a view continued from his 1929 publication. This implies that Rogers believed that Amargosa I and Amargosa II were quite separate entities, the former related to Pinto and the latter to Basketmaker, but that he had not yet fully articulated this in his 1939 classification. This seems to be the reason for the change he made in 1950.

Yuman/Shoshonean

In 1931 Rogers had included a discussion of three post-Eolithic cultural units: Basket-Maker, Desert Mohave, and Chemehuevi (see Figure 1). In the 1939 chronology, Basket-Maker III was considered to be Amargosa II, part of his Early Lithic industries. The Desert Mohave and Chemehuevi discussed in 1931 were classified in 1939 as Yumans and Shoshoneans respectively, and they were not discussed in any detail.

Rogers (1939:73) argued that the Yuman presence in the Mojave Desert did not exceed 600 years and the Shoshoneans were present no longer than 300 years, a total of 900 years for the “late” groups.

The 1945 Chronology

While Rogers (1939:Plate 21) did include late prehistoric groups in his chronology, there was virtually no discussion of them. (Recall that the title of the 1939 work referred to “early” lithic industries.) However, in 1945 he published some of his ideas about later prehistory. Rogers (1945) proposed an outline of Yuman (but not Shoshonean [Numic]) prehistory, which included the eastern portion of the Mojave Desert, the Colorado Desert, and much of the rest of southern California. Using the direct historical approach, Rogers divided Yuman into three phases: Yuman I, II, and III. Yuman I (AD 500 to 1000) marked the introduction of pottery and agriculture; Yuman II had ceramics, and agriculture was the dominant subsistence system (AD 1000 to 1500); and Yuman III had ceramics and postdated AD 1500 (essentially what Rogers considered to be the post-Lake Cahuilla period). The “Desert Mohave” were seen as Yuman, and Rogers acknowledged the presence of Numic groups (e.g., Southern Paiute) late in time in the eastern Mojave Desert. The Yuman sequence, now widely referred to as Patayan, is still employed, although it has been proposed to replace it in much of interior southern California (Sutton 2011).

The 1950 Chronology

By 1950 Rogers had come to accept the fact that the archaeology of the Mojave Desert was much older than he had previously believed, and he realized that a revision of his 1939 chronology was in order. However, this important revision was published within the body of the Ventanta Cave report (Haury 1950: Table 12) (see Figure 1). Rogers made a number of significant changes to his 1939 chronology. He

connected the Malpais industry to the San Dieguito along the coast (where he had worked at the Harris site) and dropped the distinction of Playa being a desert industry separate from San Dieguito. Thus, he redefined Malpais and Playa I and II as San Dieguito I, II, and III respectively. Today, the desert aspect of San Dieguito is recognized as the Lake Mojave complex.

In 1939 Rogers had defined Pinto-Gypsum as a complex, as he had already recognized it as two separate entities (industries). Further, Rogers (1939:72) was thinking that Amargosa I was actually more closely related to Pinto-Gypsum (a “third” Pinto phase; Rogers 1939:72) and that Amargosa II was “identical” to Basketmaker III. In spite of this, he had left the two Amargosa phases together in 1939 (later admitting this was a poor choice [Rogers 1966:27]). Based on the stratigraphic separation of Pinto from Gypsum at Ventana Cave, Rogers (in Haury 1950:Table 12) separated the two, renaming Pinto as “Amargosa I” and Gypsum as “Amargosa II.” Since the 1939 iteration of Gypsum was redefined as Amargosa II, Rogers created a new phase, Amargosa III, to equate with the old Amargosa I, which in 1939 he had thought might have been a third phase of Pinto. In retrospect, these changes seem logical.

Today, Pinto and Gypsum are defined as separate cultural complexes with different assemblages and generally dating sequentially (Sutton et al. 2007). A newly identified possible cultural complex, Deadman Lake in the southeastern Mojave Desert, is thought to be generally contemporaneous with Pinto (Sutton et al. 2007:239–240).

The 1966 Sequence

At the time of his death in 1960, Rogers was working on a comprehensive treatment of the San Dieguito complex in southern California, including the Mojave Desert. That work (Rogers 1966) was published posthumously (edited and revised). It reiterated the basic San Dieguito I, II, and III sequence proposed in

1950. A great deal more detail on his views of the San Dieguito complex was provided, but the later cultures were not considered. It remains possible that the revising and editing of Rogers’ San Dieguito complex paper altered some of his actual views (e.g., Hanna 1982:243, 298).

Still Influential

The cultural sequence(s) outlined for the Mojave Desert by Rogers (1931, 1939, 1945, 1966; Haury 1950: Table 12), plus that of Elizabeth Campbell, formed the foundation for the sequence still in widespread use today. Rogers seemingly had the basic sequence right, but was patently wrong about the absolute chronology, and that error formed the basis of much of the disagreement between Rogers and Campbell. For a variety of reasons, the early ideas of Rogers were accepted over the ideas of Campbell, and so Rogers tended to get the “credit.” In the end, however, Campbell’s general dating was shown to be correct, and Rogers finally changed his mind on the antiquity of cultures in the Mojave Desert just before he died (Rogers 1966:140). Nevertheless, Rogers’ work remains very influential. While the names have changed and continue to confuse, the foundation provided by Rogers has enabled us to develop the chronological models currently being batted about.

Acknowledgments

This paper is a revised and expanded version of one presented at the 46th Annual Meeting of the Society for California Archaeology held in San Diego in 2012, and I appreciate the invitation of Ruth Musser-Lopez to participate in that symposium. I greatly appreciate the comments and suggestions of Henry C. Koerper, Don Laylander, Ruth Musser-Lopez, Joan Schneider, and Claude N. Warren and the assistance of Robin Laska. Much of my interpretation of Rogers’ work in the Mojave Desert outlined in this paper mirrors that of Warren (1984, 1998), to whom a great debt is owed.

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