Malcolm J. Rogers on Archaeological Ceramics: Foundations and Current Studies in the San Diego Region

Margie M. Burton and Patrick S. Quinn

Abstract

Malcolm J. Rogers' investigations of archaeological ceramics from southern California and the broader "Yuman" area beginning in the 1920s provided the foundation for subsequent ceramic studies in the region. Although much information about his methods and analyses remains unpublished, his type collections and notes curated at the San Diego Museum of Man evidence efforts to develop a regional ceramic typology influenced by ethnographic observations. This paper describes how Rogers' work has shaped studies by later researchers. Recently, larger sample sets and new analytical techniques are helping to refine and sometimes refute his early interpretations of archaeological ceramics.

Introduction

Throughout the 1920s and up until his death in 1960, Malcolm J. Rogers dedicated significant effort to collecting and studying the indigenous pottery of southern California, western Arizona, and Baja California (Hanna 1982). Working before the advent of radiocarbon dating, Rogers saw pottery as an essential tool for establishing regional culture-historical sequences. He also brought to its study his background in geology and thus recognition of the potential of mineral constituents for sourcing purposes (Rogers 1936:4).

Rogers appreciated the connections between past, present, and future and therefore the importance of documenting surviving traditional technologies (Ezell 1961:532). It was through the synthesis of archaeological, geological, ethnographic, and linguistic evidence that Rogers endeavored to reconstruct the past (Rogers 1945:168; Ezell 1961:532). This synthetic approach, combining different lines of evidence, is exemplified in his pottery studies (Hanna 1982:381). In spite of a limited record of publication and the later paradigm shifts in archaeological research, Rogers' work has remained the "jumping-off point" for ceramic researchers today. This paper summarizes major aspects of archaeological pottery studies conducted by Rogers and some of the directions taken by later researchers, with a focus on southernmost California including San Diego and Imperial counties.

Ceramic Investigations by Malcolm J. Rogers

During his extensive surveys, Malcolm Rogers identified over 500 sites with archaeological ceramics in southern California, western Arizona, and northern Mexico (McGuire 1982:440). He collected and studied over 60,000 sherds and over 2,000 complete or restorable vessels. Rogers is criticized by some for being overzealous (e.g., Cleland et al. 2000:18) and nonrandom (Schaefer 1994:82) in his collecting, yet his efforts helped to preserve a record of the past that might otherwise have been lost.

Typical of his era, Rogers unquestioningly associated the origins of pottery technology with agriculture. He identified the Colorado River Valley as the point of origin for "Yuman" pottery making, adopting the

ethnolinguistic term "Yuman" to describe the prehistoric archaeological culture complexes of southern California and the Colorado River Valley (Rogers 1945:177–180). Pottery making had spread through population migration and diffusion, he hypothesized, reaching the west coast only around AD 1500.

In addition to archaeological survey and collection, Rogers interviewed Native American potters and recorded traditional pottery making technologies as they existed in the early part of the twentieth century (Rogers 1936). He deposited his collections, records, maps, photos, and notes at the San Diego Museum of Man, where they remain accessible to researchers today. He never published a final, comprehensive typology. According to Michael R. Waters:

> Rogers' first "working" pottery typology was established sometime prior to 1945 and consisted of 58 types for the Colorado River Valley and an unknown number of types for the peripheral desert regions.... By 1945 Rogers had reduced the number of types for the Colorado River Valley to 45; there were 17 types for the Gila River and Colorado Desert.... [He] planned to reduce that number even further, expecting to get down to 30 for the Colorado River Valley before publishing, by presenting many as regional variations of the same period [Waters1982:277].

In 1945 Rogers published "An Outline of Yuman Prehistory" 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 [Rogers 1945:167].

In his 1945 publication Rogers explained his view of the Colorado River Valley subregion as the point of origin of Yuman pottery making. He presumed that historic Yuman culture must have had agricultural beginnings, only later adopting a hunting-and-gathering lifestyle in parts of its geographical range: "the early phases would be difficult to rationalize as non-agricultural, especially in view of the amount and the form-pattern of pottery produced" (Rogers 1945:177). He divided the ceramic period into three phases (Yuman I, II, and III) and four subregions (the Colorado River Valley, the California Desert, the Western Area, and the Eastern Area) (Rogers 1945:180). Rogers (1945:184) defined the maximum geographical extent of the three ceramic phases (Figure 1) and assigned sequence and dates on the basis of crosscutting trail networks and associated ceramics (including "pot drops" and trail shrines), correlation of sites with the changing Lake Cahuilla shoreline, and association with intrusive Hohokam pottery (which had been dated by dendrochronology). Rogers further correlated formal and decorative ceramic attributes according to phase, though in many cases his assignments indicate continuity through two or even all three phases (Rogers 1945:188). He acknowledged the practical difficulties in making chronological distinctions between sherds and even whole vessels (Rogers 1945:190). Further, Rogers (1945:182) commented on the lack of homogeneity of the early Yuman pottery and hence the complexity of tracing its origins and development.

Several researchers published ceramic typologies for the region during the late 1950s through early 1980s, based in large part on Rogers' unpublished notes and collections. These researchers include Albert H. Schroeder (1958), Ronald V. May (1978), Gena R. Van Camp (1979), and Michael R. Waters (1982). Julian Hayden (1994:123), a close associate of Rogers, considered Waters' 1982 publication an approximation of Rogers' Yuman ceramics report that was lost during the World War II occupation of the San Diego Museum of Man by the U.S. Navy. Van Camp (1979:81–86)

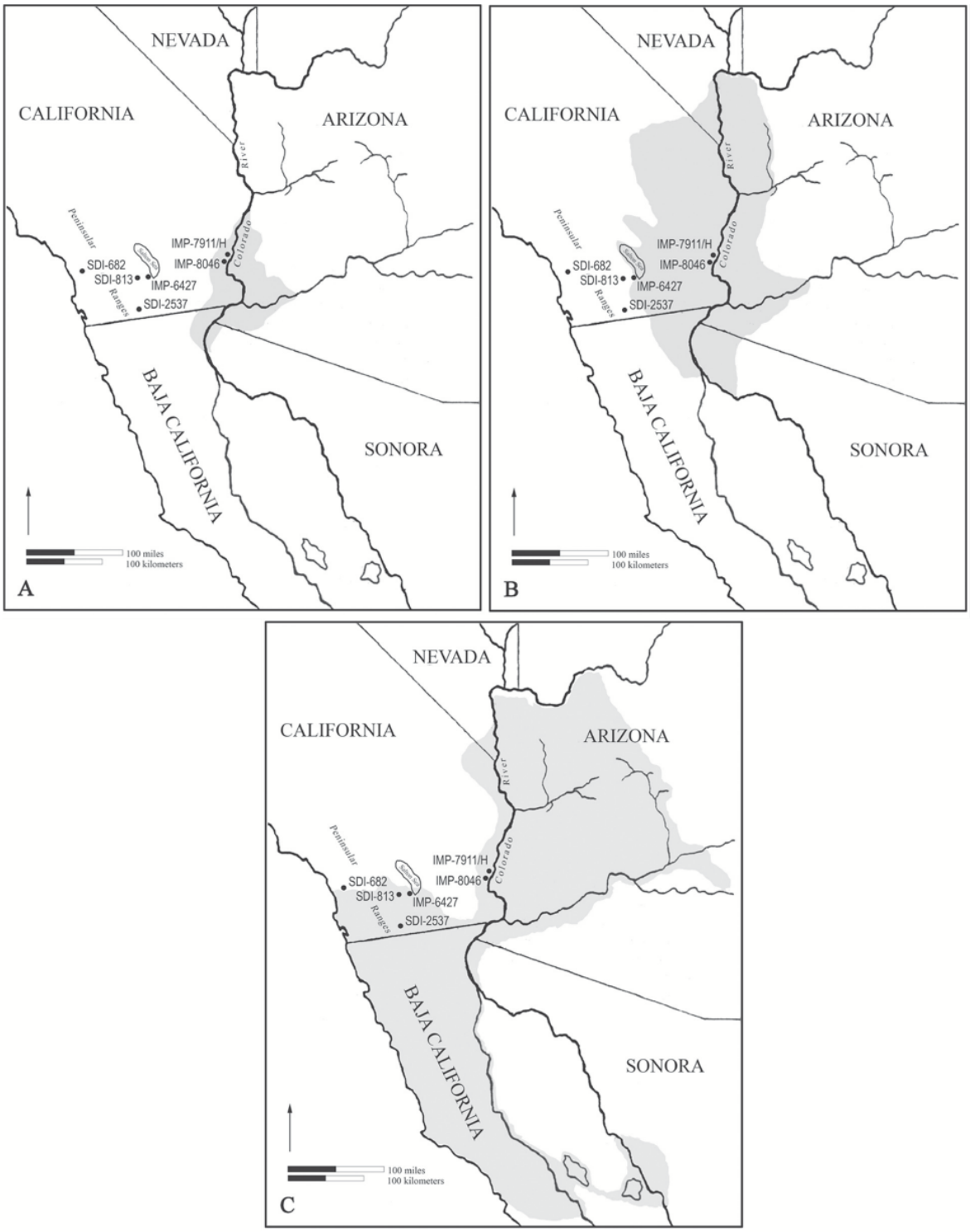

Figure 1. Maximum boundaries of Yuman ceramic phases as depicted by Rogers (1945:184) and locations of sites mentioned in the text. (A) Yuman I, ca. 800-1050 CE; (B) Yuman II, ca. 1050-1500 CE; (C) Yuman III, ca. 1500 CE and later. Maps by Adolfo Muniz.

published some of Rogers' unfinished notes on ceramic types. Variation in the degree of detail in Rogers' type descriptions, their polythetic nature, and the incomplete state of Rogers' work are evident from Van Camp's transcriptions. It is worth noting that it was not Rogers but Lyndon L. Hargrave (1938; see also Colton 1939), working in northwestern Arizona, who coined the term "Tizon Brown Ware," a label now commonly applied by archaeologists to paddle-and-anvil pottery made from residual clays found in the western part of the "Yuman" culture area (cf. Griset 1990). This term would appear to encompass several residual clay brown ware types proposed by Rogers, including San Diego Brown (Van Camp 1979:81–82).

Typological revisions suggested by these later researchers tended to focus on different parts of the broad region that Rogers had surveyed. For example, Van Camp's main interest was in the brown wares and buff wares of southern California, while Waters (1982) focused on the buff wares of southwestern Arizona. May (1978) classified and described prehistoric and ethnohistoric brown wares in California. Perhaps not surprisingly, these researchers reworked the same and/or similar material in different ways, resulting in different interpretations. Don Laylander (1997:78; 2009) has questioned the replicability, and hence usefulness, of these kinds of typological approaches to southern California ceramics generally.

Reassessment of the Rogers Paradigm

New technologies and research agendas have transformed archaeology since Rogers' death in 1960, but the basic need to define variation along the axes of time and space remains. With the advent of ^{14}C dating in the 1950s, it became possible to better examine Rogers' three-phase chronology and the time frame he proposed for the introduction of pottery making into areas west of the Colorado River Valley. Suzanne Griset (1996) used radiocarbon dating and other techniques to investigate when and why pottery making was adopted in different parts of southern California. Griset (1996:263) documented ^{14}C dates for ceramics at sites west of the Peninsular Ranges as early as AD 600–799 (at CA-SDI-682), which is much earlier than Rogers thought. She further noted the many differences between Colorado River ceramics and pottery found in the western part of southern California, including differences in form and decoration as well as differences in the clays used to make the pots (Griset 1996:271–272). Based on these findings and considering linguistic evidence reviewed by Laylander (1985), Griset (1996:273–274) suggested that pottery making in the San Diego region was introduced from the south (Baja California) rather than from the east (the Colorado River Valley) as Rogers (1945) had proposed. Griset (1996:284) further suggested that southern California pottery making could have originated locally rather than having diffused from elsewhere and that this possibility should be investigated.

The study of pottery from a greater number of sites has provided additional data with which to assess processes affecting the adoption of pottery technology in the regions west of the Colorado River and, in some cases, to assess the validity of Rogers' proposed ceramic chronology. For example, Jerry Schaefer (1994) used data from archaeological projects conducted during the 12 years after Waters' 1982 publication to suggest changes to the Rogers/Waters typology, its chronology, and the spatial distribution of types. Excavation projects included some stratified and dated sites such as Indian Hill Rockshelter (CA-SDI-2537) (McDonald 1992) in the Anza-Borrego Desert and the Elmore site (CA-IMP-6427) (Laylander 1997) on the western side of the Salton Sea (on a shoreline of ancient Lake Cahuilla). These areas are well located for examining the relationship between the early cultures of the Colorado River Valley and technological development in the Peninsular Ranges and coastal areas of southern California. Schaefer (1994:84) concluded that the Yuman/Patayan II phase should be extended to AD 1700 based on Lake Cahuilla shoreline

chronology. Rogers had suggested an end date for Yuman II of ca. AD 1500. Schaefer (1994:86) also recognized that the ratio of brown ware to buff ware sherds at sites could provide clues to social group mobility and trade. He studied trends in these ratios along east/west and north/south transects, concluding that the eastern slope of the Peninsular Ranges did not represent a social barrier to the transport of desert ceramics (Schaefer 1994:90–92).

Don Laylander's research at the Elmore Site (IMP-6427) provided additional data with which to evaluate ceramic chronology. He used the Elmore site assemblage, which based on ^{14}C dates around AD 1650, should belong to Rogers' Yuman III phase (post-AD 1500), to test the validity of ceramic attributes proposed by Rogers (1945) as chronological indicators. Laylander (1997:81–84) noted that on a presence/absence basis the Elmore site results were consistent with some of the proposed chronological attribute patterns (burnishing, handles) but not with others (rim recurvature, lip shape, incising) (see also Burton 2009:222–223).

Similarly, a study of Lower Colorado Buff Ware ceramics from buried, ^{14}C-dated, charcoal-rich features at two sites (CA-IMP-7911/H and CA-IMP-8046) in the Palo Verde region on the western side of the Colorado River drainage (Apple et al. 2001) allowed John Hildebrand (2003) to reevaluate the Rogers/Waters ceramic sequence for Colorado Beige, Black Mesa Buff, and Parker Buff types (also reviewed by Schaefer and Laylander [2007:252–253]). The results suggested longer time spans and later use (Yuman/Patayan II and III) for Colorado Beige and Black Mesa Buff than had been proposed on the basis of intrusive Hohokam pottery associations, while Parker Buff was found to be earlier (Yuman/Patayan I and II) than historic data had indicated. As in Laylander's (1997) study of the Elmore site ceramics, direct (rather than recurved) rims were found in Yuman/Patayan III-dated contexts, and therefore they cannot be accepted as diagnostic of earlier time periods as proposed by Rogers and Waters (1982:282). Hildebrand (2003:258) also described nine sherds not fitting any of the types defined by Rogers/Waters. These were found in the earliest dated contexts (AD 430–630) at IMP-7911/H.

Taken together with recent data indicating that Lake Cahuilla's history of infilling and recession was more complex than Rogers knew (Laylander 2006), these projects have tended to undermine Rogers' three-part Yuman/Patayan sequence and associated chronological patterns (Laylander 1997:85, 2006:64, 2009). Research on prehistoric Yuman ceramics conducted since 2006 by Mexico's Instituto Nacional de Antropología e Historia (INAH) in the municipality of Mexicali, Baja California, promises to contribute more data from another part of Rogers' study area (Porcayo 2009).

Trends in Ceramic Compositional Analysis

Prompted in part by problems in applying existing typologies to archaeological ceramics in the southern California region (see Plymale-Schneeberger 1993:257–258, 272; Schaefer and Laylander 2007:252), researchers since the 1990s have looked to techniques of compositional analysis to better understand pottery technology and distribution. Thin-section petrographic analysis and chemical analysis of sherds using instrumental neutron activation analysis (INAA), inductively coupled plasma-mass spectroscopy (ICP-MS), and X-ray fluorescence (XRF) have made it possible to identify compositional variation at a fine scale within and across pottery assemblages (e.g., Plymale-Schneeberger 1993; Griset 1996; Wade 1999; Hildebrand et al. 2002; Hildebrand 2003; Gallucci 2004; Guerrero 2004; Quinn and Burton 2009; Quinn et al. 2013). These kinds of studies have helped to clarify perceived differences between Tizon Brown and other broad ware groups such as Colorado Buff

(Plymale-Schneeberger 1993:262–265) and Salton Brown (Schaefer and Laylander 2007:253). By examining fine-scale compositional variability within a geological framework, they have also highlighted the potential of this detailed approach for examining ceramic provenience and the movement of people or pots between different parts of the southern California region. For example, intrusive buff ware desert ceramics have been petrographically and chemically identified at archaeological sites in the Peninsular Ranges and on the coast (Plymale-Schneeberger 1993; Hildebrand et al. 2002), suggesting the movement of people and/or pots from east to west. This type of information aids in the reconstruction of patterns of social group movements and trade associated with the transmission of ceramic technology, one of Rogers' (1945) primary concerns in "An Outline of Yuman Prehistory."

Results from recent petrographic studies conducted in Anza-Borrego Desert State Park and the Cuyamaca Mountains provide evidence of transport of pottery vessels over significant distances (>50 km) in numerous directions within and beyond the desert, correlating well with historic accounts of ancient trail systems (Quinn and Burton 2009:282). For example, compositional analysis of 115 sherds from the Anza-Borrego desert site of Mine Wash, or CA-SDI-813 (Figure 2), which has a ^{14}C date of AD 1590–1640 for the ceramic stratum (Sampson 1984), and comparison with a growing database of ceramics and raw materials from San Diego County highlight two main patterns in the movement of pottery and people to and from the site (Quinn et al. 2011). The majority of the sherds analyzed are composed of fine sedimentary clays that were tempered with particulate matter such as sand and grog (Figure 3A–C). These ceramics are likely to have originated in the desert lowlands to the east. A second group of pottery fabrics at Mine Wash is characterized by residual clay from the weathering of various types of plutonic igneous rock including granite, tonalite, and diorite (Figure 3D–F). Ceramics of these fabrics are common at sites in the mountains to the west and match clay deposits that form in this wetter environment. Three specific residual igneous compositions that occur at previously studied Laguna Mountain sites (Quinn et al. 2011) are present in small but significant numbers

Figure 2. The Mine Wash site (CA-SDI-813).

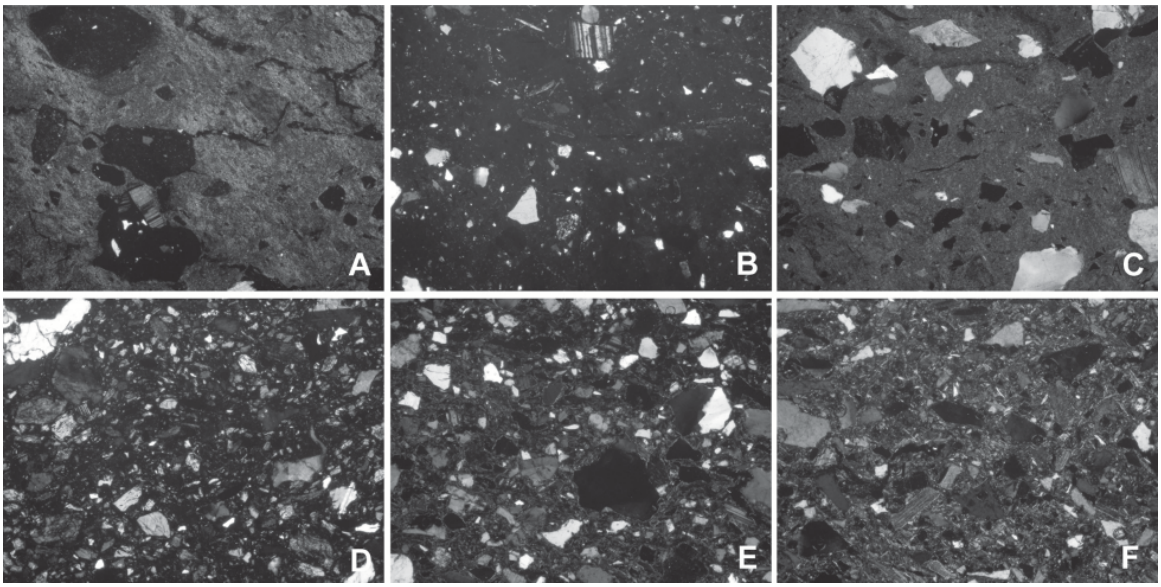

Figure 3. Photomicrographs of petrographic ceramic thin sections from the Mine Wash site (CA-SDI-813). (A) grog-tempered fine sedimentary clay; (B) sand and grog-tempered micaceous clay; (C) tempered calcareous marine clay; (D) amphibole-rich residual granitic clay; (E) coarse residual granitic clay; (F) biotite-rich residual granitic clay. Pottery represented by A, B, and C was made by the addition of temper to different types of fine sedimentary clay occurring in the Colorado Desert. Pottery represented by D, E, and F was made from relatively coarse clay derived from the weathering of plutonic rocks from the Peninsular Ranges. This naturally coarse clay did not require the addition of temper for functional purposes. All images taken in crossed polars. Image width = 2.9 mm.

at Mine Wash. These record the movement of pottery from the west, down the mountain escarpment to the desert floor. Two scenarios (not necessarily mutually exclusive) may account for the data: (1) seasonal migration of mountain Kumeyaay to lower altitudes during winter and their subsequent forays into the desert to collect and/or trade for specific resources (e.g., Cline 1979), possibly involving pottery, and (2) occupation of the site by two or more social groups, each bringing pottery with them from different points of origin. This and other compositional studies noted above have helped to add nuance to Rogers' broad-scale migration model for the spread of ceramic technology by documenting the complexity of human movements and the kinds of social interactions that may be involved in technological transmission.

Thin-section studies of naturally occurring clays and sherd microstructure and texture have also served to identify many of the technological steps involved in pottery production and therefore the choices made by potters in the past. These include aspects of clay preparation (intentional removal or addition of aplastic particulate matter) (cf. Plymale-Schneeberger 1991:44–45), vessel forming methods (relic coils and coil joins evidenced by the concentric orientation of elongate inclusions or voids, and paddle-and-anvil thinning of vessel walls evidenced by the parallel alignment of inclusions and voids close to the exterior surface), and firing conditions (temperatures below 1000^{o} C based on the optical state of the clay matrix and variation in redox conditions based on color and hue of the ceramics that is indicative of non-kiln firing) (Quinn and Burton 2009:282–286).

These findings are consistent with the ethnographic data collected by Rogers (1936) and thus provide evidence of the antiquity of traditional manufacture

methods. This is a tradition distinct from the coil-and-scrape pottery of the southern Great Basin (Griset 1996:11). However, the very high degree of variability in petrographic fabric groups within the broader residual granitic (brown ware) or sedimentary (buff ware) categories observed in small samples of sherds from single sites (Quinn and Burton 2009:276; Quinn et al. 2011; Quinn et al. 2013) suggests that individual potters or families of potters used different raw material sources and made pots in somewhat different ways (recognized by Rogers [1936:27]). Some variability may be considered "random," that is, resulting from natural variation within clay deposits or slight differences in clay preparation from one batch of pottery to the next. However, Michael Wilken's (1986) ethnographic study of Paipai potters from Santa Catarina, Baja California, indicates that different potters from the same village used different clay sources and preparation methods, resulting in the localized production of different brown wares. Cultural practices of intergenerational transfer of knowledge of clay deposits and pottery-making techniques from mother to daughter (Cline 1979:43), combined with clan exogamy and patrilocal residence (Van Camp 1979:49), may have contributed to the intra-site archaeological patterns of petrographic variability. This is a topic for future research.

Notable in thin-section studies is the finding of greater frequency of the use of sherd temper (grog) than was mentioned by Rogers (1936:22, 27) and especially the presence of sherd temper in residual granitic fabrics, which should not require additional tempering for functional purposes (Schaefer 1994:86; Quinn and Burton 2009:283). Findings such as this are a reminder that not all variation in pottery can be explained by scientific analysis of material performance characteristics alone; cultural practice plays an important role. Yuman mythologies and oral histories attest to the symbolic significance of clay (or mud) as the essence of creation (Schaefer 1994:81). Studies of decoration and other ceramic attributes by Kumeyaay researchers such as Carmen Lucas (2007) explore such cultural beliefs and aspects of personal connection that may be embodied in archaeological pottery.

Conclusion

Within the historical context of the early to mid-twentieth century, Malcolm J. Rogers stands out as the most important archaeological researcher of the Southwestern deserts and southern California (Hayden 1994:123). In spite of the small number of publications produced by Rogers himself and later revisions and reassessments of his work by others, he is still regarded as the pioneer of archaeological pottery studies in southern California. A 2012 review of San Diego County archaeological project reports dated between 1979 and 2011 for collections with precontact ceramics curated at the San Diego Archaeological Center showed that more than half cite Rogers' Yuman Pottery Making (1936) and/or "An Outline of Yuman Prehistory" (1945). Other researchers are cited much less often. All researchers continue to be challenged by many of the same conditions that Rogers faced with respect to the study of southern California archaeological ceramics (cf. Lyneis 1988; Plymale-Schneeberger 1991, 1993:257–258; Laylander 1997:77), including highly fragmented sherd collections, few well-stratified, well-dated sites, simple forms lacking decoration, and a low degree of standardization in pottery production. Gena R. Van Camp aptly summarized the nature and impact of Rogers' work on archaeological ceramics:

> In many places in his notes and letters, Rogers speaks of the incomplete state of his research, his lack of time to work in the field, and his difficulty in coordinating his data. Those of us who have worked in this area struggle with these same problems. The true value of his work is indicated by its sheer volume, and the realization of how much work would still remain if he had not gone before [Van Camp 1979:81].

Acknowledgments

We thank Ruth Musser-Lopez for organizing the 2012 Society for California Archaeology symposium on the contributions of Malcolm J. Rogers and especially for the invitation to participate. We also thank Don Laylander for coordinating publication of the symposium papers. Don Laylander, Jerry Schaefer, and two anonymous reviewers kindly made suggestions that greatly improved this paper, and we appreciate their support. Carmen Lucas read an earlier version of the paper; we are grateful for her willingness to share her interpretations of archaeological ceramics, which highlight important issues and different perspectives. The Begole Archaeological Research Grant Program generously funded our petrographic studies described herein. Adolfo Muniz and Kathy Dickey of the San Diego Archaeological Center assisted with figures and background research. We very much appreciate their help. Any errors in fact or interpretation remain our own.

References Cited

Apple, Rebecca McCorkle, Christy Dolan, Jackson Underwood, and James H. Cleland
2001 Cultural Resources Evaluation for the North Baja Gas Pipeline. Report prepared by EDAW, San Diego. Report prepared for Foster Wheeler Environmental Corporation, Santa Ana, California. On file, South Coastal Information Center, San Diego.

Burton, Margie
2009 Using Pottery Collections with Limited Provenience to Explore Pre-contact Ceramic Traditions: An Example from the Anza-Borrego Desert. Proceedings of the Society for California Archaeology 21:215-225.

Cleland, James H., Jackson Underwood, and Christy Dolan
2000 Cultural Resources Evaluation Plan for the North Baja Gas Pipeline. Report prepared by KEA Environmental, San Diego. Report prepared for Foster Wheeler Environmental Corporation, Santa Ana, California. On file, South Coastal Information Center, San Diego.

Cline, Lora L.
1979 The Kwaaymii: Reflections on a Lost Culture. IVC Museum Society Occasional Paper No. 5. El Centro, California.

Colton, Harold S.
1939 An Archaeological Survey of Northwestern Arizona, Including the Description of Fifteen New Pottery Types. Museum of Northern Arizona Bulletin 16. Flagstaff, Arizona.

Ezell, Paul
1961 Malcolm Jennings Rogers, 1890-1960. American Antiquity 26(4):532-534.

Gallucci, Karen
2004 Ceramic Analysis at Wikalokal, San Diego County (CA-SDI-4787). Proceedings of the California Society for Archaeology 14:119–123. Chico, California.

Griset, Suzanne
1990 Historic Transformations of Tizon Brown Ware in Southern California. In Hunter-Gatherer Pottery from the Far West, edited by Joanne M. Mack, pp. 180-200. Nevada State Museum Anthropological Papers No. 23. Carson City, Nevada.
1996 Southern California Brown Ware. Ph.D. dissertation, Department of Anthropology, University of California, Davis.

Guerrero, Monica
2004 Petrographic Analysis of Ceramic Artifacts from Archaeological Sites in San Diego County, California. Gallegos & Associates, Carlsbad, California. Manuscript on file, San Diego Archaeological Center, Escondido, California.

Hanna, David C., Jr.
1982 Malcolm J. Rogers: The Biography of a Paradigm. Master's thesis, Department of Anthropology, San Diego State University, San Diego.

Hargrave, Lyndon L.
1938 Results of a Study of the Cohonino Branch of the Patayan Culture in 1938. Museum of Northern Arizona, Museum Notes 11(6):43-50.

Hayden, Julian
1994 The Sierra Pinacate, the Legacy of Malcolm Rogers, and the Archaeology of the Lower Colorado River. In Recent Research along the Lower Colorado River, edited by Joseph A. Ezzo, pp. 121-125. Statistical Research Technical Series No. 51. Tucson, Arizona.

Hildebrand, John A.
2003 Ceramics Excavated from the Lower Colorado River Region by the North Baja Pipeline Project. In A View across the Cultural Landscape of the Lower Colorado Desert: Cultural Resource Investigations for the North Baja Pipeline Project, by James H. Cleland and Rebecca McCorkle Apple, pp. 245-260. Report prepared by EDAW, San Diego. Report prepared for TetraTech FW, Santa Ana, California. On file, South Coastal Information Center, San Diego.

Hildebrand, John A., G. Timothy Gross, Jerry Schaefer, and Hector Neff
2002 Patayan Ceramic Variability: Using Trace Elements and Petrographic Analysis to Study Brown and Buff Wares in Southern California. In Ceramic Production and Circulation in the Greater Southwest: Source Determination by INAA and Complementary Mineralogical Investigations, edited by Donna M. Glowacki and Hector Neff, pp. 121-139. Cotsen Institute of Archaeology Monograph 44. University of California, Los Angeles.

Laylander, Don
1985 Some Linguistic Approaches to Southern California's Prehistory. Casual Papers in Cultural Resource Management 2(1):14-58. Cultural Resource Management Center, Department of Anthropology, San Diego State University.
1997 The Last Days of Lake Cahuilla: The Elmore Site. Pacific Coast Archaeological Society Quarterly 33(1-2):1-138.
2006 The Regional Consequences of Lake Cahuilla. San Diego State University Occasional Archaeology Papers 1:59-80.
2009 Directions Forward for Ceramic Studies in the Far Southwest. Paper presented at the Begole Archaeological Workshop Center's Archaeological Weekend Pottery Workshop: "Exploring Current Research on Prehistoric Ceramics of California," Borrego Springs, California.

Lucas, Carmen
2007 Homage to the Old Ones: Decorated Pot Sherds. Manuscript on file, San Diego Archaeological Center, Escondido, California.

Lyneis, Margaret M.
1988 Tizon Brown Ware and the Problems Raised by Paddle-and-Anvil Pottery in the Mojave

Desert. Journal of California and Great Basin Anthropology 10(2):146-155.

May, Ronald V.
1978 A Southern California Indigenous Ceramic Typology: A Contribution to Malcolm J. Rogers Research. ASA Journal 2(2).

McDonald, Alison Meg
1992 Indian Hill Rockshelter and Aboriginal Cultural Adaptation in Anza-Borrego Desert State Park, Southeastern California. Ph.D. dissertation, Department of Anthropology, University of California, Riverside.

McGuire, Randall H.
1982 Appendix B: Summaries of Previous Field Research Projects. In Hohokam and Patayan: Prehistory of Southwestern Arizona, edited by Randall H. McGuire and Michael B. Schiffer, pp. 433-503. Academic Press, New York.

Porcayo Michelini, Antonio
2009 Advances in the Study of Prehistoric Yuman Ceramics of the Lower Colorado River Delta. Proceedings of the Society for California Archaeology 23. Chico, California.

Plymale-Schneeberger, Sandra
1991 Petrographic and Geochemical Analysis on Prehistoric Ceramics from Three Riverside County Archaeological Sites, CA-Riv-722, CA-Riv-1864, CA-Riv-2229. Coyote Press, Salinas, California.
1993 Application of Quantifiable Methodologies in Ceramic Analysis: Petrographic and Geochemical Analysis of Ceramics from Riverside County, California. Proceedings of the California Society for Archaeology 6:257–276. San Diego.

Quinn, Patrick Sean, and Margie M. Burton
2009 Ceramic Petrography and the Interpretation of Hunter-Gatherer Craft Technology in Late Prehistoric Southern California. In Interpreting Silent Artefacts: Petrographic Approaches to Archaeological Ceramics, edited by Patrick Sean Quinn, pp. 267-295. Archaeopress, Oxford, England.

Quinn, Patrick S., Margie M. Burton, David Broughton, and Sophie Van Heymbeeck
2013 Deciphering Compositional Patterning in Plainware Ceramics from Late Prehistoric Hunter-Gatherer Sites in the Peninsular Ranges, San Diego County, California. American Antiquity 78(4).

Quinn, Patrick S., Margie M. Burton, and Rhiannon Byrne-Bowles
2011 Ceramic Distribution, Migration and Interaction among Hunter-Gatherers in Late Prehistoric (1300-200 YBP) San Diego County, California. Paper presented at the European Meeting on Prehistoric Ceramics, Vienna.

Rogers, Malcolm J.
1936 Yuman Pottery Making. San Diego Museum Papers No. 2. San Diego Museum of Man, San Diego.
1945 An Outline of Yuman Prehistory. Southwestern Journal of Anthropology 1(2):167-198.

Sampson, Michael
1984 Test Excavations at CA-SDI-813, Mine Canyon, Anza-Borrego Desert State Park. Report prepared by and on file at the California Department of Parks and Recreation, San Diego, California.

Schaefer, Jerry
1994 The Stuff of Creation: Recent Approaches to Ceramic Analysis in the Colorado Desert. In Recent Research along the Lower Colorado River, edited by Joseph A. Ezzo, pp. 81-100. Statistical Research Technical Series No. 51. Tucson.

Schaefer, Jerry, and Don Laylander
2007 The Colorado Desert: Ancient Adaptations to Wetlands and Wastelands. In California Prehistory: Colonization, Culture, and Complexity, edited by Terry L. Jones and Kathryn A. Klar, pp. 247-257. Altamira Press, Lanham, Maryland.

Schroeder, Albert H.
1958 Lower Colorado Buff Ware: A Descriptive Revision. In Pottery Types of the Southwest: Wares 14, 15, 16, 17, and 18: Revised Descriptions, Alabama Brown Ware, Tizon Brown Ware, Lower Colorado Buff Ware, Prescott Gray Ware, San Francisco Mountains Gray Ware, edited by Harold S. Colton. Museum of Northern Arizona Ceramic Series No. 3D. Flagstaff, Arizona.

Van Camp, Gena R.
1979 Kumeyaay Pottery: Paddle-and-Anvil Techniques of Southern California. Ballena Press, Socorro, New Mexico.

Wade, Sue Anne
1999 Analysis of Ceramics from SDI-10,156 A and B: Topomai. In Archaeological Investigations at SDI-10,156. Report prepared by KEA Environmental, San Diego. Report prepared for U.S. Marine Corps Camp Pendleton, California. On file, South Coastal Information Center, San Diego.

Waters, Michael R.
1982 The Lowland Patayan Ceramic Tradition. In Hohokam and Patayan: Prehistory of Southwestern Arizona, edited by Randall H. McGuire and Michael B. Schiffer, pp. 175-297. Academic Press, New York.

Wilken, Michael.
1986 The Paipai Potters of Baja California: A Living Tradition. The Masterkey 60(4):18-26.