

Eyewitness to Discovery: First-Person Accounts of More than Fifty of the World's Greatest Archaeological Discoveries

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Material Culture and Cultural Meanings: Current Studies of Archaeological Ceramics and in Ceramic Ethnoarchaeology

Pottery and People: A Dynamic Interaction. James M. Skibo and Gary M. Feinman (editors). Foundations of Archaeological Inquiry, Salt Lake City, University of Utah Press, 1999. 260 pp., 91 figures, 30 tables. ISBN 0-87480-576-7, \$55.00 (cloth); 0-87489-577-5, \$25.00 (paperback).

Material Meanings: Critical Approaches to the Interpretation of Material Culture. Elizabeth S. Chilton (editor). Foundations of Archaeological Inquiry, Salt Lake City: University of Utah Press, 1999. 179 pp., 35 figures, 11 tables. ISBN 0-87480-632-1, \$55.00 (cloth); 087480-633-X, \$35.00 (paperback).

by

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The description and interpretation of material culture may be regarded as the essence of archaeology, a discipline that seeks to recover, describe, document, and interpret past human culture. More recently, understanding that actions occur in a material world that is constituted symbolically, archaeological explanations are often framed in sociocultural meanings, the analysis of agencies, practices and behaviors. I shall subsequently return to this issue. Because of their longevity in the archaeological record, lithic and ceramic artifacts are crucial to the endeavor to interpret human culture. Objects fashioned from clay and subjected to intentional artificial sources of heat made their initial appearance in the archaeological record more than 26,000 years ago. Ceramic objects have been created in a seemingly endless variety of shapes and forms, varying from fertility figurines, to cooking and food storage vessels, lamps, smoking pipes, medicinal pastilles, tokens, beehives, and coffins to modern whitewares and pyroceramics. Therefore, ceramics are one of the most tangible products of human culture and are relatively widespread

among the cultures of the world. The invention or adoption of pottery containers remains one of the most compelling areas of investigation for archaeologists. Although how pottery was first created is still a matter for speculation among students of early cultures and technological innovation, pottery making is one of the oldest crafts known to humankind having developed independently in different parts of the world at different times, often in extremely diverse social, economic, and ecological settings. Pottery, Skibo and Feinman (p. 1) remind us, was “made frequently, broken often, and comes in endless varieties according to economic and social requirements. Moreover, even in sherds, ceramics can last almost forever, providing important clues about past human behavior.”

Each of the 13 contributions appearing in the volume *Pottery and People*, edited by Skibo and Feinman, deal with ceramics, whereas, a six of nine chapters in Chilton’s *Material Meanings* directly involve pottery, and the remaining three chapters concern the contexts and meanings of material culture including ceramics in two instances and lithics in the other. I shall begin with a brief assessment of the contents of each of these important volumes before an analysis of the scope, content, and success of these books with emphasis placed on these works as contributions to the history of archaeology.

Pottery and People

Skibo (Illinois State University) and Feinman (University of Wisconsin, Madison; since September 1999, Chairman, Department of Anthropology, Field Museum of Natural History in Chicago) are the co-editors of *Pottery and People: A Dynamic Interaction* (260 pp.), which has 13 chapters and 14 contributors. Jim Skibo is also the editor of the University of Utah Press “Foundations of Archaeological Inquiry” series and is the author of *Pottery Function: A Use Alternation Perspective* (1992). Collectively, *Pottery and People* has 92 figures, 31 tables, a conflated references cited (658 entries), and a basic four-page index of topics and proper nouns. These papers were presented originally at the “Pottery and People Conference” held at Illinois State University, 19-22 October 1996, and have been revised extensively. The 14 anthropologists who analyze and interpret ceramics have prepared stimulating state-of-the-art assessments of the interrelationships between ceramic vessels and prehistoric or contemporary populations. There are eleven revised conference papers plus contributions solicited from Barbara Stark and Michael Schiffer. The case studies in *Pottery and People* emphasize North American topics including compositional analyses, production techniques, specialization, standardization, and consumption. Five chapters authored by Stoltman, Crown, Mills, Skibo and Blinman, and Schiffer, concern the American Southwest; and four, one each by Dean Arnold, Philip Arnold, Feinman, and Barbara Stark, concern Mesoamerican topics. Longacre assesses contemporary Philippine village pottery production, while Sinopoli evaluates medieval Vijayanagara (India) ceramics, and Vitelli considers Greek Neolithic wares. Using intercommunication behavior theory, Schiffer explicates thoughtfully his latest assessment of the meaning of pottery, and employs the Hopi as a case study.

In the initial essay entitled “Pottery and People” (pp. 1-8) Skibo summarizes the basics about ceramic manufacture, distribution, compositional studies, learned behaviors, production, specialization, standardization, use, consumption, the “meaning” of pottery, and discard. His discussion of the “origins” of pottery, appearing after his consideration of pottery consumption and before a discussion of meaning, seems out of place. Nonetheless, Skibo’s task is to provide a context for the subsequent papers and in this regard he provides an admirable assessment.

James B. Stoltman (University of Wisconsin, Madison), author of “The Chaco-Chuska Connection: In Defense of Anna Shepard” (pp. 9-24, 2 figures, 4 tables), employs ceramic thin section petrographic microscopy and the point-counting method to discern if the finished pottery vessels or the temper was being transported to Chaco Canyon in the Four Corners area of the American Southwest, ca. 900-1140 CE. Stoltman uses thin sections originally prepared by Shepard to characterize tempers but also examines

minerals in the clay fraction of the specimens in order to further support Shepard's hypothesis that the ceramic vessels were being manufactured in the Chuska Mountains and then transported to Chaco, possibly as a part of periodic public ceremonies. Anna Shepard, a gifted geologist whose analyses of archaeological ceramics helped to document ceramics from Pecos Pueblo and Mesoamerican Thin Orange ware, was herself the subject of an important conference; these papers were edited for publication by Bishop and Lange (1991).

In "Socialization in American Southwest Pottery Decoration" (pp. 25-43, 7 figures, 3 tables), Patricia L. Crown (University of New Mexico) reports the results of a pilot study to assess the important and overlooked questions of training and the age at which children were instructed in pottery fabrication and decoration. "Poorly executed" designs on vessels selected from large collections are chosen for analysis. Her innovative approach concerns the development of motor skills and cognitive ability among the producers of three wares (Mimbres Black-on-white, Salado Polychrome, and Hohokam Red-on-buff). Children's play, assistance by children to adults in their work, and "learning the trade" are evaluated. Crown suggests an investigative methodology that may be applied by other researchers to the examination of the roles of children, the "most ignored individuals" in the reconstruction of prehistoric social structure. Self-critical of her own small sample size, she determines that, in terms of relative ages, Mimbres girls were instructed at an earlier age than Hohokam girls, and that the latter may have been taught as part of an age-grade cohort.

William A. Longacre (University of Arizona), mentor to a new generation of archaeological anthropologists who study technical and behavioral aspects of pottery production and distribution, contributes "Standardization and Specialization: What's the Link?" (pp. 44-58, 12 figures, 11 tables). Longacre's unique, highly documented longitudinal analysis of ceramic production and distribution in the Philippines provides the basis for an analysis of pottery vessel standardization (Longacre 1991, Longacre and Skibo 1994). Using data from the town of San Nicolas, Illocos Norte, Luzon, Longacre determines that the age and experience of the potter - older and more experienced as opposed to younger and less experienced - affects significantly the degree of vessel standardization in hand-made vessels. His data supports the hypothesis that there is less metrical variation in vessel dimensions among older potters, that skill accumulates through time, and that there is a deliberate effort by the artisans to produce vessels that consumers expect and demand in terms of size and shape.

Longacre's longitudinal Philippine work is paralleled in Ticul, Yucatan, Mexico by Dean E. Arnold's long-term ethnographic studies (35+ years) among the potters of that Mesoamerican community. Arnold (Wheaton College, IL) contributes a valuable essay entitled "Advantages and Disadvantages of Vertical-Half Molding Technology: Implications for Production Organization" (pp. 59-80, 8 figures, 3 tables). He evaluates the reasons potters adopted this molding technique, noting that highly standardized vessels are produced and although the individual potters now require less skill than their predecessors, the organization of production is consequently more developed. The creation of entrepreneurial workshops, changes in production loci, and product uniformity are considered in Arnold's assessment. Critiquing deductive approaches, he seeks to decouple standardization from skill, scale, and intensity of production in this significant contribution to ceramic ethnoarchaeology.

Gary M. Feinman (currently, Field Museum of Natural History) is the author of "Rethinking Our Assumptions: Economic Specialization at the Household Scale in Ancient Ejutla, Oaxaca, Mexico" (pp. 81-98, 16 figures, 1 table). In this archaeological evaluation, Feinman critiques Costin's (1991) production paradigm in evaluating prehistoric Classic period households in Ejutla de Crespo, Mexico, 200-800 CE. Feinman evaluates "monolithic models" of craft specialization (van der Leeuw, Santley, etc.) and he documents the loci of production as associated with residential rather than nonresidential workshops. He finds that pottery and figurines, stone, shell, and cloth were contemporaneous cross-craft activities,

and, indeed, intensive craftwork took place in domestic settings. This important contribution also suggests that archaeologists must pay more attention to the possibility of multiple crafts in the same domestic contexts rather than assuming that craft specialty areas did not overlap or coincide. Actually, cross-craft permutations are more common than supposed (see McGovern *et al.*, eds. 1989).

The consumption of ceramic vessels in the Mesa Verde and Tusayan area of the American Southwest is the context for Barbara J. Mills (University of Arizona) chapter "Ceramics and Social Contexts of Food Consumption in the Northern Southwest" (pp. pp. 99-114, 7 figures, 2 tables). She reviews information on household size, status, wealth, food consumption, and vessel size. During the period 1000-1300 CE, an increase in vessel size is associated with postulated sociocultural changes, namely larger extended family households and an increased participation in suprahousehold rituals involving feasting. Variability in food consumption patterns is also related to time and scale.

Carla M. Sinopoli (University of Michigan) in her chapter entitled "Levels of Complexity: Ceramic Variability at Vijayanagara" (pp. 115-136, 7 figures, 4 tables) also addresses the question of pottery consumption and use, in this case, at the imperial Hindu capital of Vijayanagara in southern India, 15th-17th centuries CE. At least three different languages, more than three dozen castes, and a population of 250,000 center are seen as significant socio-economic variables and in her assessment of the ceramic assemblage and craft production locales. Using a sample from the 700 sites in the 350+ sq km metropolitan area, Sinopoli documents urban complexity, ceramic demand and consumption. While lithic and metalworking loci are discerned, not one pottery-making area has been identified. She infers that cultural practices associated with recycling of household, workshop, and factory refuse for fertilizer in agricultural fields, the evidence for production loci have been dispersed. But then, would not the debris from stone and metalworking be dispersed similarly? Functional classes of vessels, elite and low status residential districts and associated wares, and the residents of an "Islamic Quarter" are reviewed in this compelling assessment of a complex center in which ethnohistoric and archaeological documentation are employed.

Preclassic, Classic, and Postclassic period Gulf Coast Lowland Mesoamerican ceramics from south-central Veracruz provide Barbara L. Stark (Arizona State University) with data for her contribution entitled "Finely Crafted Ceramics and Distant Lands: Classic Mixtequilla" (pp. 137-156, 15 figures, 1 table). The importance of fine craft products and those from distant lands are reviewed, and the occurrences of scroll motif decorated serving bowls are used in her analysis. She finds that Early Classic period (300-600 CE) fine wares were spatially — therefore distributionally — restricted and are dominated by ritual forms derived from the Classic Teotihuacan culture in the Basin of Mexico. Stark examines Mary Helms's (1993) paradigm that elaborately made vessels relate to cosmogenic and social power and generally confirms this for the Early Classic but not for other periods. In the Late Classic (600-900 CE), an elite social interaction paradigm seems to fit the data.

Stark and Philip J. (Flip) Arnold III (Loyola University, Chicago) are the editors of and major contributors to the very commendable compendium entitled *Olmec to Aztec: Settlement Patterns in the Ancient Gulf Lowlands* (1997) that relies on ceramic seriation for relative chronologies (see Kolb 1998). P.J. Arnold is the author of "Tecomates, Residential Mobility, and Early Formative Occupation in Coastal Lowland Mesoamerica" (pp. 157-170, 3 figures) in which he considers this globular neckless jar form with a restricted orifice to be a valuable multifunctional tool that is an essential container in the cultural inventories of highly mobile groups. He further suggests that because of the frequencies of this vessel configuration in Early Formative (1500-900 BCE) archaeological contexts in Coastal Lowland Mesoamerica, these groups maintained a high degree of residential mobility and that the disappearance of this vessel form relates directly to an increased reliance on maize cultivation.

James M. Skibo (Illinois State University) and Eric Blinman (Museum of New Mexico) in “Exploring the Origins of Pottery on the Colorado Plateau” (pp. 171-183, 8 figures, 2 tables) argues that this very same tecomate vessel form, called a seed jar by archaeologists working in the American Southwest, was used by in that region by hunter-gatherer societies that also cultivated maize, beans, and other domesticates. In examining the emergence of Anasazi pottery and evidence of early ceramic sites, Skibo and Blinman also conclude that these were ideal containers for mobile groups. Based upon culinary activities and the evidence of the carbon patterns on cooking pots, they further suggest that the long-term boiling of beans was a major factor in the development of this form as a cooking vessel (200-600 CE).

Karen D. Vitelli (Indiana University) in “‘Looking Up’ at Early Ceramics in Greece” (pp. 184-198, 6 figures) observes that incipient ceramics made in Greece show no evidence of being used over a fire. By the Neolithic period the few cooking and storage vessels that have been recovered still do not show utilitarian use but, she contends, had significant ritual functions. Vitelli employs data from Franchthi Cave and Lerna (7000-3500 BCE) to assess the Early to Middle Neolithic transition ca. 6000 BCE. The earliest potters, she suggests, may have been female shaman and that pottery was first invented for ceremonial purposes. In the Middle Neolithic, housewife potters produced utilitarian pottery correlating with a dramatic increase in the number of vessels, forms, and sizes. Therefore, pots functioned as ceremonial objects preceding their utilitarian function — a provocative hypothesis requiring further testing.

Michael Brian Schiffer (University of Arizona) contends that the archaeological interpretation of artifact meanings “dooms” researchers who continue to rely upon a strictly humanistic framework. In “A Behavioral Theory of Meaning” (pp. 198-217), Schiffer (assisted by Andrea R. Miller) examines artifact meaning and communication as, perhaps, the ultimate relationship between pottery and people. The communication process involves four sequential events: inscription, emission, reception, and response. Actors, emitters, receivers, and the artifacts that play supporting roles are also documented. He argues for an artifact-based theory of communication that employs “activity” as the primary unit of analysis. Since activities in a communication process may be inferred from the archaeological record, his concept of behavioral theory provides investigators with the ability to infer artifact meanings without resorting to interpretive archaeologies such as hermeneutics. Schiffer and Miller (1999) have recently collaborated on a book-length account of this assessment.

Material Meanings

Elizabeth S. Chilton (Harvard University) is the editor of *Material Meanings: Critical Approaches to the Interpretation of Material Culture* (179 pp.) which has 9 chapters and 11 authors. Collectively, this work has 35 figures, 11 tables, a conflated references cited (632 entries), and a very basic three-page combined proper nouns and topical index. The contributions in this volume derive from a symposium organized by Chilton and Hilary Chester that was held at the annual meeting of the Society for American Archaeology in New Orleans on Thursday, 11 April 1996. That evening session (also attended by your reviewer) included nine papers authored by Chilton, Dean E. Arnold and Hector A. Neff, Philip J. Arnold III, Cathy Lynne Costin, Dorothy Hosler, Miriam T. Stark, Bryan Pfaffenberger, James Skibo and Michael Schiffer, and H. Martin Wobst, while Margaret W. Conkey served as the symposium’s discussant. Of the nine contributions and the discussant’s assessment, seven papers plus the discussant’s evaluation were expanded or revised and form the core of the published volume. The papers by Hosler, Pfaffenberger, and Skibo and Schiffer have not been included, but a solicited paper by Marcia Anne Dobres has been added to Chilton’s compendium.

The purpose of the symposium, as with the edited volume, was to bring together a group of diverse researchers to “explore the commonalties and divergences among current approaches to material culture and to assess future directions for the study of the material world” (Chilton, p. ix). The contributions ex-

amine these contemporary approaches to material culture in the archaeological record from three perspectives: 1) ethnoarchaeology and technological traditions, 2) materials science, and 3) theoretical approaches to materiality. In sum, emphasis is placed upon the social contexts in which the artifacts are produced, the choices made by the producers of these artifacts within a larger technical system, and the interpretation of the artifacts by modern investigators. Therefore, the contributions represent a broad range of theoretical perspectives, methods, and data sets, but the majority of the authors employ these parameters to explicate the larger questions of sociocultural identity and ethnicity, using cultural models and historical contexts to seek to understand “what may be created in the manufacturing process apart from physical objects.” This is, of course, precisely what Fred Matson emphasized in a chapter in his own edited volume, *Ceramics and Man* (1965:203), when he observed that archaeologists needed to move beyond the artifact and get to the sociocultural and economic contents of pottery and the people who produced and used these artifacts - the foundation of the method and theory of ceramic ecology.

Two chapters in Chilton’s volume concern Mesoamerican ceramic topics — Dean Arnold on the Yucatan and Flip Arnold on the Veracruz Gulf Coast, while an essay by Costin relates ceramic interpretations from the Moche of north coastal Peru. Chilton’s own research on New England pottery, a chapter by Miriam Stark on Philippine Kalinga pottery, and the contribution by Dobres which utilizes European Magdalenian Upper Paleolithic artifact data, complete the geographic distribution of the papers. The final chapters by Wobst and Conkey have theoretical rather than geographical orientations.

Elizabeth S. Chilton’s prefatory remarks, “Material Meanings and Meaningful Materials: An Introduction” (pp. 1-6), elaborate the themes of ethnoarchaeology, technical, materials science, and the organization of production. She emphasizes the semantic distinction between “objects” and “materials,” the latter constituting artifact manufacture, use, and discard. Chilton comments on the trend toward understanding archaeological phenomena through behavioral ethnography as seen in P. Arnold (1991) and Longacre and Skibo (1994), among others, and relates the other themes. In doing so, she provides a splendid contextual framework for the chapters that follow.

The chapter by Marcia-Anne Dobres (University of California, Berkeley) entitled “Of Paradigms and Ways of Seeing: Artifact Variability as if People Mattered” (pp. 7-23, 2 figures), begins with an examination of Upper Paleolithic Magdalenian (15,000-10,500 BP) artifacts, comparing French normative approaches and Anglo-American processualism as they existed pre-1980. Dobres illustrates the convergent approach seen during the past two decades, and suggests methodological alternatives for the study of artifact variation. She considers micro and macro scales of analysis, caveats, and problems encountered in studying composite assemblages. Ad hoc accommodation and post hoc reasoning are also reviewed, and she stresses the need to concentrate more attention on the means rather than the ends of artifact analysis. Dobres also assesses the relationships among gender, material culture, and archaeological interpretation, and addresses the issue of the epistemology of engendered archaeology, noting that gender should be seen as a primary structuring principle that is integral to the construction of personal and public identity, social inequality, and political economy.

Miriam T. Stark (University of Hawai’i) in her contribution “Social Dimensions of Technical Choice in Kalinga Ceramic Traditions” (pp. 24-43, 5 figures, 2 tables) employs the method and theory of ceramic ecology and ethnoarchaeological data to interpret the relationships between social ethnicity and technical systems. Her goal is to illustrate new approaches for understanding social boundaries in the archaeological record. In defining “technological style” she follows Terry Childs, then moves to an assessment of factors that affect technological choice (the operational tasks, production, steps, and determinants considered in relative order of importance), and examines vessel attributes. Stark next characterizes Kalinga culture and pottery production as seen in four municipalities. Among the Kalinga, she observes, dichotomies blur between style and function and between the technological and social. Tech-

nological style is seen as a better predictor of social boundaries than iconographic style.

Employing ceramic data from prehistoric sites New York State and New England, Chilton has prepared "One Size Fits All: Typology and Alternatives for Ceramic Research" (pp. 44-60, 5 figures, 1 table) in which she critiques empirical ceramic typologies and their limitations in Algonquian-Iroquois interactions in the Mohawk and Connecticut Valleys during the Late Prehistoric period (1300-1600 CE). Archaeological and ethnohistoric data and the reconstruction of technical systems are reviewed, and she proposes an alternative to the typological approach in what she terms "attribute analysis of technical choice," in which tradition, ability, ideology, knowledge, production scale, intended use and context, among other variables, play important roles.

The materials science approach linked to principles of behavioral archaeology and decision-making parameters are related in a detailed chapter by Dean E. Arnold (Wheaton College, IL), Hector A. Neff (University of Missouri Research Reactor), Ronald L. Bishop (Smithsonian Institution), and Michael D. Glascock (University of Missouri Research Reactor) entitled "Testing Interpretive Assumptions of Neutron Activation Analysis: Contemporary Pottery in Yucatan, 1964-1994" (pp. 61-84, 14 figures, 5 tables). Herein, the methodologies of ceramic ecology and ethnoarchaeological data are linked in the reconstruction of prehistoric technical systems. Ethnographic and compositional analysis of clays and tempers from known sources and producers are considered, and 375 samples underwent NAA at MURR. The resulting data is presented as principal component plots and Mahalanobis distance histograms and probability tables, but is also clearly discussed in the narrative. The authors are able to differentiate the resource areas utilized by four different communities, and reach the significant conclusion that the preparation of ceramic pastes and the addition of aplastics by the potter are less significant in trace element analysis (hence, patterning) than are the clay sources and tempers that contain clay minerals. They demonstrate chemically a clear exchange in clay sources uses in Ticul in 1964 and in 1994. The chapter is a superb example of long-term concentrated inter- and multidisciplinary research among colleagues who understand the pros and cons of characterization studies and anthropological archaeology. This study also has important ramifications for specific versus bulk chemical characterization and reinforces the importance of thin section petrography in certain research approaches.

Archaeological, technical, and iconographic data are employed by Cathy Lynne Costin (California State University, Northridge) in her chapter entitled "Formal and Technological Variability and the Social Relations of Production: Crisoles from San Jose de Moro, Peru" (pp. 85-102, 7 figures, 2 tables). She also reviews the importance of spatial patterning and the relationships of activity areas in considering the organization of craft production, noting that production regimes are differentiated by a combination of organizational and technical characteristics. Crisoles (miniature handmade "fingerpots) are common grave goods in North Coast burials; one burial has 1,982 vessels. Tomb 314 at San Jose has 774 crisoles (731 underdecorated and 43 modeled or incised in anthropomorphic forms), and Costin selected 174 for her detailed analysis. Material and technological homogeneity suggest that these were individually handmade by large numbers of untrained individuals who participated, she infers, in *chica*-drinking as a part of the funerary ritual and left the vessels as offerings to the deceased.

Philip J. Arnold III (Loyola University, Chicago), author of "On Typologies, Selection, and Ethnoarchaeology in Ceramic Production Studies" (pp. 103-117, 2 figures, 1 table), also uses a ceramic ecological and ethnoarchaeological approaches, and contemporary ethnographic data to consider the organization of pottery manufacture. He critiques two current approaches in ceramic studies - the typological (conforming to production stages, espoused by Costin and Clark) and selectionist (neo-Darwinian behavioral transmission, employed, for example, by Neff and O'Brien) commenting that both have shortcomings. Ethnoarchaeology he suggests is a useful analytical tool to study production organization. Arnold perceives organization as a dynamic phenomenon in which technology reflects the potter's past

experiences and future short- and long-term goals. Contemporary and prehistoric kiln use data from Matacapan and Comoapan in the Tuxtla region of southern Vera Cruz confirm that different production organizations often concur in the archaeological record.

H. Martin Wobst (University of Massachusetts) contributes a thoughtful essay entitled “Style in Archaeology or Archaeologists in Style” (pp. 118-132) in which he summarizes and evaluates 30 years of stylistic research. He differentiates style “reflecting” (material culture correlates of social affiliation) from stylistic “inferences” (e.g., artifacts enter into contexts that humans want to change), considers styles among individuals and social groups, the “visibility” of style, and often refers to his earlier paper on the topic (Wobst 1977). In clarifying his earlier writing, he reviews the persuasiveness of style (“once there is style, style is all pervasive”), style in function, paradigmatic oxymorons, and procedural and postprocessual dilemmas. He questions if “stylistic processes at work in one’s own society will also be found in societies in our archaeological field of vision” (p. 131) and further suggests that the dynamics of style is underexplored.

Margaret W. Conkey (University of California, Berkeley) “An End Note: Reframing Materiality for Archaeology” (pp. 133-141) comments on the simultaneous convergence of at least two trends: 1) the admission and acceptance of theoretical diversity and multiplicity and 2) the recognition of the potential utility of and inspiration from conceptual resources in a wide array of disciplines. She notes that Chilton’s book explores only some of the ways that archaeologists engage material culture. Conkey also observes that there is a strong context of materials science approaches but little influence of postprocessual theory (the chapter by Dobres with feminist theory is the exception), and she comments positively about Wobst’s long-awaited self-critique of his 1977 essay as “original and provocative.” Lastly she assesses each paper including the oral presentations not included in the published volume, and reminds us that “variation” must be kept in focus, and that investigators can (implying should) recast their thinking about variation in archaeological analysis and interpretation.

A few errors have crept into Chilton’s text; among these: Glascock (missing the last letter of his name, p. 61), mysteriously missing text at a page transition (pp. 80-81), and Muro instead of Moro (p. 89).

Ceramic Studies at the End of the Millennium

There is a voluminous literature on archaeological ceramics and their interpretation. The Last four decades of the 20th century document the fact that traditional descriptive studies and catalogs have become passé as ceramic studies move from appendices in excavation reports to full chapters and, especially, entire volumes. This era is also one of rapidly expanding theoretical approaches well beyond ware-type-variety concepts. The Skibo and Feinman and Chilton volumes exemplify a trend toward publishing the presentations from conferences that have focused topics. Indeed, the contributors to these two books are a veritable who’s who among scholars of ceramics.

Established in 1994, the Society for American Archaeology’s “Award for Excellence in Ceramic Studies” has been awarded to ten distinguished scholars: Patricia L. Crown and William Longacre (1994); Frederick R. Matson and Prudence M. Rice (1995); Dean E. Arnold (1996); Ronald Bishop and James Hill (1997); Robert L. Rands (1998); Warren DeBoer (1999); and Owen S. Rye (2000). The methods, theories, and interpretations published by these investigators are cited frequently by the authors of the chapters in both volumes. Four of these researchers are also contributors to the volumes being reviewed. These colleagues are grounded in ethnoarchaeology and their work is evidence of the significance of that method. Collectively, the two volumes contain timely compilations that address key issues confronting archaeologists today. Both books are well written and edited, and their contributors exemplify the Americanist tradition of anthropological archaeology. European scholars, particularly the British, have

other interpretations; Dobres, for example, mentions the Anglo-American versus French contentiousness in method and theory.

Excluding the introductory essays, among the 20 chapters in the two volumes is an overwhelming New World geographic emphasis (n = 13: Mesoamerica n = 6, American Southwest n = 5, Andean n = 1, New England n = 1) as opposed to Old World (n = 5: Europe n = 2, Philippines n = 2, South Asia n = 1). Two papers (Wobst and Conkey) are theoretical and geographically oriented. All 20 chapters concern archaeological ceramics, and readers will note that manufacturing techniques and processes, form-function, and typological analyses and the construction of typologies are still a vital part of ceramic archaeology (Shepard 1965, Rye 1981); see also Chilton's own chapter, P. Arnold's critique, and Wobst's assessment of style. The study of ceramic materials has made great strides since the 1930s when Shepard began her technical studies (Shepard 1965; Bishop and Lange, eds. 1991) adopting multi- and interdisciplinary approaches, integrating science and archaeology, and incorporating materials science and physiochemical and nuclear analyses (Rice 1987; Kolb 1989b, 1996). However, laboratory methods still include the studies of basic raw material resources, aplastics and clays, and more frequently fuel sources (D. Arnold 1985; Rice 1987; Kolb 1989a, 1996). Petrographic analysis employed by several of the contributors to these two volumes, notably Stoltman's contribution. Several chapters depend upon characterization studies and archaeometry, but analyses of physical, mechanical, and thermal properties do not figure in the contributions under review. Arnold and his colleagues writing in Chilton's compendium, exemplify a materials science approach but allied with behavioral anthropological analysis.

Nonetheless, physicochemical analyses, petrographic microscopy, and other technical studies are subject to a variety of potential errors that have been detailed elsewhere (Kolb 1997). These may include specimen-sampling procedures (selection strategies and questions being asked by the investigator), a lack of explanation of the analytical methods and procedures used, and sample size and diversity representative of the variability in the collection. In addition, type of measurement (bulk versus specific analyses), statistical and/or calculation errors, and inconsistent terminology (misuse and abuse of petrographic and mineralogical terminology) are notable. Source material changes through time (modification of sources due to geological agents or human factors) and clay mixing (combining clays and aplastics from different sources) is also significant factors to suggest cautious interpretations.

Production, distribution, consumption, and discard are topics considered by admirable contributions in Bey and Pool's (1992) edited volume *Ceramic Production and Distribution*, but such holistic approaches are rare to nonexistent in the Chilton and Skibo and Feinman volumes. Occasionally, design and symmetry analysis (Washburn and Crowe 1988) and vessel residue and content analysis (Skibo 1992, Kolb 1996) are employed. Related to these analyses is the paper by Crown on childhood learning and Longacre's contribution to age and skill acquisition. Except for Murray (1980), Bey and Pool (1992), and Deal (1998), little formal study has been devoted to the problem of discard.

A hallmark of the past three decades has been the emphasis on the interpretation of archaeological ceramic materials through, for example, the method and theory of ceramic ecology (Matson 1965, D. Arnold 1985, Rice 1987, Kolb 1989a) and ceramic ethnoarchaeology (Kramer 1985, Longacre 1991, P. Arnold 1991, Longacre and Skibo 1994, Deal 1998). Crown, Longacre, D. Arnold (in both contributions), M. Stark, and P. Arnold (in Chilton) utilized ethnoarchaeology, and Sinopoli is able to employ ethnohistoric accounts (see Kolb 2000). Theoretical underpinnings such as cultural materialism, evolutionary theory, chaos theory, structural analyses (following Foucault), political economy, post-processualism, gender studies and feminism, etc. (Schiffer, ed. 2000) have made dramatic headway in the interpretation of material culture, coloring how we conduct research, devise paradigms, and delimit or expound interpretations. The "cultural biography of objects" (Marshall and Gosden, eds. 1999), cultural

symbolism (Robb, ed. 1999), and cultural “meanings” — agents, agencies, identity, structure, power, etc. — have also moved into the assessment of ceramic materials. Attempting to comprehend the relationships between people and objects has led to behavioral analyses whose primary theoretician and spokesperson is Michael Brian Schiffer (1996, Schiffer, ed. 2000, Schiffer and Miller 1999; Robb, ed. 1999). Behavioral inferences are raised by Crown, Longacre, D. Arnold (in both book chapters), Feinman, B. Stark, P. Arnold (in both book chapters), Skibo and Blinman, Vitelli, Schiffer, Dobres, M. Stark, Costin, Wobst, and Conkey. Likewise, regional or topical treatments emphasizing the more traditional descriptive and inferential methods are represented in collections of diverse papers edited by Nelson (1985), Bey and Pool (1992), Barnett and Hoopes (1996), and Freestone and Gaimster (1997).

Holistic approaches to ceramics are still rare, e.g. raw materials procurement and selection to final product disposition or discard. Rice’s (1987) assessment of the history of ceramics production, manufacturing techniques, form-function assessments, characterization studies and design and symmetry analysis are excellent precursors to the discourses in Bey and Pool’s *Ceramic Production and Distribution* (1992), which has substantive introductory and concluding essays prepared by the editors. These essays examine pottery manufacture through consumption and discard or ultimate disposition. Recently Pool and Bey were the co-organizers of a symposium “Pottery Economies in Mesoamerica: Integrated Approaches” at the Society for American Archaeology annual meeting in Philadelphia (April 2000) in which the participants focused on one culture area and addressed the production through consumption issues in select cultures.

Some scholars who approach ceramics from conservative viewpoints might argue that interpretations and inferences have, perhaps, been taken too far into behaviorism and gender studies, and would argue that “sometimes a pot is just a pot.” Nonetheless, as we enter the new millennium, ceramic studies have moved into behavioral assessments and generated new queries such as those raised by Dobres, Wobst, and Conkey in Chilton’s excellent volume. However, there is no unified thought on these diffused discussions, save Schiffer’s clear voice and the infusion of principles of communication theory.

Your reviewer agrees with Conkey (Chilton, p. 134) who writes that edited volumes are an “unruly challenge” for the contributor preparing the “end-chapter” - and would add that the same is true for reviewers of such compendia. Although material culture is at the heart of archaeology, the provocative and informative contributions that appear in these two volumes are proof that ceramics are much more than paste, a plastics, forming and firing techniques, and decoration. Congratulations to Liz Chilton, Jim Skibo, and Gary Feinman for their stellar efforts in assembling and editing these significant essays that cast additional light on pottery, people, process, and paradigms. These two most recent volumes in the “Foundations of Archaeological Inquiry” series, along with Mike Deal’s essential *Pottery Ethnoarchaeology in the Central Maya Highlands* (1998), demonstrate the vitality of ceramic studies as we enter the new millennium. Congratulations to all of the authors and the editors.

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This volume contains a short 6 page history of the contributions of Wesley Robert Hurt, Jr., to Americanist archaeology, along with a 4 page 'selected' list of his publications. The review starts with his career in the Southwest, traces the shift in his research to the Plains, and especially South Dakota, and then turns to his later change of interest to South America (especially Colombia, Brazil and Uruguay). Hurt was born September 20, 1917 in New Mexico, and got into archaeology through his cousin, Reginald Fisher, who was working for Dr. Edgar L. Hewett. Hurt started out taking Hewett's Chaco Canyon Field School, and began working on the Jemez Archaeological project as a high school student