

Chip Colwell-Chanthaphonh
University of Indiana
chip@cdarc.org

Publishing the past
Gender and patterns of authorship in academic
and public archaeology journals

Abstract

Publication constitutes an essential facet of the contemporary practice of social science, not only as a means to disseminate knowledge, but also to attain status and material rewards such as job advancement and salary increments. Focusing on two distinct types of publications in American archaeology – 'academic' and 'public' journals – this paper explores the relationship between gender and patterns of authorship in American archaeology to assess the status of women in the profession and better elucidate how the past is socially constructed and disseminated in the political present. Following a review of previous research, this study presents a content analysis of the percentage of female authors and the number of articles expressly concerned with gender issues in American Antiquity, American Journal of Archaeology, Archaeology (Magazine), and Biblical Archaeology Review between 1979 and 1999. The results from this analysis are mixed, but demonstrate the complex and important interplay between gender and authorship in different forms of written media.

Introduction

Publication comprises one of the central features of contemporary American archaeology. Through popular and academic publications archaeologists disseminate interpretations of the past, and like other scholars in the western tradition, they use written media to communicate with their colleagues and public, establish themselves as 'authorities' and achieve job advancement. As Alice Kehoe has stated, scholars' ideas – often expressed through publication – constitute their working capital.¹ The close study of professional publications therefore is no small matter, but concerns the foundational values and behaviors embedded in the practice of a discipline.² While several recent volumes have assembled women's narratives to reveal the multifarious pressures placed on the professional female scientist in the twentieth century,³ their struggles in a severely prejudiced system,⁴ as well as their contributions towards the scientific field,⁵ there remains a conspicuous need to investigate the status of women in science through key disciplinary practices, such as publication.⁶ Because the academic world claims to be organized through a meritocracy,⁷ many have noted that productivity differences are fundamental towards assessing 'sex differences in location, rank, and rewards'.⁸

¹ Kehoe, Alice B. (1992) 'The Muted Class: Unshackling Tradition.' In: Cheryl Claasen (ed.) *Exploring Gender through Archaeology: Selected Papers from the 1991 Boone Conference*. Madison: Prehistory Press, pp. 23-32.

² This statement applies as much to archaeology as any social science or humanities discipline. Furthermore, other disciplinary interests overlap with these issues, such as those in history and philosophy of science, cultural studies, and gender studies.

³ E.g., Pattatucci, Angela M. (1998) *Women in Science: Meeting Career Challenges*. Thousand Oaks: Sage Publications.

⁴ E.g., Kohlstedt, Sally Gregory (ed.) (1999) *History of Women in the Sciences: Readings from Isis*. Chicago: University of Chicago Press.

⁵ E.g., Bart, Jody (ed.) (2000) *Women Succeeding in the Sciences: Theories and Practices across Disciplines*. West Lafayette: Purdue University Press.

⁶ Other disciplinary practices of interest might include grants, graduate training, fieldwork, analysis, and awards.

⁷ Rosenfeld, Rachel A. (1984) 'Academic Career Mobility for Women and Men Psychologists.' In: Violet B. Haas and Carolyn C. Perrucci (eds.) *Women in Scientific and Engineering Professions*. Ann Arbor: University of Michigan Press, p. 89.

⁸ Fox, Mary Frank (1996) 'Women, Academia, and Careers in Science and Engineering.' In: Cinda-Sue Davis, Angela B. Ginorio, Carol S. Hollenshead, Barbara B. Lazarus and Paula M. Rayman (eds.) *The Equity Equation: Fostering the Advancement of Women in the Sciences, Mathematics, and Engineering*. San Francisco: Jossey-Bass Publishers, p. 276.

Unavoidably, the notion of scientific 'productivity' (or 'performance') does not easily lend itself to measure, as both quantity and quality appear to be entailed by this term. While it may be possible to gauge quality through intermediary concepts of 'impact' or 'recognition' measured by citation analyses or tracking of honorific awards,⁹ quantity is more unequivocal, and consequently an effective means to explore gender differences in academia.¹⁰ While recognizing that raw quantity is a useful measure, heed must be taken to ensure that equity issues are not simply 'reduced to questions of quantity and hierarchy'.¹¹ Thus quantification provides one methodical angle of many, but taken alone, cannot capture the entire picture.¹²

In this paper I aim to contribute to the growing body of research on gender and publication and the relations of power that operate in this essential aspect of American archaeology.¹³ In particular, this study reveals the relationship between two distinct types of publications in archaeology today, so-called 'academic' and 'public' journals, as a means to probe the status of gender in the discipline and better elucidate the ways in which the archaeological past is communicated to the public and the academic community. Because there have been few attempts to synthesize previous scholarship on

⁹ Irvine, John, and Ben Martin (1986) 'Women in Radio Astronomy-Shooting Stars.' In: Jan Harding (ed.) *Perspectives on Gender and Science*. London: Falmer Press, pp. 80-102.

¹⁰ Schiebinger, Londa (1999) *Has Feminism Changed Science?* Cambridge: Harvard University Press, p. 44.

¹¹ Sørensen, Marie L.S. (1998) 'Rescue and Recovery: On Historiographies of Female Archaeologists.' In: Margarita Diaz-Andreu and Marie L.S. Sørensen (eds.) *Excavating Women: A History of Women in European Archaeology*. London: Routledge Press, p. 36.

¹² In other words, this study does not aspire to characterize the *entire* dynamic of gender in a discipline. Other complementary, more qualitative, methodologies might include oral histories, social histories, ethnographic observation, personal testimonies, biographies, and so forth, e.g., Irwin-Williams, Cynthia (1990) 'Women in the Field: The Role of Women in Archaeology before 1960.' In: G. Kass-Simon and Patricia Farnes (eds.) *Women in Science: Righting the Record*. Bloomington: Indiana University Press, pp. 1-41; James, Joy (1997) 'Ella Baker, "Black Women's Work" and Activist Intellectuals.' In: T. Denean Sharpley-Whiting and Renée T. White (eds.) *Spoils of War: Women of Color, Cultures, and Revolutions*. Lanham: Rowman and Littlefield, pp. 3-18; Nakane, Chie (1982) 'Becoming an Anthropologist.' In: Derrek Richter (ed.) *Women Scientists: The Road to Liberation*. London: MacMillan Press, pp. 45-60; Phillips, Patricia (1990) *The Scientific Lady: A Social History of Women's Scientific Interests, 1520-1918*. London: Weidenfeld and Nicolson; Yost, Edna (1943) *American Women of Science*. Philadelphia: J.B. Lippincott.

¹³ For this paper, my notion of 'relations of power' was influenced by Tracy Sweely's work that has explored 'the *relations* of power, based on the assumption that all power relations are historically developed, and except in the most extreme cases of domination, are negotiated, and that, at any given time, various individuals as well as different segments within a society are attempting to assert their own interests.' Sweely, Tracy (1999) 'Introduction.' In: Tracy L. Sweely (ed.) *Manifesting Power: Gender and the Interpretation of Power in Archaeology*. London: Routledge Press, p. 1.

these issues, I provide a review of the corpus of existing research. Following from this, I present a detailed report on a content analysis of four journals – *American Antiquity* (AA), *American Journal of Archaeology* (AJA), *Archaeology (Magazine)* (AM), and *Biblical Archaeology Review* (BAR) between 1979 and 1999. Although the conclusions drawn from this analysis are contingent, they provide one more means to probe the status of gender equity in the discipline and afford the opportunity to reflect on the ways in which archaeological knowledge is recorded through gendered lenses and communicated through different forms of written media.

Gender and publication practices

In a paper originally presented in 1991 at the Society for Historical Archaeology, and later published, Beaudry and White conducted a content analysis of the academic journal *Historical Archaeology*.¹⁴ After examining twenty-four years of publications the investigators concluded that female authorship of articles and book reviews noticeably increased, as for instance in 1967 there were zero female authors compared to almost half (48 percent) in 1990. Furthermore, undertaking a citation analysis, Beaudry and White tentatively found that female cited works constituted one-eighth of all citations in 1977 compared to one-third in 1987. The authors discerned that total female membership with the Society for Historical Archaeology in 1987 was 33.9 percent, which did not correlate with disparities between men and women authorship in *Historical Archaeology*, however. While some counts appeared promising for increasing gender equality, Beaudry and White noted that women seemed to concentrate more on disciplinary 'housekeeping' such

¹⁴ Beaudry, Mary and Jacquelyn White (1994) 'Cowgirls with the Blues? A Study of Women's Publication and the Citation of Women's Work in Historical Archaeology.' In: Cheryl Claasen (ed.) *Women in Archaeology*. Philadelphia: University of Pennsylvania Press, pp. 138-58.

as artifact analysis, indicating that apparent equalities solely quantified through citation analysis might in fact veil deeper and subtler stereotypes.¹⁵ Overall, the authors concluded that women had made great strides towards parity in the field of historical archaeology, but in general, the status of women in the discipline remained far from the ideal.

Building on this previous work, Victor and Beaudry examined the composition of officers and board members on two prominent academic journals – *American Antiquity* and *Historical Archaeology*.¹⁶ For *American Antiquity* they found that officers and board members were predominately male. Interestingly the authors discerned that during the tenure of Patty Jo Watson and Dena Dincauze (two women) as AA editors, the female editorial staff also increased (a correlation coefficient was calculated at .92) in comparison to male editors. Using raw counts and E-Scores, Victor and Beaudry calculated the frequency of female authorship in these journals. Between 1967 and 1991, 11 percent of the authors of articles in *American Antiquity* were women. E-score values displayed an overall increasing trend through the 1970s and 1980s, but actual E-scores remained low. Furthermore, it was determined that citations remained in favor of male authors. Not surprisingly, E-scores supported Beaudry and White's earlier conclusions of their analysis of *Historical Archaeology*. Victor and Beaudry ascertained that, 'both the studies of women in historical archaeology and American prehistoric archaeology as reflected in the journals *Historical Archaeology* and *American Antiquity* have shown that

¹⁵ Gero, Joan M. (1985) 'Socio-Politics and the Woman-at-Home Ideology.' *American Antiquity*, 50 (2): pp. 342-50.

¹⁶ Victor, Katharine L. and Mary C. Beaudry (1992) 'Women's Participation in American Prehistoric and Historic Archaeology: A Comparative Look at the Journals *American Antiquity* and *Historical Archaeology*.' In: Cheryl Claassen (ed.) *Exploring Gender through Archaeology: Selected Papers from the 1991 Boone Conference Monographs in World Prehistory*. Madison: Prehistory Press, pp. 11-22.

women in the fields are not represented at levels even remotely equal to men or to their membership in those organizations'.¹⁷

Furthering Victor and Beaudry's analysis of editorial boards, Stark et al. examined gender representation on the editorial boards of eight U.S. based archaeology journals, 20 regional journals, and eight foreign Anglophone journals, and compared these figures to the number of women in the discipline (by counting full-time professors in the *AAA Guide*).¹⁸ Significantly, while their results did not statistically detect inequities between editorial positions and the academic reference pool, a disparity emerged between the number of female Ph.D. recipients and academic hires.

Over 15 years ago, Joan Gero¹⁹ coined the term 'woman-at-home archaeologist' to characterize the position of female scholars within the discipline. Gero suggested that women were impelled into professional roles that paralleled stereotypes within the larger American society. As such, women were expected to remain in 'safe' and 'quiet' environments like the laboratory, while men achieved great feats anywhere there were ornate tombs and massive pyramids.²⁰ Gero concretely supported her argument using illustrative statistics derived from National Science Foundation grants, dissertation abstracts, and publications. For instance, between 1980-1984, of dissertations completed

¹⁷ Victor, Katharine L. and Mary C. Beaudry (1992) 'Women's Participation in American Prehistoric and Historic Archaeology: A Comparative Look at the Journals *American Antiquity* and *Historical Archaeology*.' In: Cheryl Claassen (ed.) *Exploring Gender through Archaeology: Selected Papers from the 1991 Boone Conference Monographs in World Prehistory*. Madison: Prehistory Press, p. 19.

¹⁸ Stark, Barbara L., Katherine A. Spielmann, Brenda Shears, and Michael Ohnersorgen (1997) 'The Gender Effect on Editorial Boards and in Academia.' *SAA Bulletin*, 15 (4): pp. 1-8.

¹⁹ Gero, Joan M. (1985) 'Socio-Politics and the Woman-at-Home Ideology.' *American Antiquity*, 50 (2): pp. 342-50.

²⁰ A similar phenomenon has been noted in sociology: Bernard, Jessie (1987) 'Re-Viewing the Impact of Women's Studies on Sociology.' In: Christie Farnham (ed.) *The Impact of Feminist Research in the Academy*. Bloomington: Indiana University Press, p. 199.

by men, 62 percent were based on field research, compared to a meager 34 percent by women. It seems in some sense then, that while lab work might have been intentionally or unintentionally pressed on female scholars, the laboratory still provided one of the few areas for women to participate in American archaeology. It was through the laboratory - through botanical, ceramic, and shell analysis - that women were able to negotiate their labour within the power structures of that time.

Gero's argument was bolstered in a later study, in which she and Dolores Root²¹ examined the presentation of archaeology in the popular magazine *National Geographic*. These scholars determined that female archaeologists were not only induced into less visible professional roles, they were *portrayed* to the reading public as such. Gero and Root calculated that out of 74 articles concerning archaeology, only two (2.7 percent) featured women, and another five (6.8 percent) were shown as collaborators with men. Where women were portrayed, they were seen in 'postures of near repose, seated in the laboratory or sometimes in an excavation unit, often merely observing what is being pointed out to her' and photographs of female and male co-investigators picture 'the females recording dictated notes or being shown the niceties of artefacts indicated by the males'.²² Thus for some time, it appears as though women were not only excluded from particular masculine-defined roles in professional archaeology, they were also rendered – *when* rendered – in popular print media merely as passive and subservient participants.

²¹ Gero, Joan and Dolores Root (1996) 'Public Presentations and Private Concerns: Archaeology in the Pages of National Geographic.' In: Robert Preucel and Ian Hodder (eds.) *Contemporary Theory in Archaeology*. Oxford: Blackwell Publishers, pp. 531-48.

²² Gero, Joan and Dolores Root (1996) 'Public Presentations and Private Concerns: Archaeology in the Pages of National Geographic.' In: Robert Preucel and Ian Hodder (eds.) *Contemporary Theory in Archaeology*. Oxford: Blackwell Publishers, p. 545.

In her survey of American archaeologists conducted in 1994, Zeder found among her respondents that 'there is a consistent tendency for men to produce a higher volume of written and oral presentations than women, regardless of the format of these presentations. This is generally true for all age cohorts and for all employment sectors'.²³ Zeder posits that this pattern does not correlate with age or gender-based differences of ambition or ability, and cannot be reduced to a general conspiracy perpetrated against women. Although she recommends further research, it is guardedly suggested that, 'the general tendency for women to be less active than men in publication might, at least in part, be linked to a somewhat greater tendency for women in all settings to occupy positions either that do not include a writing component or that allow less time for this activity'.²⁴

Most recently Scott R. Hutson has contributed to these debates by conducting statistical analyses of citation practices of male and female authors in *American Antiquity*, the *Journal of Field Archaeology*, *Ancient Mesoamerica*, and *Southeastern Archaeology*.²⁵ Based on these data, Hutson established that gender parity could be distinguished in some areas of publication practice. For instance, in all of the journals examined – except for *Southeastern Archaeology* – men cite women at equal rates to which women cite women. At the same time, citations of female authors in *Ancient Mesoamerica* and *American Antiquity* are notably fewer than what could be anticipated. Hutson writes that,

²³ Zeder, Melinda (1997) *The American Archaeologist: A Profile*. Walnut Creek: AltaMira Press, p. 143.

²⁴ Zeder, Melinda (1997) *The American Archaeologist: A Profile*. Walnut Creek: AltaMira Press, p. 153.

²⁵ Hutson, Scott R. (2002) 'Gendered Citation Practices in American Antiquity and Other Archaeological Journals.' *American Antiquity*, 67 (2): pp. 331-42.

'On the one hand, with the exception of *Southeastern Archaeology*, there are currently no significant patterns of male archaeologists devaluing women's contributions to archaeology through failure to cite women's work. However, the rate of citation to women is still significantly below the rate of publication by women, regardless of the gender of the citing author.²⁶

Hutson concludes therefore, that his research results – at least in terms of gender parity – are mixed.

These studies have quantitatively demonstrated that women are generally underrepresented, and through subtle stereotypes of gender women may be limited in the kinds of questions and analyses they pursue, which appears to substantiate many women's subjective lived experiences.²⁷ Research on archaeological publication practices corresponds with general publishing patterns of men and women in science and technology fields as Cole and Zuckerman determined that, 'more than 50 studies of scientists in various fields show that women publish less [about 50 percent less] than men'.²⁸ However, gender-based divisions within archaeology are especially important to explore further not only because they expose the possible inequitable underpinnings of the discipline, but also because they address the ways in which knowledge of the past is constructed and disseminated. Although scholars of both genders are equally capable of naturalizing socially constituted conditions, previous research has illustrated that –

²⁶ Hutson, Scott R. (2002) 'Gendered Citation Practices in American Antiquity and Other Archaeological Journals.' *American Antiquity*, 67 (2): p. 340.

²⁷ Reyman, Jonathan E. (ed.) (1992) *Rediscovering Our Past: Essays on the History of American Archaeology*. Aldershot: Avebury Press.

²⁸ Cole, Jonathan and Harriet Zuckerman (1984) 'The Productivity Puzzle: Persistence and Change in Patterns of Publication of Men and Women Scientists.' In: Marjorie W. Steinkamp and Martin L. Maehr (eds.) *Women in Science*. Greenwich: Advances in Motivation and Achievement, p. 217.

among other things – an archaeology of the past produced and controlled by men redounds to: create an androcentric past whereby men's lived experiences become the focus of interpretations and reconstructions,²⁹ assume biological essentialism,³⁰ and overemphasize activities as strictly divided along the lines of gender.³¹ The past is therefore politicised in the present through reinforcing western constructions of gender and projecting modern conceptions of gender onto prehistoric landscapes. Interestingly recent gender theory has been moving away from simplistic binaries of male/female categories altogether to incorporate a more complex picture of intersecting categories of difference, such as gender, age, class, sexuality, and nationality.³² Nevertheless, despite the recent challenge to the female/male dichotomy ingrained in the western experience, there remains the distinct problem of dealing with a past engineered and legitimised by a singular and dominant group. Our concern for the moment then, is not so much of specious gender assumptions, but rather the relations of power - within a category of difference such as gender - that generate and control the archaeological discourse.

Concerning patterns of authorship

Patterns of authorship within the practice of archaeology are thus significant for multiple reasons, including issues of gender parity within the discipline, the validity of

²⁹ E.g., Sweely, Tracy L. (ed.) (1999) *Manifesting Power: Gender and the Interpretation of Power in Archaeology*. London: Routledge Press.

³⁰ E.g., Gilchrist, Roberta (1999) *Gender and Archaeology: Contesting the Past*. London: Routledge Press.

³¹ E.g., Nelson, Sarah M. (1997) *Gender in Archaeology: Analyzing Power and Prestige*. Walnut Creek: AltaMira Press.

³² Meskell, Lynn (1998) 'Running the Gamut: Gender, Girls, and Goddesses.' *American Journal of Archaeology*, 102 (4): pp. 181-85.

interpretations of the past, and how the images of history are presented to the interested public and academic community. The remainder of this study is devoted to examining the patterns of authorship in two types of archaeological publications – academic and public-oriented journals. For the purpose of this study, the primary difference between these publications is the way in which interpretations of the past are geared towards distinct 'intended audiences'. As Jameson has written: 'although closely tied philosophically, public interpretation differs in its scope from more technical discussions of interpretation of academics in that it has as its focus the translation and simultaneous communication of archaeological information and concepts to a wide array of audiences that comprise the general public'.³³ Thus 'public' journals are intended for a public audience whereas 'academic' journals are intended for academic readers.

To consider these patterns of authorship, I undertook a content analysis of four publications – *American Antiquity* (AA), *American Journal of Archaeology* (AJA), *Archaeology (Magazine)* (AM), and the *Biblical Archaeological Review* (BAR) between 1979 and 1999. The first two are peer-reviewed, highly esteemed academic publications. The latter two, in contrast, are primarily intended for the consumption of a public non-academic audience, as these publications are replete with large glossy photographs and jargon-free articles. It should, however, be noted that the authors of AM and BAR are predominately, though not exclusively, professional archaeologists. The line between public and academic publications is further blurred as many professional academic

³³ Jameson, John H., Jr. (1997) 'Introduction: What This Book Is About.' In: John H. Jameson, Jr. (ed.) *Presenting Archaeology to the Public*. Walnut Creek: AltaMira Press, p. 12.

archaeologists also cite, subscribe, and refer to these non-academic publications.³⁴ The years 1979 – 1999 were chosen for examination because this twenty-year period roughly accounts for a ten-year period leading up to the crest of discussions of gender within the discipline and its wake continuing to the present.³⁵

AA and AJA were selected because they represent several of the most prestigious journals in professional American archaeology today. *American Antiquity* is the flagship publication of the Society for American Archaeology (SAA), the major professional society for American archaeologists. According to the 'notice to authors' found on the back cover of this quarterly publication, '*American Antiquity* publishes original papers on the archaeology of the New World and on archaeological method, theory, and practice worldwide'. In contrast, the *American Journal of Archaeology* is the main academic publication for the American Institute of Archaeology (AIA), which tends to have a larger non-academic membership and a geographic focus on the Old World. According to the written AJA editorial policy, the scope of the journal is limited to, 'the art and archaeology of ancient Europe and the Mediterranean world, including the Near East and Egypt, from prehistoric to late antique times'. Unlike AA where the editor may publish articles without review, the AJA's editorial policy dictates that 'manuscripts submitted to the AJA are reviewed by appropriate experts without exception': thereby employing an unadulterated peer-review process. Seen together, AA and AJA are the best way to take the pulse of American archaeology at any given time.

³⁴ Consider, Vitelli and Karen D. (ed.) (1996) *Archaeological Ethics*. Walnut Creek: AltaMira Press.

³⁵ Conkey, Margaret and Joan Gero (1997) 'Programme to Practice: Gender and Feminism in Archaeology.' *Annual Review of Anthropology*, 26: pp. 411-37.

Archaeology and the *Biblical Archaeology Review* were selected for this study because they represent the only two public-oriented and widely circulated American archaeology publications that date back to 1979, the date-range for this study. Published since 1948 and a current circulation base of 220,000,³⁶ *Archaeology* claims to be, 'a travel magazine that traverses time as well as space, a science magazine about a romantic subject, and an art magazine that examines human achievement through the ages. Readers are enthusiastic travelers who photograph avidly, read extensively, and are technologically savvy'.³⁷ With such a large circulation, *Archaeology* must have a diverse readership, but it is statistically characterized by about equal numbers of male (54 percent) and female (46 percent) readers, a generally older population (subscribers over 50 years old number 67 percent), and a median income of \$70,200.³⁸ Peter Young, editor-in-chief of *Archaeology*, states that feature articles are often solicited from professional archaeologists through networks established by *Archaeology* staff members; seldom do articles come unsolicited. Young ultimately chooses what themes to pursue, and what papers to publish, although ideally he searches for stories that are 'newsworthy and news breaking...that no one else has'.³⁹

In contrast, BAR - with a circulation of about 180,000⁴⁰ - is according to its website, 'the only magazine that connects the academic study of archaeology to a broad general audience eager to understand the world of the Bible...BAR is the only

³⁶ Peter Young, personal communication 2001.

³⁷ Consulted May 2001: [Http://www.archaeology.org/cgi-bin/site.pl?page=advertising/advertising](http://www.archaeology.org/cgi-bin/site.pl?page=advertising/advertising).

³⁸ Peter Young, personal communication 2001.

³⁹ Peter Young, personal communication 2001.

⁴⁰ Steve Feldman, personal communication 2001.

nonsectarian forum for the discussion of Biblical archaeology'.⁴¹ Based on research carried out by Research U.S.A., Inc., in 1999 for BAR, 40 percent of readers are retirees and 10 percent are teachers/professors, every subscriber in the survey has at least a Bachelors degree, and 40 percent of readers are female.⁴² According to one editor, manuscripts are predominately solicited from authors when the editors see an interesting conference paper, read a dynamic academic journal article, or know of an on-going excavation and/or analysis.⁴³ Feldman states that BAR editors do not consciously select authors based on gender, although he surmises that the field is 'heavily male'. BAR is used in this study with caution because it only concerns a limited geographic area and subject matter. Consequently, scholars from diverse fields, from classics, to art history, to religious studies, contribute to this publication. This raises potential issues of comparability because it is beyond the scope of this study to address issues of gender equity in all these fields. With this caveat in mind, BAR is still highly relevant for this study because archaeologists constitute the majority of authors, the journal explicitly concerns the archaeological past, and it is produced for the consumption of a wide public audience interested in antiquity.

The basic methodology employed in this study was to review each issue for every selected journal published between 1979-1999 and count the number of total authors, known female authors, authors with an unidentifiable gender, total number of articles,

⁴¹ Consulted May 2001: [Http://www.biblicalarchaeology.org/about2.html](http://www.biblicalarchaeology.org/about2.html).

⁴² Consulted May 2001: [Http://www.biblicalarchaeology.org/about4.html#dem](http://www.biblicalarchaeology.org/about4.html#dem).

⁴³ Steve Feldman, personal communication 2001.

and total number of articles that explicitly address a theme of gender.⁴⁴ To limit the scope of this project, as well as for consistency and comparability, only major articles, excluding book reviews and the like, were counted.⁴⁵ The total percentages of female authors were tallied, and several students t-tests - which statistically measures the differences in mean values - were calculated to assess the significance of these findings.

Critical to this study is the number of female archaeologists between 1979 and 1999. This figure is relevant so far as if gender parity exists within the discipline of archaeology one would anticipate similar percentages between female professionals and female authors. At the same time, because this study aims to compare female authorship between academic and public journals, much can be said even if an accurate percentage of female professionals cannot be established. Indeed, it is quite difficult to categorically ascertain this percentage, although several authors have suggested various numbers (Table 1). Melinda Zeder proffers several approximations, most notably by counting the number of degrees awarded to each gender through time (Figure 1).⁴⁶ Although these numbers are useful guides, they are problematic because none comprehensively and precisely counts the number of professional archaeologists capable and willing to publish in major public and academic journals. So, for instance, while Hutson's graph of the percentage of dissertations awarded to men and women is informative (Figure 2), it is

⁴⁴ One possible methodological problem is that the total number of authors and the female authors were counted ignoring whether the articles were written by individuals or collectively. No statistical importance was given to whether women were sole, senior or junior author. Other studies have mitigated this problem by only counting primary authors and by quantifying representation with a statistical ranking scheme. Because this study concerns the *general* presence of women in publications, and not necessarily the power structures *within* the process of publication, only the presence/absence of female authors was counted.

⁴⁵ For AA, articles, reports, commentaries, and the forum were included for calculation, whereas for AJA, field reports, area reviews, chronologies, and articles were included. For both AM and BAR, only 'features' were counted excluding news briefs, forums, book reviews, special photo sections, and department reports.

⁴⁶ Zeder, Melinda (1997) *The American Archaeologist: A Profile*. Walnut Creek: AltaMira Press.

also limited for this analysis because not every new Ph.D. will seek to immediately publish in *American Antiquity* or *Archaeology*.⁴⁷ For the purposes of this study, it is only necessary to estimate the percentage of female professionals of the study period, not with total precision, but at least with reasonable accuracy. As will soon become apparent, my estimation would have to be seriously flawed to appreciably alter the study's conclusions. Given these considerations, I have conservatively estimated the percentage of female archaeologists during the 1970s, 1980s, and 1990s (Figure 3) using as a proxy measure the previous analyses summarized in Table 1.⁴⁸

Unquestionably these methods present several potential limitations. For instance, in determining which articles explicitly discussed gender, I first perused each title and abstract. If an article seemed like it might delve into gender - through methodological, theoretical, or analytical approaches - I read through the article. The article did not have to be on 'women', but it did have to openly address some issue surrounding gender. While this approach undoubtedly located most of the papers that explicitly attended to gender, it easily might have missed a paper with a misleading title, or a vague abstract. A second issue is that in counting female authors, I did not consider seniority in the profession. Although seniority in a social science discipline probably correlates with publishing in prestigious journals, one still would expect a proportional rise in female publications as more women entered the field (even as second or third author). It is worth noting that although *American Antiquity*, *Archaeology*, and *Biblical Archaeology Review* all have

⁴⁷ Hutson, Scott R. (1998) 'Institutional and Gender Effects on Academic Hiring Practices.' *SAA Bulletin*, 16 (4): pp. 19-21, 26.

⁴⁸ By 'conservatively' I mean to say that if I estimated the percentage of female authors at a higher percentage, then the gap between female authors and female archaeologists would be all the greater. These estimates can be considered minimum values.

some form of peer review, this practice is not a blind review (the author's name is often known to the reviewer), so issues of gender can consciously or unconsciously seep into the review process.

Still another limitation is that gender was assessed and recorded by the characteristics of the author's name, which were not always typically male or female, or as was more common in the past, the authors only used initials. Moreover, authors may have used pseudonyms for publication, perhaps - like using initials - in order to disguise or hide their gender.⁴⁹ In all likelihood, a few authors were also incorrectly categorized because their name does not accurately reflect their gender, or because some names can be either male or female (e.g., Robin, Sam, Chris). However, as this project aims to capture general trends and not indisputable counts, minimal miscalculation does not fatally undermine the project. Furthermore, the 'about the author' section in BAR and occasionally the author descriptions and/or photographs in *Archaeology* suggested the author's gender. In a final attempt to delimit the number of authors with unidentifiable gender, those writers with gender-neutral names were noted, and a research assistant (Sarah Luchetta) and I conducted a web search for those individuals and if that failed we attempted to contact the individual and pose the somewhat awkward question: what is your gender? If these approaches failed (and I always tried to err on the side of caution) and a writer's gender remained indeterminate, the individual was categorized as 'unknown'.

⁴⁹ Chu, Clara & Bertrum Macdonald (1990) 'The Public Record: An Analysis of Women's Contributions to Canadian Science and Technology before the First World War.' In: Marianne Gosztonyi Ainley (ed.) *Despite the Odds: Essays on Canadian Women and Science*. Montreal: Véhicule Press, p. 64.

Analysis and interpretations

In examining all four journals between 1979 and 1999, a total of 3,891 authors were calculated, of which 846 (22 percent) were recorded as female (Table 2, 3, and 4; Figure 4 and 5). This mean percentage is statistically significant, well below the estimated percentage of female archaeologists during the same period of time. Despite pursuing the rigorous methodology outlined above, a total of 111 (3 percent) remained ambiguous and were thus assigned to the category of gender unknown. This number of unknown authors implies that the female percentages ought to be considered *minimum values* – that is, potentially rising 3 percent above the stated value.

The *American Journal of Archaeology* overall had the highest percentage of female authors. Between 1979 and 1999, an average of 38 percent of the total number of articles were authored by women, and with a slight increase over the years, as between 1979 to 1988 one finds an average of 34 percent and between 1989 and 1999, 40 percent. This apparent increase was not obviously statistically significant, however. Compared to the other journals, AJA has a wide range of variability going from a high of 65 percent in 1999 and a low of 24 percent in 1985. In the year 1991, the year that is seen as a watershed of gender issues in many respects, AJA has the highest percentage (32 percent) of female authorship of all the journals in this study, although *American Antiquity* is close

at 23 percent and *Archaeology* also has 32 percent authored by women. Over the twenty-year period of this study, AJA had nine articles explicitly exploring issues of gender, compared to AA's total of 17 articles. Furthermore, all of these AJA articles appeared after 1987, and most (78 percent) within the last decade.

With *American Antiquity*, in contrast, 20 percent of its total authors were women between 1979 and 1999. A noticeable increase occurred over the two decades rising from 17 percent between 1979 and 1988, to 25 percent between 1989 and 1999. This eight percent increase — a statistically significant increase — was the largest of all the journals. *American Antiquity* had the least variability over the years ranging from 11 percent female authors in 1988 to a high of 33 percent in 1994. It is interesting that in 1997, when AA published six articles explicitly concerning gender issues, only 23 percent of the total number of authors in that year were female: a low percentage, even by AA's standards. At the same time, AA's 17 articles explicitly dealing with gender was the highest number for all journals examined.

For the public journal *Archaeology*, 24 percent of the total authors were female between 1979 and 1999. This percentage slightly decreased (although not a statistically significant decrease) over the two decades as between 1979 and 1988, 25 percent of the authors were female, compared to 24 percent between 1989 and 1999. While a rather small percentage considering the methods of this study, these numbers are worth noting in that one might expect a more significant increase in female authors as the discipline became more concerned with issues of gender and more women became professional archaeologists. A fairly large range characterizes *Archaeology*, as there were a low of 15 percent female authors in 1993 and a high of 41 percent in 1987. In 1991, *Archaeology*

tied for the highest percentage of female authors (32 percent). *Archaeology* also had the earliest article explicitly dealing with gender in 1979, although it had only a total of six articles over the twenty-year study period.

The *Biblical Archaeology Review* had the fewest female authors with only 14 percent of the total articles authored by women between 1979 and 1999, and only a slight (though not statistically significant) increase from 1979 and 1988 at 13 percent going to 15 percent between 1989 and 1999. BAR had a range similar to *Archaeology* going from 4 percent in 1984 to a high of 21 percent in 1998. Among the more noticeable features of BAR is the small portion of female authors (4 percent) over an entire year (six issues) in 1984. Comparatively, AA also decreased dramatically in female authorship in 1984, although its levels were still within a more typical range. These data are especially curious when one considers that two of the six articles explicitly concerning gender in BAR were published in 1984 and 1983.

The mean percentages of female authors in each of these publications juxtaposed against the estimated percentage of female archaeologists during the same time period is not random, one can say with a high degree of statistical certainty (Table 4). That is, according to the measurements of the students t-test, there is a statistically significant difference between the percentage of female authors in these journals and the percentage of female archaeologists. Thus, three of these publications (BAR, AM, and AA) seem to under-represent women, while only one (AJA) supercedes what one might anticipate given the percentage of female archaeologists. When the publications are grouped by decade, the change from 21 percent female authors to 25 percent is indeed a statistically significant change. Consequently the increasing numbers of female authors between 1979

and 1999 appears to be a real change, a significant increase in representation of women, even as the *overall* percentage of female for the past two decades has remained below the percentage of female archaeologists.

In the end, the apparent fact that three out of the four journals rose in the percentage of female authors might at first suggest that females *are* becoming better published and hence achieving greater gains (however small that gain might be) within the discipline. However, considering that the percentage of professional females in American archaeology has increased by roughly 10 percent between 1979 and 1999, the small increases in the percentage of female authors in AA (8 percent) and AJA (6 percent) between those same years means that not only are women not making real gains, they are barely keeping even.

From the year of Gero and Conkey's influential publication to 1999, all four journals published 28 articles explicitly addressing issues of gender (Figure 6).⁵⁰ This is compared to 10 articles for all four of the publications between 1979 and 1990. This increase is particularly striking because it seems to have occurred in spite of the nominal increase of female authorship over the same period of time. Although certainly disciplinary themes of gender are by no means the exclusive domain of women, it is intriguing that such a clear increase in gender as a legitimate part of the archaeological discourse was *not* accompanied by a parallel increase in female authorship.

As the *American Journal of Archaeology* and *Archaeology* both originate from the same organization, the Archaeological Institute of America, the relationship between

⁵⁰ Gero, Joan M. & Margaret W. Conkey (eds.) (1991) *Engendering Archaeology: Women and Prehistory*. Oxford: Basil Blackwell.

the publications is of interest. There is no clear, definitive pattern between these two publications, however. Between several years, it appears as though AM might lag behind AJA because as one sees an increase in female authors in AJA, the following year AM has an increase in female authorship (e.g., 1992-1994). However, in other years AJA decreases in female authors while AM increases and vice versa (e.g., 1993-1995 and 1979-1981), and in many years the two publications mirror one another (e.g., 1983-1989 and 1996-1998). The relationship between these publications thus remains ambiguous.

Even as the exact relationship between AJA and AM is difficult to define, it is more patent that taken together the academic journals have a higher percentage of female authors than the public-oriented journals. When AJA and AA are combined, female authors constitute 29 percent of all authors between 1979 and 1999, compared to 20 percent for AM and BAR.⁵¹ Augmenting this pattern, of the 38 articles explicitly addressing gender issues, 26 (68 percent) were in AJA and AA, in contrast to 12 (32 percent) for AM and BAR. These data suggest that when combined these public-oriented journals do not publish a larger percentage of female authors, and do not concern issues of gender as frequently, when compared to academic journals.

A summary

In regards to the two academic publications, when combined AA and AJA tend to have a higher percentage of female authors and cover gender issues more frequently than AM and BAR combined. It is significant that AJA consistently has a *higher* percentage of

⁵¹ A students t-test indicates that these differences are highly significant with a p value of .0004 (37 df, 16.31 variance).

female authors than the estimated number of professional female American archaeologists, and that the percentage of female authors in AJA might (statistically) parallel the growing number of estimated professional female American archaeologists. In turn, AA consistently has a *lower* percentage of female authors than the estimated number of professional female American archaeologists, although its increase in the number of female authors is roughly proportional to the estimated increase of female archaeologists over the two decades this study focuses on. In this way, this increase in the percentage of female authors does not represent progress because the rate of publishing has not grown faster than the rate of women who have joined the ranks of professional archaeology.

The two public-oriented journals — AM and BAR — when combined clearly have a lower percentage female authors than the two academic publications and these public-oriented publications do not explicitly address issues of gender as frequently. Additionally both public-oriented journals are significantly below the estimated percentage of female American archaeologists between 1979 and 1999. As mentioned, BAR must be used cautiously here because of its unique focus. Indeed, if BAR is removed from the equation, AM has a higher percentage of female authors (25 percent) than AA (21 percent) between 1979 and 1999. Hence, if only these two publications are taken into account, it would appear that although they are roughly equal, the public journal has more female authors than the academic publication. However, even when disregarding BAR, AM still has a *lower* percentage of female authors than the estimated percentage of professional, female, American archaeologists; and it does not increase its percentage commensurate to the increase of female archaeologists in the discipline. In fact, there is a *decrease* in the percentage of female authors between 1979 and 1999, indicating that not only have these publications failed to kept up with the increasing proportion of female archaeologists, the gap has actually grown larger between female archaeologists and female authors in these journals.

Despite the differences among the journals examined here, when all four journals are combined it is clear that female scholars are not publishing articles in numbers proportional to their presence in professional American archaeology. Merging all the

journals, women only represent 22 percent of the total authors between 1979 and 1999. Even if BAR is considered an outlier and removed, AJA, AA, and AM have a combined female authorship of 23 percent (3,290 total authors, of which 763 are female) — still noticeably (and statistically) below the estimated average of professional female archaeologists during the same time.

In sum, while this study has shown that professional female archaeologists remain underrepresented as authors across different types of publications, the patterns of authorship between public and academic journals is mixed. If the four journals examined are grouped into academic (AJA and AA) and public (AM and BAR) journals, then it would appear that women have found a louder voice – though still hushed – in academic publications. However, this pattern is not as clear when BAR is disregarded as a possible outlier. Additionally, this study has shown that the increase in female authors in the two academic publications roughly parallels the growing number of female archaeologists in the profession generally. Hence, although this increase does not illustrate real gains, these publications are maintaining an increase in female authorship somewhat proportional, though by no means equal, to the increase in female professionals. In contrast AM, and mirrored by BAR, not only has fewer female authors, it also has not maintained a growth of female authors parallel to the increase in female archaeologists. Given the constraints of this study, it is uncertain why these variances of authorship exist in at least three of the four journals examined, as well as between the academic and public journals. Such factors may include employment issues within the discipline, hidden discrimination by reviewers or editors, funding patterns that may correlate with the ability to produce publications, or still other possibilities. Some or all of these potential explanations could account for the results produced and provide new avenues for future study.⁵² More qualitative research on the professional life of contemporary female scholars would offer even further insights into the ways in which the careers and academic output of women have been hindered or helped. Indeed, I hope this study will serve as a springboard for continuing research that seeks to further isolate patterns of authorship in American

⁵² Compare Hutson, Scott R. (2002) 'Gendered Citation Practices in American Antiquity and Other Archaeological Journals.' *American Antiquity*, 67 (2): pp. 331-42.

archaeology and what its consequences may be, as well as what creates the environment in which such disparities persist.

In a world without women

In this paper, I have highlighted the importance of the relationship between gender and patterns of authorship in general and in academic and public-oriented publications in particular. Although the content analysis is not entirely unambiguous, it points to the way in which history is constructed through gendered lenses and the general patterns of authorship so vital to understanding issues of equity.

Measuring productivity directs our attention to the social construction of the past, the production and validation of knowledge. Although 'Western science evolved only half human, in a world without women',⁵³ female scholars have long battled not only to find a voice through publication, but also to inject 'women into existing historical narratives, to assert women's historical subjectivity and to question masculinist historiography'.⁵⁴ Hence, the 'politics of representation' is not a simple question of equity, but also how we understand ourselves as gendered beings and our past entwined with the dynamics of gender.⁵⁵ Revealing the gendered assumptions that drive the theories and methodologies of science has radically challenged such disciplines as sociology⁵⁶ and history.⁵⁷ Yet, despite real gains that seek to redress the 'invisibility of women' in academic discourse, the continuing paucity of female voices in practices such as publication is

⁵³ Noble, David F. (1992) *A World without Women: The Christian Clerical Culture of Western Science*. New York: Alfred A. Knopf, p. 1.

⁵⁴ Spongberg, Mary (2002) *Writing Women's History since the Renaissance*. Hampshire: Palgrave MacMillan, p. 8.

⁵⁵ Ross, Karen (2002) *Women, Politics, Media: Uneasy Relations in Comparative Perspective*. Cresskill: Hampton Press, p. 17.

⁵⁶ E.g., Stewart, Mary White (1988) 'Feminism and Sociology: An Unfortunate Case of Nonreciprocity.' In: Beth Hartung, Jane C. Ollenburger, Helen A. Moore & Mary Jo Deegan (eds.) *A Feminist Ethic for Social Science Research*. Lewiston: Edwin Mellen Press, pp. 187-200.

⁵⁷ E.g., Caine, Barbara & Glenda Sluga (2000) *Gendering European History, 1780-1920*. London: Leicestershire University Press.

disconcerting.⁵⁸ For, if *American Antiquity* has an average of 20% female authors, what does this indicate about the profession of archaeology in the present? If *Archaeology* only presents six articles explicitly concerning issues of gender in the last two decades, what does this 'say' (or not say) about life in the past? If, in short, the male-dominated disciplines cannot justly allocate publication space in the present, then how could these same professionals be trusted to construct fair interpretations of our world? Thus, it is not accidental that a discipline like history – dominated by men for centuries – 'has been written largely by and for men as a way of understanding and celebrating those male activities'.⁵⁹

Publication counts, by their nature as a quantification of 'relative productivity', focus on the concrete practices of science that may reveal currents of sexism and exclusion.⁶⁰ The publication patterns of female scholars in a single discipline like archaeology should disquiet all people concerned with issues of equity and inclusion. A recent study of discrimination against women in all sectors of American life discovered that chauvinist behaviours are shockingly prevalent, and frequently exceedingly damaging to women's professional and personal lives.⁶¹ Unfortunately, such biases are not limited to North America. In Sweden, for instance, 'women are awarded 44 per cent of the biomedical PhDs but hold a mere 25 per cent of the postdoctoral positions and only 7 per cent of professional positions'.⁶² Not coincidentally, the same system that produced these gendered disparities in employment limits the productivity of Swedish female scholars.⁶³ While the apparent exclusion of women from some forms of publication – and

⁵⁸ Gallagher, Ann-Marie, Cathy Lubelska & Louise Ryan (2001) 'Introduction.' In: Ann-Marie Gallagher, Cathy Lubelska & Louise Ryan (eds.) *Re-Presenting the Past: Women and History*. Harlow: Pearson Education, p.1.

⁵⁹ Reilly, Kevin (1997) 'Forward.' In: Sarah Shaver Hughes and Brady Hughes (eds.) *Women in World History: Readings from 1500 to Present*. Armonk: M.E. Sharpe, p. xi.

⁶⁰ Matyas, Lakes (1985) 'Obstacles and Constraints on Women in Science.' In: Jane B. Kahle (ed.) *Women in Science: A Report from the Field*. Philadelphia: Falmer Press, pp. 77-101.

⁶¹ Landrine, Hope & Elizabeth A. Klonoff (1997) *Discrimination against Women: Prevalence, Consequences, Remedies*. Sage: Thousand Oaks.

⁶² Wennerås, Christine & Agnes Wold (2001) 'Nepotism and Sexism in Peer-Review.' In: Mary Wyer, Mary Barbercheck, Donna Geisman, Hatice Örün Öztürk and Marta Wayne (eds.) *Women, Science, and Technology: A Reader in Feminist Science Studies*. New York: Routledge, p. 46.

⁶³ Wennerås, Christine & Agnes Wold (2001) 'Nepotism and Sexism in Peer-Review.' In: Mary Wyer, Mary Barbercheck, Donna Geisman, Hatice Örün Öztürk and Marta Wayne (eds.) *Women, Science, and Technology: A Reader in Feminist Science Studies*. New York: Routledge, pp. 46-52.

consequently public and professional discourse – imply discriminatory practices 'active',⁶⁴ or 'covert' ⁶⁵ discrimination on the part of reviewers or editors seems improbable. More likely, a subtle interplay of stereotypes and structural factors may lend itself to differential professional behaviours and products that fall along lines of gender.⁶⁶ As Londa Schiebinger has argued, female scholars work in a larger social context where they 'still encounter a host of subtle personal and social barriers — barriers that productivity counts do not uncover and that laws alone cannot remove. These barriers are often so much a part of the everyday way men and women relate to each other that they may not even be noticed'.⁶⁷ Such views have pushed researchers like Sørensen⁶⁸ and Pyburn⁶⁹ to reasonably argue that future studies may be most insightful by not simply exposing men as misogynists, but rather addressing the ways both sexes have naturalized and institutionalized gender practices, assumptions, and stereotypes. But as this study has shown, ever fundamental to the discipline is not only which research paths are followed on this and other issues, but also where and by whom it is published.

Acknowledgements

An earlier version of this paper was presented on April 1, 2001 at the Central States Anthropological Society Meeting held in Lexington, Kentucky, U.S.A. I am greatly in debt to Bettina Arnold, Jeff Clark, Brett Hill, Scott R. Hutson, Patrick Lyons, Trudy R. Turner, and several anonymous reviewers for their suggestions and critical comments. Sarah Luchetta assisted in this project by helping gather some data. Peter Young and Steve Feldman generously gave their time to answer my questions. I am also grateful to the committees serving the 2001 University of Wisconsin - Milwaukee Center for Women's Study Research Competition and the 2001 Indian University David Bidney Paper Award for honoring this paper. These awards encouraged me to pursue this work further and seek its wider dissemination through online publication.

⁶⁴ Irvine, John & Ben Martin (1986) 'Women in Radio Astronomy-Shooting Stars.' In: Jan Harding (ed.) *Perspectives on Gender and Science*. London: Falmer Press, p. 83.

⁶⁵ Ramaley, Judith A. (ed.) (1978) *Covert Discrimination and Women in the Sciences*. Boulder: Westview Press.

⁶⁶ Glover, Judith (2000) *Women and Scientific Employment*. Hampshire: MacMillan Press, p.107-166.

⁶⁷ Schiebinger, Londa (1999) *Has Feminism Changed Science?* Cambridge: Harvard University Press, p. 53.

⁶⁸ Sørensen, Marie L.S. (2000) *Gender Archaeology*. Cambridge: Polity Press.

⁶⁹ Pyburn, K. Anne (1999) 'Repudiating Witchcraft.' In: Tracy L. Sweely (ed.) *Manifesting Power: Gender and the Interpretation of Power in Archaeology*. London: Routledge Press, pp. 190-97.