

A CRITICAL EVALUATION OF RECENT GENDERED PUBLISHING TRENDS IN AMERICAN ARCHAEOLOGY

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This paper explores the relationship between gender identity and patterns of authorship in peer-reviewed journals as a lens for examining gendered knowledge production and the current status and visibility of men and women in American archaeology. Drawing on feminist theory and the feminist critique of science, I examine how gender imbalance and a lack of diversity continue to affect the work that archaeologists produce. The evaluation of publishing trends serves as a means to investigate knowledge valuation/validation in archaeology and lends insight into the control over archaeological narratives. Analysis of publication rates from 1990–2013 in a number of prestigious archaeology research journals (including American Antiquity) as well as smaller-scale regional journals reveals that strong gender differences persist in one of the major ways that data are disseminated to the American archaeological community. I suggest that these patterns are likely a result of authorial behavior, rather than editorial or reviewer bias, and conclude with a discussion of future directions for practitioners to pursue research on gender equity in the discipline.

Este artículo explora la relación entre género y autoría en revistas sujetas a revisión por pares para examinar la producción de conocimiento y el estado actual y la visibilidad de hombres y mujeres que practican la arqueología americana. Usando la teoría feminista y la crítica feminista de la ciencia, examino cómo desigualdad de género y la falta de diversidad continúan de afectar el trabajo de los arqueólogos americanos. La evaluación de los datos de publicación sirve para investigar la valoración y validación del conocimiento en la disciplina de la arqueología, y nos ayuda a entender el control sobre las narrativas arqueológicas. Análisis de los datos de publicación desde 1990–2013 en una serie de revistas prestigiosas (incluyendo American Antiquity), así como revistas regionales de menor escala, revela fuertes diferencias de género en una de las principales formas en que los datos se difunden a la comunidad arqueológica. Sugiero que estos resultados son probablemente el resultado de la conducta de los autores, en lugar de prejuicios de los editores o revisores, y concluyo con una discusión sobre direcciones futuras de investigación sobre la tema de igualdad de género en la disciplina arqueológica.

As we move further into the twenty-first century and away from older objectivist paradigms, scholars have increasingly recognized the importance of feminist theory and the feminist critique of science for the practice of archaeology (e.g., Conkey 2003, 2005; Conkey and Gero 1997; Wylie 1997, 2010, 2011). While engagement with feminist theory has profoundly influenced the ways in which scholars construct archaeological narratives (particularly with regard to attention paid to subaltern pasts), it has also “turned our gaze inward” toward self-reflection about how gender bias and a lack of diversity have affected the work that archaeologists produce (Wilkie and Hayes 2006:253; see also du Cros and Smith 1993; Gero 1985; Nelson et al.

1994). Over the past few decades, many studies have explored the ways in which gender politics (and often outright discrimination) have affected archaeological practice (e.g., Beaudry and White 1994; Conkey 2007; du Cros and Smith 1993; Gero 1991; Hutson 2002; Moser 1996; Nelson et al. 1994; Stark et al. 1997; Tomaskova 2007; Victor and Beaudry 1992; Wright 2003) and how, as a result, such politics have influenced our knowledge of the past. Reappraisal of these issues is important as our discipline continues to evolve.

In this paper, I explore the relationship between gender identity and patterns of authorship in peer-reviewed journals as a lens for examining gendered knowledge production and the current status and visibility of men and women in the

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discipline. Much of the work on discipline sociopolitics cited above has been directed toward evaluating academic hiring practices, promotion, grant-funding success, and fieldwork opportunities, revealing persistent patterns of differential support, training, and advancement opportunities for women in archaeology. In this study, I consider publication trends to explore another potential source of unevenness (*sensu* Beaudry and White 1994). Specifically, I analyze publication rates by men and women in 11 peer-reviewed archaeology research journals from 1990–2013, including outlets for major topical syntheses and regional serials, to evaluate the current representation of men's and women's work. I focus my discussion on journal publishing trends for reasons that are both practical and substantive: (1) statistics on male and female journal authorship are easily accessible and quantifiable; and (2) publications represent the dominant discourse of the field. Scholars' ideas and interpretations, disseminated through publication, constitute their academic capital (Wylie 1983; see also Bourdieu 1988) and are often the key basis for career success, particularly within academia. Frequent publication leads to increased recognition by members of the archaeological community and increased levels of prestige and, as a result, the acceptance and perpetuation of certain archaeological narratives. Indeed, those who publish predominantly control the narrative of the field, shaping the theoretical landscape of our discipline, putting forth topics that archaeologists see as interesting or important, and presenting ideas that shape future research. Data on publication rates thus represent a useful lens for examining current identity politics in archaeology in terms of gendered knowledge production/dissemination as well as scholarly recognition.

Examining gender equity in any discipline is a complex issue. There are a number of ways to measure prestige, and, in many cases, women's (or men's) contributions to a particular field may be substantial but have low visibility, or be difficult to measure or quantify (e.g., research disseminated in gray literature, which is often cited frequently in peer-reviewed literature). Peer-reviewed journal publication primarily reflects the output of a subset of the practicing archaeological community (namely academics whose work rep-

resents that of a small minority of working archaeologists). The visibility and prestige I examine here are not necessarily reflective of those working in *Cultural Resource Management* (CRM), government, preservation, and business sectors, whose differing job requirements, expectations, and reward structures may not place an emphasis on publishing as a measure of success. I thus use publication data as one line of evidence to evaluate current discipline sociopolitics, with the goal of elucidating who currently controls the archaeological narrative. I argue that, although many of the historical barriers that served as the initial impetus for feminist theorizing appear to be slowly breaking down (Frith 2001), inequities remain in one of the major ways that data are disseminated in today's American archaeological community. Ultimately, I submit that current gendered authorship trends in archaeology are likely a result of authorial behavior, rather than editorial or reviewer bias. While ethnographic and/or survey data are needed to substantiate this claim, I consider various possibilities for the patterns documented that can be tested once such data become available.

Situating Sociopolitical Research

A strong interest in the sociopolitics of archaeology began in the 1980s, primarily with the work of Joan Gero (1985, 1991, 1994, 1996). Since then, a number of other scholars have joined this vein of research, documenting a range of structural inequalities that demonstrate the extent to which our discipline is deeply and pervasively gendered (e.g., Claassen 1992, 1994; du Cros and Smith 1993; Irwin-Williams 1990; Kramer and Stark 1988; Moser 1996; Nelson et al. 1994; Reyman 1994; Walde and Willows 1991; Yellen 1994; Zeder 1997a). Researchers have highlighted the different ways that, historically, women have lagged behind men, from the undocumented contributions of wives of practicing male archaeologists (Díaz-Andreu and Stig Sørensen 1998; McBryde 1993) to the compounding factors of the dual career bind for partnered archaeologists (Nelson and Crooks 1994; Van Dyke 2008) and the ghettoization of women to "less desirable" subfields (Clarke 1993; Garrow et al. 1994), often related to occupational sex-typing (including cer-

tain lab-based specialties, see Gifford-Gonzalez 1994).

An important synthesis of empirical data related to gender equity appeared in Zeder's (1997a) volume, *The American Archaeologist: A Profile*. Based on her analysis of Society for American Archaeology (SAA) survey data collected in 1994, Zeder (1997a:1) suggested that the field of American archaeology was "in the midst of significant change." The trends revealed by the 1994 survey indicated strong potential for change in the gendered makeup of the profession; women appeared to be gaining gender equity on a number of fronts, including admission to and completion of graduate programs, amount of time to degree, and greater overall salary parity (Zeder 1997a:3). Yet, according to Zeder's report, women continued to be hampered by lower scholarly productivity, lower funding success, and lower levels of job satisfaction and security. Zeder noted that male professors continued to earn more than females¹ and that men were more likely to secure tenure-track positions than women. Other studies in the 1990s documented similar trends related to academic representation; a study by Stark et al. (1997; see also Hutson 1998) concluded that women were not being hired in academia in proportion to their representation among Ph.D. recipients.

Many scholars have considered gender bias as a barrier to success for postgraduate women, describing a chilly climate (e.g., Parezo and Bender 1994; Wylie 1993) of social conditions that make the difference between completing a Ph.D. and completing a Ph.D. that results in a successful scientific career. A number of recent studies have brought attention, both qualitatively and quantitatively, to contemporary issues such as institutional barriers to success faced by postgraduate women (including working mothers), the treatment of queer colleagues, and the struggles that women face in finding appropriate models and mentors in academia and beyond (e.g., Barber 2012; Baxter 2005; Lewin and Leap 2002; Oland 2008; Rizvi 2008; Surface-Evans and Jackson 2012; Wright 2002). The issues identified by these authors are by no means unique to archaeology; a wide range of studies have addressed similar factors affecting the representation of women in a variety of science-based fields (e.g., Bart 2000; Brush 1991; Creager et al. 2001; Etkowitz et al.

1994; Keller 1991; Long and Fox 1995; Maranto and Griffin 2011; Sonnert and Holton 1996). It bears noting, however, that many gender equity studies in archaeology/anthropology appear in society or institution newsletters (e.g., *The SAA Archaeological Record* or the American Anthropological Association's *Anthropology News*) or are circulated as committee reports (e.g., Committee on Gender Equity in Anthropology [CoGEA; formerly COSWA] reports) or in online blog postings. The fact that these equity critiques are often distributed in a more informal format (vs. publication in peer-reviewed journals) has implications for the audience of these types of studies, as well as the merit that is placed on them.

A few equity critiques have emerged specifically concerning the ways in which archaeological data are disseminated (and valued). Hutson's (2002) bibliometric study of citation practices in *American Antiquity*, *Journal of Field Archaeology*, *Ancient Mesoamerica*, and *Southeastern Archaeology* revealed that there continues to be a tendency to undercite women. According to Hutson's (2002:340) study, the rate of citation of women was still significantly below the rate of publication by women, regardless of the gender of the citing author.² Beaudry and White (1994) noted this trend for the journal *Historical Archaeology* as well, proposing that undercitation of women may be a result of both a reluctance of women to submit articles for publication in the first place and chilly climate factors that devalue or marginalize women's contributions. They found that women tended to cite women more than men cited women in *Historical Archaeology*, but that women also cited more sources on average than men. Beaudry and White (1994) attributed this pattern to a perceived need by women to go to greater lengths to show their work (i.e., to provide greater evidentiary support for their claims). Comparing gendered publication trends in *American Antiquity* and *Historical Archaeology* in the 1970s and 1980s with society memberships in affiliated organizations (SAA and the Society for Historical Archaeology, respectively), Victor and Beaudry (1992) found that women were not represented in publications at levels even remotely close to men or proportional to their membership in those organizations. Similar gender-based differences in conference participation have

been noted for other organizations; Claassen et al. (1999) exposed a gender imbalance in research presented at the Southeastern Archaeological Conference (SEAC) from 1983–1995 (i.e., that more men and fewer women were presenting papers than would be expected given their membership ratios). My recent examination of SEAC data from 2000–2013 indicates that this trend has persisted into the present (Bardolph and VanDerwarker 2013). Burkholder's (2006) evaluation of SAA program data revealed that women continue to lag behind men in participation at the SAA annual meetings as well.

My goal in this paper is to contribute to the growing body of research on women's visibility in the discipline through a study of their representation in some important publication venues for archaeologists. In doing so, I critically consider the production of scientific knowledge. The interpretation and dissemination of archaeological data greatly depend on who is doing the analysis and for what reasons, whether political, personal, academic, economic, or otherwise. Biases are more likely to arise and persist when science is practiced by a fairly homogenous group whose values and interests are largely shared and unquestioned (Wylie 2010:240). Historically, our understandings of the past have been constructed by a singular and dominant group (white men), but it is important to note that women are perhaps the only traditionally excluded group to have recently gained sufficient representation within archaeology to have developed critiques on their own behalf (Wylie 1997:83).

The standpoint of archaeological researchers is shaped by many factors other than gender; thus, I address a caveat of this research—by necessity I treat women in archaeology as a collectivity that, particularly in academic contexts, is primarily white and middle-class (see Wylie 1993:245). The third-wave feminist critique highlights the fact that previous generations of feminists took white women's experiences to be normative and universal (e.g., Donovan 2001; Lorber 2001). Issues of racism, classism, and homophobia have played a critical role in defining who makes a career in archaeology, both historically and today. While considerations of race, ethnicity, class, and sexuality would make for a fully robust evaluation of gender equity, I must leave those issues aside

simply in terms of accessibility to that information. I also restrict my data collection to peer-reviewed journals published in North America and in English (although some of the journals considered in this study have international contributors), which represents only a portion of the archaeological literature disseminated worldwide.

Setting the Stage: Current Demographic Trends

The publishing data presented in this study cover the time span from 1990–2013. I selected this time frame in order to assess whether greater shifts toward gender parity, as represented in publishing, had occurred in the past two decades since the first major inquiries into the discipline's sociopolitics took place. That said, I expect contemporary publishing trends still to be embedded in older structuring principles of the field. As noted above, publishing in peer-reviewed journals is primarily (although not exclusively) the privilege of those who have managed to secure the few key academic positions available, which historically have been dominated by men. However, we might expect a proportional rise in female publications as more women enter the field (often starting at the graduate level, as it is increasingly necessary for young scholars to have publications before entering the competitive academic job market). Current statistics reported in the American Anthropological Association's *AnthroGuide* (AAA 2013) indicate that growing numbers of women are enrolled in anthropology graduate programs. Certainly, not every archaeologist pursues an advanced degree, but enrollment in and completion of anthropology programs can serve as a basic proxy measure for the representation of women among younger cohorts. Archaeologists invariably begin their training in universities in anthropology departments, and statistics on academic enrollment and degree completion are easily quantifiable with data reported in AAA *AnthroGuide* volumes, which have been used successfully in other studies (e.g., Givens and Jablonski 1996; Hutson 1998; Stark et al. 1997).

In the 2012–2013 academic year, women comprised 64 percent of graduate students enrolled in all anthropology programs, and 65 percent of completed anthropology doctoral degrees were

conferred to women. These statistics represent a further increase from a survey by Givens and Jablonski (1996) that documented a vast jump in the number of anthropology Ph.D.s granted to women between the 1970s and 1990s (32 percent of total Ph.D.s granted to women in 1972 to 59 percent in 1995). The *AnthroGuide's* lists of enrollment and degree completion statistics for North American anthropology departments do not distinguish among subfield; however, the *AnthroGuide* does publish a list of completed Ph.D. dissertation titles labeled by subfield (archaeology, biological anthropology, or cultural anthropology). Archaeology dissertations comprised 23 percent of all dissertations filed in anthropology departments in 2012–2013; of those, 61 percent were completed by women (and 70 percent of dissertations in other anthropology subfields were completed by women). These data indicate that there are greater numbers of women with advanced degrees entering the profession—but does success in graduate school necessarily lead to continued scholarly productivity? Despite the growth and success of feminist archaeology and increasing attempts to address inequities in the discipline, are women still disproportionately represented in other ways (particularly at the professional level)?

To evaluate this issue, I compiled data on gender, SAA membership, authorship, and editorship from the SAA Membership Directory, as well as from 11 peer-reviewed archaeology research journals. SAA membership can serve as a good proxy to evaluate the current gendered makeup of the field. SAA is the largest organization of professional archaeologists of the Americas in the world; with over 7,000 members, the Society represents professional, student, and avocational archaeologists working in a variety of settings, including colleges and universities, government agencies, museums, and the private sector. I thus use SAA membership data to establish the current pool of professionals eligible to publish in archaeology journals. As SAA does not collect or retain membership statistics by gender (Tobi Brimsek, personal communication 2013), I was unable to conduct a diachronic study, but I undertook a content analysis of the SAA membership directory³ to assess the present state of the field. I determined the gender of individual members based on first

name; if names were ambiguous (e.g., Robin, Terry) or members were listed only by initials, I classified them based on familiarity with the individual in question or by researching department/personal webpages.⁴ In determining gender representation based on first names, I acknowledge that I am actually identifying the presumed sex of the individuals and not necessarily their genders. It is possible that some individuals may have been incorrectly categorized because their names do not accurately reflect their genders. Moreover, this method acknowledges only two genders. However, I assume that any such cases would be limited and unlikely to affect the overall gendered trends discussed in this paper.

Of the 7,391 SAA members whose names could be confidently assigned a gender, I determined that men comprise 53 percent of the organization, and women comprise 47 percent. Thus, at present, women and men are represented at close to equal proportions in the society, and presumably in the field of American archaeology overall. But how does gender currently manifest in relation to scholarly productivity and the way that archaeological data are disseminated to our research community?

Current Publishing Trends

As a means to assess this issue, I analyzed 4,552 articles and reports from 11 peer-reviewed journals that represent widely respected outlets for archaeological research. I compiled publishing statistics from five major research journals with high visibility and prestige (*American Antiquity*, *Latin American Antiquity*, *Journal of Archaeological Method and Theory*, *Journal of Archaeological Research*, and *Journal of Field Archaeology*), five region-specific serials that provide geographic coverage of most of the United States (*Journal of California and Great Basin Anthropology*, *Kiva: The Journal of Southwestern Anthropology and History*, *Midcontinental Journal of Archaeology*, *Southeastern Archaeology*, and *Archaeology of Eastern North America*), and a topical journal (*Historical Archaeology*) that appeals to a specialized audience. I collected data from each issue published between 1990 and 2013 and quantified the number of men and women who published articles or reports as lead

Table 1. Summary Publishing Statistics for Men and Women in Major Archaeology Research Journals (per Year).

Journal	Male Publications		Female Publications		Total Pubs			F/M Ratio		Published
	<i>n</i>	Mean	<i>n</i>	Mean	<i>n</i>	% Male	%Female	Mean	F/M SD	
AA	619	25.8	196	8.2	815	76.0	24.0	.322	.095	Quarterly
LAA	329	13.7	152	6.3	481	68.4	31.6	.503	.259	Quarterly
JAR	133	6.3	43.0	2.0	176	75.6	24.4	.442	.495	Quarterly
JAMT	183	7.6	113	4.7	296	61.8	38.2	.733	.622	Quarterly
JFA	337	14.0	138	5.8	475	70.9	29.1	.429	.208	Quarterly
TOTAL	1601		642		2243	71.4	28.6			

authors using the method described above. In addition to feasibility purposes, I focused my data collection on lead authors for two reasons, with some basic assumptions: (1) the lead author represents the individual responsible for doing most of the research and writing for a given study; and (2) the position of lead author is the most prestigious in terms of how studies are perceived by fellow practitioners, as well as how publications are evaluated for job opportunities, tenure, promotion, and so forth.⁵ I reviewed articles and reports only, as they represent the products of original archaeological research, and thus omitted book reviews, comments, obituaries, and editor's notes. Interestingly, Hutson (2002:342) notes that book reviews and obituaries are often considered to be "housekeeping" tasks, in which case it would be beneficial to examine those contributions in their own right with regards to gendered trends of authorship. However, considerations of time and feasibility prohibited me from including those data in this study.

Trends in Major Research Journals

For this study, I selected five journals that primarily publish anthropological archaeology and encompass a broad range of theoretical and methodological foci (henceforth referred to as "major" journals): *American Antiquity* (AA), *Latin American Antiquity* (LAA), *Journal of Archaeological Method and Theory* (JAMT), *Journal of Archaeological Research* (JAR) and *Journal of Field Archaeology* (JFA). These journals are published quarterly by either large society organizations (e.g., SAA) or highly regarded presses, and they are considered to be prestigious publication venues for archaeologists. I present publishing data per volume (summing counts from each issue) to assess annual gendered trends for each

journal (Table 1). The 23-year period of data collection (1990–2013) reveals strong gendered differences in publication rates across each of the five journals. Each major journal contains a much higher percentage of articles and reports lead-authored by men rather than by women. This imbalance can be noted with respect to both the overall percentages per journal and the female-to-male (F/M) ratios (Table 1). To calculate F/M ratios, I summed all of the articles and reports lead-authored by men and women per year and divided the number of female publications by the number of male publications. Mean F/M publishing ratios, as well as standard deviations (which provide a basic measure of variation across the period of study), are presented for each journal (Table 1). An F/M ratio of 1.0 would indicate that men and women were represented in equal rates in a given year; the mean ratios for each major journal reveal that women do not come close to that measure of parity throughout the study sample. Indeed, of the 2,243 articles and reports published in major journals between 1990 and 2013, only 29 percent ($n = 642$) were lead-authored by women (Table 1).

American Antiquity, the flagship journal of the SAA (considered to be one of the most prestigious publication venues for North American archaeologists), is particularly illustrative of the gendered imbalance (Figure 1). Indeed, of the 815 articles and reports published from 1990–2013, 76 percent were lead-authored by men. Of the five major journals, *American Antiquity* has the lowest mean F/M ratio (.322), with the lowest standard deviation (.095). Figure 1 reveals consistently low percentages of publications by women throughout the study period; with slight variation from year to year, there has been no real increase in the proportion of female publica-

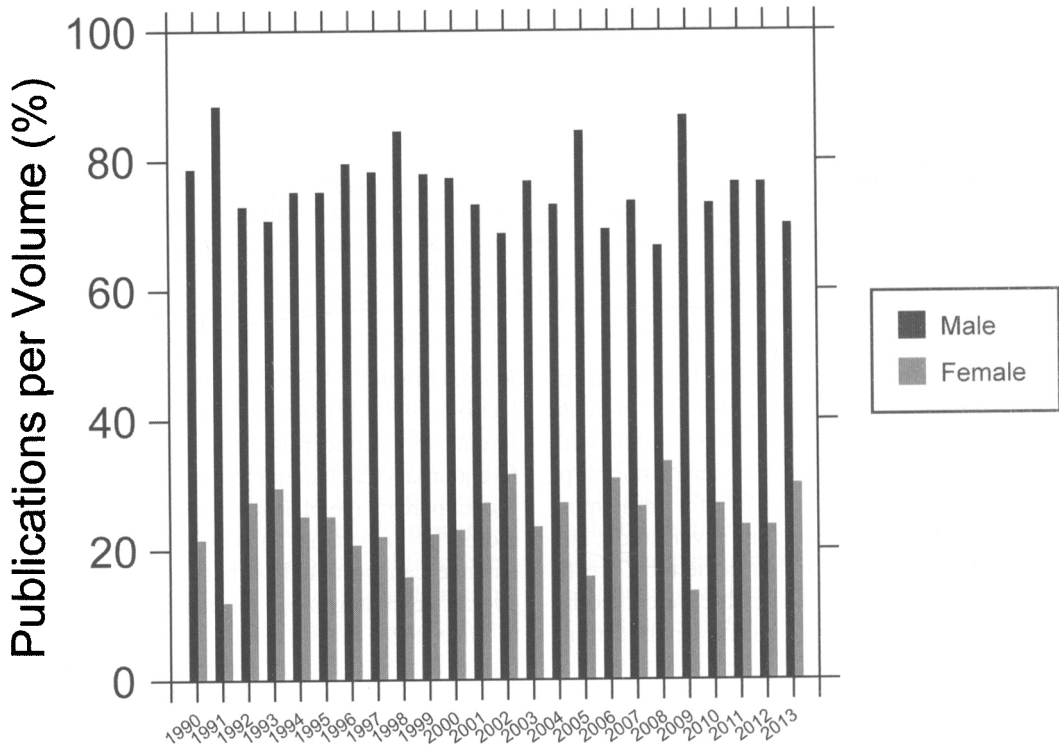


Figure 1. Bar chart of male and female publishing trends in *American Antiquity* (1990–2013).

tions in *American Antiquity* since 1990. This trend is also true of the other major journals assessed in this study; no major journals revealed any clear temporal increases in female publications from 1990 to the present.

To assess statistical differences between the five major journals in terms of gendered publication rates, I present a box plot, which displays F/M ratios of publication rates for all volumes from 1990–2013 for each journal (Figure 2). While the use of box plots has become increasingly common in archaeology, a description of this type of visual aid nevertheless bears repeating. Box plots display distributions of data using several key features (Cleveland 1994; McGill et al. 1978; Wilkinson et al. 1992). The hinges of the box represent the middle 50 percent of the data, while lines, or whiskers, extending from the box on either end represent the remaining top and bottom 25 percent of the distribution (outliers are depicted as asterisks). Notched box plots allow for significance testing; if the notched areas of any two boxes do not overlap, then the two

distributions are statistically different at the .05 level. I include a perfect parity line (Figure 2), which indicates an equal number of articles and reports published by men and women in a given year (i.e., the F/M ratio per volume equals 1.0). The majority of volumes for each journal fall below the perfect parity line, revealing that, overall, there were very few years between 1990 and 2013 in which women and men published an equal number of studies in major research journals (with the majority of volumes falling well below perfect parity).

Of the five major journals, *JAMT* comes the closest to gender parity (Figure 2). Indeed, significantly more articles written by women were published in *JAMT* between 1990 and 2013 than in either *JFA* or *American Antiquity*. It bears noting that the highest outlier in the *JAMT* distribution is primarily the result of a special issue in 2007 (Volume 14[3]), titled “Doing Archaeology as a Feminist,” in which all contributors were women.⁶ Following *JAMT*, *LAA* comes the closest to gender parity; however, an equal number of

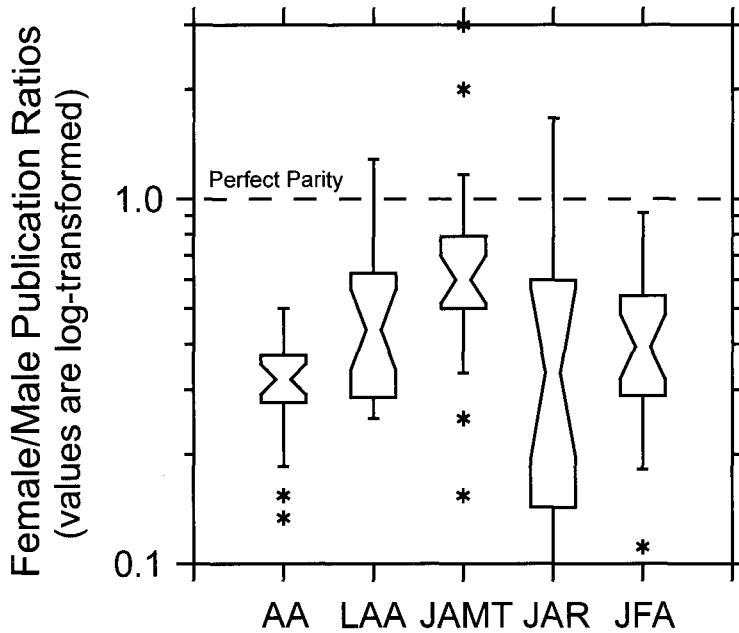


Figure 2. Box plots of female-to-male publishing ratios by volume in major archaeology research journals (1990–2013).

publications by men and women appeared in only one year out of the 23 in the study period. While a few volumes of *JAR* reach or exceed the parity line, the majority of volumes fall much lower. *JAR* also contains fewer publications per issue than the other journals; thus, the smaller sample size leads to a longer box with a much wider confidence interval. Of particular interest in this case are *JFA* and *American Antiquity*; between 1990 and 2013, there was not a single year in which women published an equal number of articles and reports compared to men (let alone a year in which women published more than men). The lower publication rate by women in *JFA* is perhaps unsurprising, as the emphasis of the journal is primarily on field reports (although usually with a broader interpretive context than studies reported in regional journals). Several studies have described fieldwork as typically gendered male (Gero 1985:344, 1996; see also Díaz-Andreu and Stig Sørensen 1998; Dincauze 1992; Moser 2007; Victor and Beaudry 1992). Thus, the lower representation of women in that journal may be a result of a lingering historical bias. But while the proportion of women authorship in *JFA* is quite low, *American Antiquity* represents the

journal with the lowest proportion of female authorship of the five major journals, with the least amount of variation between 1990 and 2013. The narrow hinge spread of female-to-male ratios (i.e., the particularly constricted hourglass in the box plot) from *American Antiquity* indicates a smaller range of sample values, indicating that women are represented in *consistently* lower rates in *American Antiquity* than men (a trend more consistent than in the other major journals). Women authors are least represented in this journal—the one with the widest readership among the five (in large part due to its print and online access as a benefit of SAA membership) and, arguably, the journal that garners the most prestige for North American archaeologists.

The low representation of women in *American Antiquity* from 1990–2013 is a continuation of a long-standing historical trend. Victor and Beaudry (1992) noted a similarly low proportion of female authorship in the journal in their examination of publishing data from 1967–1991. Of the 974 articles published in *American Antiquity* between 1967 and 1991, 74 percent were written by men (Victor and Beaudry 1992:11). The representation of women's work in the journal has remained un-

Table 2. *American Antiquity* Editors 1990–2015.

Editor Term	Editor Name	Editor Gender
1990–1993	W. Raymond Wood	Male
1994–1997	Michael Graves	Male
1997–2000	Lynne Goldstein	Female
2000–2003	Timothy Kohler	Male
2004–2007	Michael Jochim	Male
2007–2009	Stephen Plog	Male
2009–2012	Allison Rautman	Female
2012–2015	Kenneth Sassaman	Male

changed for four and a half decades, despite growing numbers of women completing Ph.Ds and entering the archaeological workforce. As discussed above, current SAA membership comprises 53 percent males and 47 percent females; thus, women are not represented in publications at levels even remotely close to men or to their membership in the organization.

Could the gender of the editor have any bearing on this issue? Six men and two women have served as editor of *American Antiquity* within the period considered for this study (a telling equity trend in its own right upon which I do not elaborate here) (Table 2). Interestingly, a two-sample t-test revealed that more articles lead-authored by women were published in volumes under male editors than under female editors ($t = -1.798, p = .088, df = 18.809$), with a close to significant difference. These data suggest that an editorial bias against women's contributions is unlikely, a point to which I return below.

Trends in Regional Journals

In addition to the major topical synthesis venues discussed above, I evaluate publishing trends in five regional journals that provide broad geographic coverage of the majority of the United States: *Journal of California and Great Basin Anthropology* (CAGB), *Kiva: The Journal of Southwestern Anthropology and History* (Kiva), *Midcontinental Journal of Archaeology* (MCJA), *Southeastern Archaeology* (SEAC), and *Archaeology of Eastern North America* (AENA). I also include data from *Historical Archaeology*, a topical journal in which a specific subset of researchers publish (and was noted by Beaudry and White [1994] to have low female publishing rates through the late 1980s). In the discussion that follows, I consider *Historical Archaeology* to be

within the “regional” journal category when discussing broad level patterns. The journals I discuss in this section are all published by society organizations, including the Arizona Archaeological and Historical Society (*Kiva*), the Midwest Archaeological Conference (MCJA), the Southeastern Archaeological Conference (SEAC), the Eastern States Archeological Federation (AENA), and the Society for Historical Archaeology (*Historical Archaeology*), with the exception of CAGB, which is published by the Malki Museum of the Morongo Indian Reservation in Banning, California, and represents a popular publishing outlet for the California and Great Basin archaeological research communities.

My initial hypothesis was that regional journals would display greater parity, given that they might represent an alternate publication venue for female archaeologists, who are poorly represented in the major journals discussed above. I consider regional journals to differ from major journals in that: (1) I assume that regional journals have generally less competitive acceptance rates than major journals; and (2) opportunities to publish in these journals may be available to a wider variety of employment positions (although data are needed to corroborate this claim). Zeder (1997b) discussed a portion of the 1994 SAA survey in which archaeologists in different work settings were queried as to which professional organizations best met their interests and needs (i.e., SAA/other national or international archaeological organizations vs. regional/state archaeological organizations). She found that, while academics and students generally listed SAA as their preferred membership organization, regional and state archaeological organizations better served the needs and interests of archaeologists working in the private sector. Thus, regional journals (published by regional organizations) may represent a publication venue more available to non-academic archaeologists (e.g., CRM archaeologists) than major journals. Graduate students also may be more likely to submit their work to regional journals rather than highly prestigious major journals; however, data are needed to test these hypotheses.

Examination of regional journal publishing statistics reveals that they closely mirror the gendered trends of major journals (Table 3). Like

Table 3. Summary Publishing Statistics for Men and Women in Regional Archaeology Journals (Includes *Historical Archaeology*).

Journal	Male Publications		Female Publications		Total Pubs <i>n</i>	% Male	%Female	F/M Ratio	F/M SD	Published
	<i>n</i>	Mean	<i>n</i>	Mean						
CAGB	229	10.0	70	3.0	299	76.6	23.4	.359	.228	Biannually
KIVA	289	12.3	143	6.1	432	66.9	33.1	.531	.332	Biannually
MCJA	180	7.7	57	2.4	237	75.9	24.1	.382	.414	Biannually
SEAC	262	11	93	3.8	355	73.8	26.2	.414	.34	Biannually
AENA	179	7.5	27	1.1	206	86.9	13.1	.179	.144	Annually
HIST	508	21.2	272	11.3	780	65.1	34.9	.587	.273	Quarterly
TOTAL	1647		662		2309	71.3	28.7			

the major journals discussed above, each regional journal reveals much lower publication rates by women as compared to men across the period of study. These patterns are evident with respect to both the overall percentages per journal and the mean F/M ratios. Of a total of 2,309 articles and reports published in regional journals between 1990 and 2013, only 29 percent ($n = 662$) were lead-authored by women (Table 3). *AENA* has by far the lowest publication rate by women of the regional journals, with the lowest mean F/M ratio (.179) and the lowest standard deviation (.144). While this journal is published annually and thus represents a smaller sample size, male-authored studies appear nearly seven times more than female-authored studies in *AENA* (and several volumes from 1990–2013 did not have a single article or report lead-authored by a woman). Indeed, of the 11 journals included in this study, *AENA* has the lowest percentage of women's publications; female publications comprise only 13.1 percent of the articles and reports published in that journal over the past 23 years.

Turning to a box plot comparison (Figure 3), we see that, much like the major journals, while some volumes of the regional journals reach or exceed the perfect parity line, the majority of volumes fall below. Of the six journals considered here, *Kiva* and *Historical Archaeology* are the most equitable, followed by *MCJA* and *SEAC* (indeed, both *Kiva* and *Historical Archaeology* publish significantly more articles and reports by women than *AENA*). One possibility for the higher number of publications by women in *Historical Archaeology* could be a result of the practice of urban or “backyard” archaeology—that is, the documented pattern of women focusing

their professional activities, whether in academia or in CRM, in the geographical vicinity of their families and institutions because of the structural constraints of gender on their careers (Bender 1991:214; Dincauze 1991:10). But while *Historical Archaeology* has the largest representation of women's work of the regional journals considered here, the journal hardly reaches parity; indeed, only 35 percent of articles and reports from 1990–2013 are lead-authored by women. This percentage represents only a small increase from the trend observed by Beaudry and White (1994:Table 2) in their content analysis of the journal from 1967–1990, in which they documented that only 30 percent of papers in *Historical Archaeology* were authored by women.

The relatively higher female publication rates in *Kiva* as compared to other regional journals are difficult to interpret. Zeder (1997b) noted in her 1994 survey analysis that older archaeologists were more likely to have received their degrees from Ph.D. granting institutions on the East Coast and in the Midwest, while an increasing proportion of younger archaeologists were receiving degrees from institutions in the Southwest and West. While location of institution is not necessarily correlated with field research location, it is possible that greater numbers of young female scholars are being trained at Southwest institutions and are participating in local archaeology; however, data are needed to substantiate this claim (and a similar pattern is not present for *CAGB*). Of the regional journals considered in this study, *CAGB* and *AENA* published the fewest articles and reports lead-authored by females across the period of study. Much like *JFA* and *American Antiquity* (see above), there was not a single year

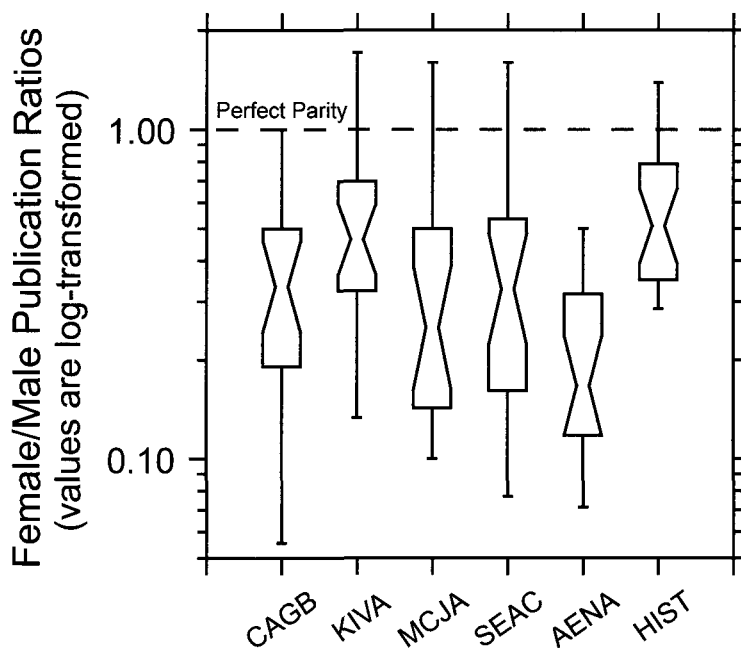


Figure 3. Box plots of female-to-male publishing ratios by volume in regional archaeology journals (1990–2013).

between 1990 and 2013 in which women and men published an equal number of articles and reports in *AENA* (let alone a year in which women published more than men).

If we compare the major research journals to the regional journals examined in this study (Figure 4), we see no substantive difference between the two. Publications by women are lower in the majority of the volumes of all of these journals when compared to men. This pattern is striking—where is the representation of women’s work, if not in either major research journals or smaller-scale regional journals? Despite an increase in the number of women completing graduate programs in anthropology and entering the professional archaeological workforce (see above), women still appear to be lagging behind men with regard to publishing in peer-reviewed journals. Of the 4,552 articles and reports analyzed for this study, only 29 percent ($n = 1,304$) had women as the primary author (a proportion documented equally across major and regional journals, see Tables 1 and 3). Why do women continue to remain underrepresented as authors (and authorities) relative to their numbers in the field?

Sources of Bias: Submission or Rejection?

It is possible that the differential representation of men and women in publishing has more to do with authorial behavior than with a systematic bias against women’s contributions. It is important to note that the data on gender and authorship presented here do not necessarily reflect discrimination (conscious or unconscious) on the part of editors or reviewers—data on submission and acceptance/rejection rates for male and female authors are needed to test this issue. Such data are not available for all the journals discussed in this paper; however, some small studies offer a brief glimpse into this problem. For example, former *American Antiquity* editor Allison Rautman examined who got published in the journal from 2009–2010 using data available from their online submission system. She found that men published more articles than women within that one-year study period, but largely because men submitted more manuscripts than women (Table 4). According to Rautman (2012:26, emphasis added), “male solo authors submit[ted] more than *twice* as many manuscripts as female solo authors,” and male-

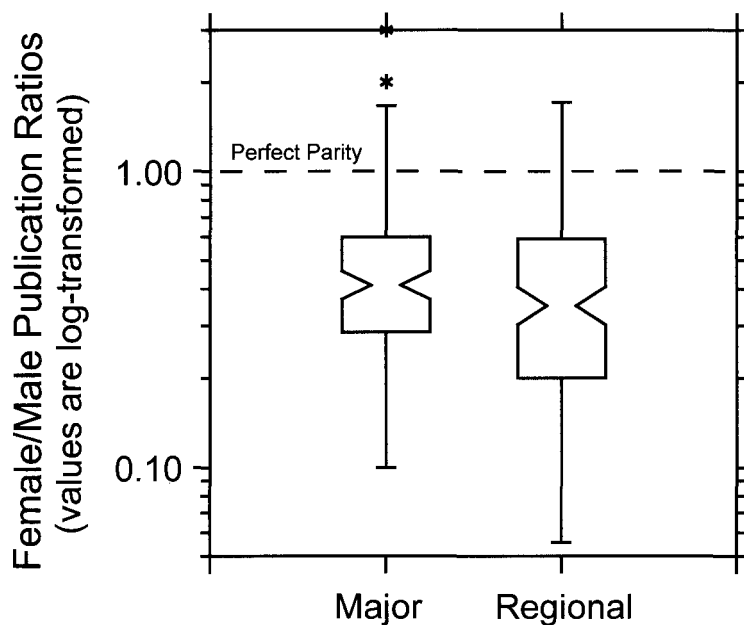


Figure 4. Box plot comparison of female-to-male publishing ratios in all volumes of major and regional archaeology journals (1990–2013).

male authored manuscripts were the most common multi-authored submissions by far. However, acceptance rates between men and women were roughly equal (Table 4).

Rautman's (2012) discussion of submission trends mirror those noted for the journal *Historical Archaeology* from 1987–1991. Beaudry (1994:227; Beaudry and White 1994) noted that women submitted manuscripts (and returned them if accepted pending revisions) at a much lower rate than men. But, like Rautman's findings with *American Antiquity*, according to records kept by the editor of *Historical Archaeology*, the rate of rejection for manuscripts was the same for men and women (Beaudry and White 1994). A similar submission bias has been noted recently for National Science Foundation (NSF) archaeology research grant proposals as well. In an email dated March 7, 2013,

SAA President Fred Limp summarized information provided by NSF Program Director John Yellen highlighting gender differences in NSF senior award submissions. Like the journal editors discussed above, Yellen noted that male PIs submitted NSF proposals nearly twice as frequently as females, although award rates were essentially identical. The lower submission rates of senior grant proposals by women is troubling and may have some bearing on the issues at hand, as securing funding in the first place often correlates with the ability to produce data needed for publications. Interestingly, submissions for NSF doctoral dissertation improvement grants were about evenly divided between men and women—thus, factors inhibiting women from submitting proposals to fund research projects seem to be more pronounced at the professional level. Regrettably, data are not available on recent submission rates from the other journals discussed in this study or from a larger sample of years from *American Antiquity* or *Historical Archaeology*.⁷ Access to those data would allow us to test whether the lower representation of women in journals is indeed a result of uniformly lower submission rates, or whether it reflects an overt bias against the contributions of women (or a combination of the two factors).

Table 4. *American Antiquity* Submission and Acceptance Rates 2009–2010.

	Solo-Male Authors	Solo-Female Authors	Total
Manuscripts Submitted (<i>n</i>)	48	19	67
Manuscripts Accepted (<i>n</i>)	28	10	38
Submission/Acceptance Ratio	.58	.53	.57

Note: Adapted from Rautman (2012:Table 1).

Implications and Recommendations for Future Research

Archaeologists are increasingly questioning the social construction of archaeological knowledge and the real-world consequences of contemporary archaeological practice, from its impact on descendant communities to the roles of researchers themselves (McGuire 2008:2; see also Conkey 2005; Lynott 1997; Watkins 2003; Wylie 1992, 2000). This study reveals that a gender imbalance persists in one of the major ways that data are disseminated and viewed by the North American archaeological community. The fact that archaeological knowledge dissemination is still skewed toward males in this respect has implications for theory-making in archaeology. Conkey (2007) noted in her examination of recent readers in archaeological theory that unless women archaeologists have written explicitly about gender or feminist issues, their theoretical works were not likely to appear in a theory reader. I examined VanPool and VanPool's (2012) *Readings in Archaeological Theory: Selections from American Antiquity, 1962–2011*, a volume intended to reflect the past and current state of archaeological theory. Of the 19 papers selected for inclusion in that reader, only five were lead-authored by women—indeed, those papers comprise 26 percent of the essays in the volume, which is comparable to the total percentage of female publications in journals revealed in this study (29 percent). In reference to their choice of papers reprinted in the theory volume, VanPool and VanPool (2012:xi) assert that “archaeology has been well served by excellent scholars who have invested the hard work necessary to create the frameworks that allow current archaeologists to develop increasingly robust understandings of the archaeological record.” Those theoretical frameworks are not unbiased, however, given that it is predominantly men who are credited for forging them. The minority number of women included in VanPool and VanPool's (2012) reader, along with the publication trends of the 11 journals in this study, indicates a pernicious historical bias with regards to the visibility, recognition, presentation, and circulation of women's writing. Interestingly, again, it is unlikely that this trend is a result of editorial bias—indeed, one of the

editors of VanPool and VanPool (2012) is a woman. But the fact remains that there is a much smaller corpus of women's work in American archaeology for editors of theory readers to mine in the first place. What might account for this apparently chronic lower scholarly productivity?

While this analysis clearly delineates gendered patterns in authorship, the publication data alone cannot reveal the mechanisms that produce the documented disparities. As discussed above, the patterns revealed here might not be a result of an overt bias against the contributions of women so much as a set of factors inhibiting women from producing and submitting data for publication in the first place. This study does not address whether the female/male representation of authors is proportionate to the demographics of academic employment—it is likely that women continue to be underrepresented in academic positions, which afford the most time and opportunity to publish. At the national level, after decades of high female enrollment in most Ph.D. fields, women occupy only 39 percent of full-time faculty positions in all academic disciplines and represent only one-quarter of full professors in academic departments across the United States (West and Curtis 2006). If women are less represented in academic positions in archaeology and are occupying other sectors of the archaeological workforce, then the differing job requirements, expectations, and reward structure of academic and non-academic jobs may be contributing to the predominance of male-authored articles in peer-reviewed journals. However, as discussed above, with the growing number of women completing doctoral degrees and entering the archaeological profession (currently comprising 47 percent of SAA membership) we might expect higher numbers of publication by women in recent years. The data in this study reveal this not to be the case. Even women in academic positions may be likely to lag behind their male colleagues in publishing—and the problem may lie in submission bias.

Although the data needed to test this idea are not currently available, I propose some scenarios that could be tested once ethnographic or survey data are generated. Studies in other fields have shown that women often spend less time on research and more time on teaching, committee

work, and other administrative tasks (e.g., Acker and Feuerverger 1996; Bellas 1999; Chester et al. 1994; Park 1996), and it is often research and publishing, which require sustained attention, that suffer when women devote time to caring for children (Cusack and Campbell 1993; Finkel and Olswang 1996; Grimshaw and Strahan 1982). Women may be reluctant to submit manuscripts to peer-reviewed journals in the first place, due to a lack of appropriate mentorship and opportunity to get feedback from colleagues (Rautman 2012:30; see also Baxter et al. 2008; Cusack and Campbell 1993). Confidence may play a big role in the decision to submit work for peer review in the first place (or to revise and resubmit once feedback is received, including feedback that is often harsh). Another possibility is that women submit fewer articles because they spend more time writing pieces with more weight (Sonnert 1995:20)—that is, they wait to submit completed studies rather than publishing their research piecemeal (and those completed studies may appear in other formats, e.g., monographs, which are less easily quantified).

It is important to note that if women are publishing less (possibly as a result of lower submission rates in the first place), then they are less likely to be invited to review others' work, as the general criteria for reviewer invitations typically include that the reviewer has published previously on the topic/area/method discussed in the submitted manuscript. Rautman (2012:25) notes that from 2009–2010, of the pool of 763 invited reviewers for *American Antiquity*, 485 (64 percent) were men and 278 (36 percent) were women, a slightly higher but similar rate to the gendered authorship ratios of *American Antiquity* documented in this paper. Thus, a troubling cycle is perpetuated: if women publish less, then they will be less likely to be invited to participate as reviewers and, as a result, will have less of a say in what ideas get perpetuated as a result of the peer-review process (see Wennerås and Wold 2001). Through this subtle mechanism, women lose control over the archaeological narrative (i.e., they contribute less to knowledge valuation and validation in archaeology).

The scholarly publishing gap between men and women is not restricted to archaeology; similar inequities have been documented in a number of other scientific fields (Cole and Zuckerman

1984; Sax et al. 2002; Symonds et al. 2006; Xie and Shauman 1996). A recent analysis of millions of scholarly articles collected by the digital archiving service JSTOR (West et al. 2013) reveals the deeply rooted historical nature of this trend. Of the 2.8 million articles published between 1665 and 2010 and archived in JSTOR—articles encompassing a broad range of academic disciplines (hard sciences, social sciences, law, history, philosophy, and education)—only 22 percent were authored by women (although these authorships are distributed unevenly across time, across fields, and across authorship positions). West et al. (2013) assert that, although the gap in productivity in the sciences has substantially narrowed in the past several decades, important gender disparities continue to persist. Indeed, since 1990, women represent only 26 percent of single-authored papers in the JSTOR dataset (West et al. 2013). A recent study by Larivière et al. (2013) also reveals that gender imbalances persist in research output worldwide. They analyzed every article published between 2008 and 2012 that was indexed in the Thomson Reuters Web of Science database; of the nearly 5.5 million papers from 30 countries published in a variety of fields globally, women accounted for less than 30 percent of all authors (Larivière et al. 2013:212). These findings underscore that we cannot yet disregard gender disparity as a notable characteristic of academia, and the data in this study confirm that we have a long way to go before the gap closes in archaeology.

Ultimately, we need finer-grained ethnographic or survey work to determine why women continue to publish less than men and why, as a result, biases persist in terms of how our understandings of the past are produced and disseminated. Other lines of evidence can be pursued to examine the visibility of female writing, including publication in monographs, edited volumes, state-level archaeology journals, technical reports, and conference proceedings, which may represent alternative outlets for disseminating archaeological knowledge (albeit ones that have less visibility and confer less prestige). It would also be beneficial to examine the order of authorship of journal publications to see whether women are represented in higher numbers as secondary authors. Negotiating author order becomes crucial in terms of the pres-

tige, recognition, and authority to contribute to broader discourse conferred by scholarly studies—but with a predominance of male PIs and mentors, women may be less confident or may have less experience with such negotiations (Babcock and Laschever 2007). Perhaps faculty mentors can provide more attention to helping women network so that they can become better incorporated into what is still a male-dominated system. In addition, faculty should actively and widely teach against gender bias. Finally, I suggest a call to arms for journal editors—we need the data on submission vs. acceptance/rejection rates in these major publication venues to be made available to the archaeological community in order to examine with certainty whether the trends documented here are a product of factors inhibiting women from submitting manuscripts in the first place (which I suspect) or a more overt or hidden gender discrimination against their contributions.

Conclusion

While it is certainly true that gender roles and expectations in archaeology have changed in the past few decades since the first major inequities were exposed, this study reveals that imbalances remain in a crucial venue in which archaeological data are disseminated. The perpetuation of gendered imbalances in archaeological practice remains critical to the way the discipline is perceived by both its practitioners and society at large. The patterns noted here are troubling in their subtlety—one may not notice the disproportionate representation of men's and women's work simply by picking up a single journal issue. However, a summary of publishing data from the past 23 years reveals that gendered imbalances remain pervasive in our field. The more aware of these biases we become, the more we can take steps to counteract them—we need to continue to identify tactics and strategies for supporting the many very able women in our profession to submit and publish articles and reports and thus to increase their visibility; otherwise, our understandings of the past remain biased toward the studies engineered and legitimized by a single dominant group.

The publishing trends discussed here indicate that gendered politics are very much at work in

the profession of archaeology in the present, but also hint at how skewed standpoints of authorship alter our understandings of the past. The production of scientific knowledge is marked by the context of production, and it appears that today we remain on an uneven playing field. There is much work to be done to more fully understand the specific mechanisms whereby power—and thus the more visible and prevailing narratives of the human past—are constructed. As Wylie (2010:241) asserts, “our science will be more rigorous, more creative, more inclusive if a greater diversity of people is involved in their practice.” With hope that our discipline truly is “in the midst of significant change” (Zeder 1997a:1), perhaps a reexamination of these data in future years will point toward more parity in our practice.

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Notes

1. This trend is still prevalent today. According to the American Association of Colleges and Universities, across the board in academia, women still earn only 81 cents to every dollar earned by a man, a situation that has not changed since the 1970s (Curtis 2010).
2. Similar gender gaps in citations have been recently reported, specifically for International Relations literature (Maliniak et al. 2013), as well as on a more global scale (Larivière et al. 2013). In most scientific fields, articles written by women are consistently cited less frequently than articles written by men.
3. The content analysis was based on the membership directory available on the SAA website for all members listed in October 2013.

4. A very small number of members whose genders could not be confidently assigned by first name were excluded from the study (less than one percent of all names examined).

5. These trends corresponding with the first author position are common in archaeology, in contrast to some fields (e.g., biological sciences) where the last author often represents the principal investigator or group leader of a multi-author effort (Wren et al. 2007).

6. Of the 18 articles published in *JAMT* from 1990 to 2013 that explicitly discuss gender or feminist theory, 17 are lead-authored by women.

7. Data on submission vs. acceptance/rejection rates have not been retained or collected, or are not made public, for the journals discussed in this study.

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