

SILENCES AND SECRECY IN THE HISTORY OF CARTOGRAPHY:
J. B. HARLEY, SCIENCE AND GENDER

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Abstract

This paper adapts Brian Harley's critical work on political silences on maps to an investigation of gender discourse in cartography and the history of cartography. Harley argues that cartographic silences are as revealing as map statements and draws on Foucault's social theory to describe two types of map silences: intentional silences, which are specific acts of political censorship; and unintentional silences, which are unconscious omissions arising at the boundaries of an *episteme*, or cultural system of knowledge. Harley's theory of cartographic silence is relevant to gender studies because, like other social and political categories, gender is rarely considered in the discipline of cartography.

Gender is defined as the culturally-specific social and political relations between men and women, and Sandra Harding's conceptual scheme of gender symbolism, gender social structure, individual gender identity is used to outline several approaches to the study of gender and cartography. First, it is argued that gender symbolism is central to the epistemological origins of scientific cartography. Secondly, the meaning of gender symbolism on early modern maps is discussed. Thirdly, it is argued that the invisibility of gender relations on maps is a consequence of masculinist conceptions of society and space, and efforts to map gender and gendered spaces are described. Finally, the silence about women and gender discourse in the history of cartography is described as an effect of a masculinist *episteme* in the modern academy.

1. Harley, gender and silence

The work of eminent historian of cartography J. B. Harley has played a vital role in introducing new ideas to the critical study of maps and in bringing the perspectives of postmodern theory to bear on cartography as a discipline and as a social practice. Adapting Foucault's work on language, knowledge and power, and Derrida's deconstruction technique, Brian Harley wrote extensively about the social and political foundations underlying the allegedly "objective" and "value-free" science of cartography. Harley's work demonstrates the importance of social and political values in framing and justifying what is

produced and accepted as useful and viable cartographic knowledge, and he illustrates the role of cartography in establishing and entrenching unequal social and political power relations. However, in all of his critical work on the social and political aspects of cartography, Harley remains silent about one of the most pervasive categories of social relations: gender.

Although there is no definitive definition of 'gender,' Donna Haraway argues that the concept of gender was developed to contest, explain and change the historical "naturalization of sexual difference ... whereby 'men' and 'women' are socially constituted and positioned in relations of hierarchy and antagonism" [1, p 131]. It is important to note that the concept of gender extends well beyond biological sex to include the full range of relations which define men and women in their personal and social lives. Additionally, 'gender issues' should not be seen as simply the equivalent of 'women's issues,' because gender constitutes the relationship between men and women, and thus concerns both men and women.

For Sandra Harding, gendered social relations are manifest through three interrelated processes: *gender symbolism*, which is "the result of assigning dualistic gender metaphors to various perceived dichotomies that rarely have anything to do with sex differences;" *gender structure*, which is a "consequence of appealing to these gender dualisms to organize social activity;" and *individual gender*, which "is a form of socially constructed individual identity only imperfectly correlated with either the "reality" or the perception of sex differences" [2, p 17-18]. For Harding, "gender difference is a pivotal way in which humans identify themselves as persons, organize social relations, and symbolize meaningful natural and social events and processes" [2, p 18], and in Western culture in particular, a strong case can be made for the primacy of gender, along with race and class, in constituting social relations [3, p 40].

Given the importance of gender as a social and political category and the long history of the women's rights movement [4], it seems odd that Brian Harley's explicit and persistent concern for "social justice" [5, p 15] addresses a wide range of social and political problems, but is consistently silent about gender. For example, Harley states that as a discipline, cartography "should be made more responsive to social issues such as those relating to the environment, poverty, or to the ways in which the rights and cultures of minorities are represented on maps" [6, p 2]. There are numerous examples that show that Harley's concern for the unspoken social and political rules of cartography is "related to values such as those of ethnicity, politics, religion, or social class" [7, p 5], but the question of gender values is never raised in Harley's critical work (except in a few passing remarks about women as icons in map cartouches). Nor does Harley recognize feminist literature as part of the canon—"information theory, linguistics, semiotics, structuralism, phenomenology, developmental theory, hermeneutics, iconology, marxism (sic) and ideology"—he draws from to inform his

search for "alternative ways of understanding maps," even though feminists have made solid contributions to each of these separate fields [7, p 1].

In his 1988 paper *Silences and Secrecy: the Hidden Agenda of Cartography in Early Modern Europe*, Harley's argues that "the absence of something must be seen to be as worthy of historical investigation as is its presence" [8, p 70]. In this paper, I will turn Harley's work upon itself and use his own critical methods outlined in *Silences and Secrecy* to examine the invisibility of gender discourse in cartography and the implicit silence about gender in the history of cartography. As Harley argues for other categories of social and political analysis, I will argue that maps embody implicit gender discourses that are shaped by a masculinist *episteme*, or cultural system of knowledge, and that the history of cartography has served as an implicit and explicit instrument of social power-knowledge by excluding women cartographers from the canons of cartographic history.

Brian Harley's theory of intentional and unintentional silences—informed by Foucault's social theory—and Sandra Harding's conceptual scheme of gender relations will be used to reveal these gender discourses in the discipline of cartography. First, I will argue that the objectivity of modern science, which Harley believes is responsible for the myth of value-free cartography, is originally based on the explicit gender symbolism of a "masculine" epistemology. Secondly, I will discuss the variable meanings of feminine and masculine gender symbolism in the marginal art of early modern maps. Next, I argue that the silence of maps in respect to gender relations is one element of a masculinist *episteme* that values male experiences and devalues women's, rendering women invisible to cartographic representation. Finally, I claim that the silence about women's roles in the history of cartography can be taken as both an unintentional and an intentional silence, which serve to reinforce the invisibility of women and naturalize the masculinist *episteme*. These theoretical questions can also serve to inform current efforts to address gender discourse in contemporary society, and to evaluate the opportunities open to women in the discipline of cartography today and in the future.

2. Harley's theory of silences

In *Silences and Secrecy*, Brian Harley is explicitly concerned with the "political silences" [8, p 57] that are part of cartography as a discourse—which Harley defines as a set of linguistically-based, verbal and non-verbal social practices—concerned with establishing and maintaining power. Insistent upon revealing the social and political foundations of scientific cartography, Harley believes that "maps are [to be] interpreted as socially constructed perspectives on the world, rather than as the 'neutral' or 'value-free' representations" [8, p 58]. Drawing on ideas from phenomenology and the philosophy of language, Harley argues that silences on the map can reveal as much as explicit map statements, and that they should

be regarded as "positive statements and not as merely passive gaps in the flow of language" [8, p 58].

Harley distinguishes between intentional silences and unintentional silences. Intentional silences are politically-imposed secrecy rules and deliberate acts of censorship that are designed to control the creation of cartographic knowledge and repress strategic or proprietary commercial information that might benefit an enemy or competitor. For Harley, efforts by early modern states to exert political authority by controlling information constitute a classic form of Foucauldian "power-knowledge." On the other hand, unintentional silences are not consciously created, but are grounded in the cultural, linguistic and epistemological boundaries of specific historical periods, what Harley—after Foucault—calls the *episteme*. Within a particular cultural setting, the *episteme* "delimits the totality of experience" [8, p 59 (citing Foucault)], framing how a group of people perceive, conceive and interact with themselves, each other, and the surrounding world. In Harley's analysis, the maps of a particular historical period reflect those things recognized as important to the people who control the production of cartographic knowledge, but the silences of these maps reveal the boundaries of their *episteme* as well.

3. Gender and modern science

It is the unintentional silences, more so than intentional ones, that are most relevant to the consideration of gender discourse in modern cartography. Harley argues that already in the Renaissance, cartography was grounded in Foucault's classical *episteme* of modern science: a reliance upon measurement and order, expressed in increasingly accurate surveying technology; and the determined application of classification systems, such as highly-ordered map symbol sets. These principles of modern cartography gave rise to "silences of the unique" [8, p 65] caused by a standardization of the landscape that erases all individuality and replaces it with a set of classified objects located in a uniform Euclidean mathematical space. Harley also claims that "contained within [the scientific *episteme*] was the unwritten assumption of an objective world" [8, p 65] which these new techniques were able to accurately describe.

The important point that Harley overlooks here is that this "objective world" was not an "unwritten assumption," but was an explicit construction of late Renaissance natural philosophers in opposition to prior philosophical traditions. Strikingly, the ensuing contest over the 'true' foundations of scientific knowledge relied heavily upon explicit gender symbolism in framing their epistemological approaches. Susan Bordo, in her cultural reading of Descartes' *Meditations*, describes the "Cartesian masculinization of thought" [9, p 101] in which the hermetic philosophy that valued knowledge gained by sympathetic union with the object—often associated with feminine consciousness—was replaced with a masculine, Cartesian epistemology that valued knowledge based on clarity and distinctness from the

object, and promoted the knowing subject's transcendence of the objective world. In a similar vein, Evelyn Fox Keller describes the early scientific rivalry in England between the mechanistic, "masculine" empiricism of Francis Bacon and the hermetic "hermaphroditic" philosophy that presumed the subject's interaction with objects in the world. This contest was decided when masculine science was institutionalized in the Royal Society in 1662, and Keller goes on to show how this symbolic epistemological rivalry was reflected in changing gender structures and identities that increasingly defined women by masculine standards [10] and institutionalized the exclusion of women from science. These ideas do not contradict Harley's basic views on modern, scientific cartography, but instead reveal the gendered origins of the epistemological assumptions of objective cartography.

4. Gender symbolism on maps

The significance of gender discourse is also reflected in the explicit gender symbolism that appears on many maps from the early modern period. Harley comments only briefly on women as symbols on such maps, but his comments focus primarily on the explicit "female sexuality" of these half-naked women [11, p 299]. Londa Schiebinger, in her discussion of male and female icons in the scientific literature of same period, offers a much broader view of gendered iconology. She compares the meanings of female and male icons that symbolize 'the Sciences,' and argues that these icons share, with modern scientific epistemology and the institutions of science, a similar trend towards the exclusion of the feminine [12, p 119-159].

Although the meaning of a gendered icon used to represent 'the Sciences' will be significantly *different from one used to represent colonial geographies*, Schiebinger's account makes it clear that there is a more complex range of meanings in gendered iconology than simple sexual imagery. This is particularly apparent in the use of masculine images of power on maps, such as Harley's example of "the four (very male) bears" that appear as symbols of Flemish opposition to Spanish authority [13, p 12]. Although Harley treats female icons in more depth in this paper [13, p 14], he does not discuss the possible political meanings of the bears' erect and quite openly displayed penises as symbols of power.

5. Mapping gender and gendered spaces

The use of gender symbols in the marginal art of maps raises the related question of gender discourse on the map itself. This question addresses the gender structure within a culture, and is also related to the other forms of political silence. For Harley, the uniform measurement and classification of space in modern cartography creates a dehumanized landscape that erases the mapped subject from their space, and creates a map space that is "a socially-empty commodity, a geometrical landscape of cold, non-human facts" [8, p 66]. Although it is one of the most pervasive human qualities, gender is also lost in this

cartographic dehumanization because maps are silent about gender relations that aren't recognizable as viable cartographic categories within the classical *episteme*.

This is not to say that maps are devoid of gender discourse. Harley notes that "social status and the nature of men's occupations were matters of deep concern" [8, p 68], and these concerns are reflected in the social landscapes which appear on maps. Following Harley, this focus on men and men's social and political concerns to the exclusion and silencing of women and women's experience is based on an unacknowledged political agenda that assumes and seeks to maintain the "legitimacy of an existing [masculinist] political *status quo* and its values" [8, p 66]. This situation, engendered by an *episteme* that acknowledges masculine realities and silences women's realities, creates a culture in which masculinism and male privilege are absolutely normal, and therefore beyond question for most people. In this sense, women, who are devalued in masculinist cultures, belong to Harley's category of people that are not acknowledged and privileged with a recognizable geographical existence by the dominant *episteme*, and are thus literally "cartographically disenfranchised" [8, p 68].

The desire to regain "cartographic franchise" for women, then, is a matter of exploring the mapping of gender in cartography, and creating new maps which include, rather than exclude, women. In recent years, several atlases have been published that assemble cartographic knowledge on neglected gender issues that are of concern to women, such as motherhood, domestic abuse, equity in the labor market, and women's history [14-16]. Daphne Spain has taken another approach in looking directly at gendered spaces through large scale maps and architectural diagrams that show the prevalence and importance of gendered space in our lived, everyday worlds, and how these spaces reflect different gender structures and influence the individual gender identities of the women and men who occupy these spaces [17]. Feminist geographers have actively resisted the unintentional silences of masculinist geography by intentionally attending to women and spatial gender relations, and they have also been actively engaged in reconceptualizing traditional "masculinist" spaces in order to more adequately deal with women's experience of space [18]. While some feminist geographers have linked modern cartography with masculinist geography [19, 20], cartographers have only begun to grapple with the problem of mapping feminist spaces in ways that address the limitations of the traditional methods of cartography [21].

6. Gender in the history of cartography

The issue of resisting the silence about gender in geography and cartography raises a similar question for the history of cartography: Why are women cartographers not studied in the history of cartography? Looking at the recent research on women in cartography, we can at least be certain that this silence was not because women were not historically active as professional cartographers [22, 23], and following Harley, this silence about women in the history of cartography, like the presence of men in the history, should be read as an active

and meaningful statement. Like most other cartographic gender silences, the invisibility of women in the history of cartography is an unintentional silence, the result of tacit assumptions about women's roles in a male-dominated field, and framed within a masculinist *episteme* that renders the exclusion of women from professional life as normal and natural.

Such assumptions about the absence of women in cartography are self-supporting, since historians would not be inclined to look for women cartographers if they already believed that there were none. But this silence was also established by historians intentionally erasing women from the history. While it would be extremely difficult to firmly establish a case where a historian systematically and intentionally omitted information about women cartographers from their work, women cartographers mentioned in history of cartography texts are often not listed in the index, making it extremely difficult to do research on women's history [24]. These acts of intentional silencing become less intentional over time as their omissions are accepted as *the* history of cartography. But, in spite of the efforts to erase women from the history books, there have always been practicing women cartographers. However, these women faced many challenges and much resistance within societies that were actively engaged in excluding women from public life, and from the sciences in particular. The exclusion of women from modern science (and cartography) is directly linked to the increasing institutionalization of science which began in the 17th Century [25, 26], when women were often explicitly excluded from pursuing higher education, from holding important jobs, and from becoming members of prestigious scientific organizations, such as the Royal Society in England. Such measures to exclude women were often justified and reinforced by appeals to biological determinism, as well as by complex gender symbolism and gender structures that placed women at a decided disadvantage compared to their male counterparts.

7. Conclusion

Following Harley's own conclusions in *Silences and Secrecy*, it is important to bear in mind that these concerns must always be grounded in the complexity of their actual historical contexts, because, in the case of gender, social and political relations are never fixed but always open to reinforcement and contestation along both cultural and personal lines. But, as Susan Bordo argues, we must also keep in mind that "our language, intellectual history, and social forms are gendered; there is no escape from this fact and from its consequences on our lives" [27, p 242]. Furthermore, Harley argues that "[epistemological] silences also help in the reproduction, the reinforcement, and the legitimation of cultural and political values" [8, p 70], and so it is important that we investigate cartographic silences in order to gain a better understanding of maps. For Harley, there are no empty space on the map, but rather our social and political values are written all over the map. Harley's final

conclusion is that in reading these social and cultural values, we need to "initiate the interrogation of maps as *actions* rather than as impassive descriptions" [8, p 71] and begin to look at maps as a form of knowledge that has important effects on the exercise of social and political power.

By asking ourselves the same questions that Sandra Harding raises: "Whose science? Whose knowledge?," we can begin to uncover these silences and reveal the cultural and political values themselves in order to see how these values affect the lives of people who use maps, as well as how they affect the people who create maps. One important effect of the masculinist *episteme* is to make gendered social relations invisible to cartographic analysis, but these silence also serves to support the continued invisibility of women in the discipline of cartography. But, regardless of whether one accepts Harley's ethical project, the study of gender in cartography "provides crucial resources for the reinvention of sciences for the many to replace sciences that are often only for the elite few" [28, p 312], and the investigation of social and political influences of gender could serve as an important complement to recent institutional efforts on the part of the ICA and other cartographic organizations to address gender issues within the discipline.

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