RECODING GENDER: WOMEN'S CHANGING PARTICIPATION IN COMPUTING

by Janet Abbate. Massachusetts: MIT Press, 2012. $34.00 US, Hardcover. ISNB: 978-0-262-01806-7. Pages: 1-247.

Reviewed by Jennifer Mackin[1]

The call for women's increased representation in computer science has been resonating in the halls of government, industry, and academia for nearly thirty years. As Abbate (2012) demonstrates in her earlier work, unlike most science and technology fields, computer science did not start out as a male dominated domain. The first "computers" were women. These technological pioneers played prominent roles in shaping the industry and its technologies over the last 60 years. Much like women's lack of representation in other contexts, however, women's contributions have often been minimized or absent from the retelling of the history of computer science. This book seeks to set the record straight. In *Recoding Gender: Women's Changing Participation in Computing*, Janet Abbate recovers this rich history by retelling the narratives of women's participation in computer science from the Second World War (WWII) to the late twentieth century. She focuses specifically on the computing cultures in the United States and Britain, and on the personal triumphs of the women who have successfully navigated these cultures.

The book begins by describing two of the earliest computer devices invented. The Electronic Numerical Integrator and Computer (ENIAC) was operated by civilians in America and the Colossus was operated by the military in Britain. As Abbate argues, women were pulled into computer work as a result of the war effort. This new science provided novel opportunities and a means of escaping 'women's work' and dead-end 'computing' jobs. Abbate also explores the constraints women faced: lower status positions, the fight for recognition, and the closing of opportunities with the end of the war.

The book then investigates the social construction of expertise, including questions related to the way expertise has been defined in distinct roles (programmer, coder, engineer); how it has been measured

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(aptitude tests and degrees); and how these phenomena have been filtered through a gender lens. Based upon 52 interviews with female computer scientists from America and Britain, as well as archival evidence, Abbate focuses on women's ingenuity in overcoming obstacles related to their lower status and the stereotypes they have had to confront. Stories from women's experiences are peppered throughout the book, though chapter four recounts in detail the personal journeys of Elsie Shutt (first women entrepreneur in the US) and Stephanie Shirley (second female entrepreneur in the UK). Here Abbate details the way these women navigated the prevailing view that motherhood and professionalism were not compatible. In starting their own businesses, they created the uncommon opportunity to work part-time, allowing them to maintain their professional and traditional roles. This also opened up employment opportunities for other mothers who had been ushered out of the business and created a unique avenue for women to maintain a presence in the field despite social opposition.

The book concludes with an examination of the trend of women's increased participation into the 1980's followed by a steep decline. At the undergraduate level, this decline was so drastic that the current enrolment of women was found to be equivalent to those at the start of the industry. It then highlights the ways women have come together over the years to share their experiences and overcome barriers. She identifies hurdles such as hiring bias, social alienation and the penalization of non-traditional routes into academia. She then shares some stories on how women made computer science their own. This includes sharing stories in woman's bathrooms at male dominated spaces, and organizing feminine spaces including forums and all-female computing conferences. This provided an appropriate conclusion for two running themes in the book, which were the use of a positive perspective to view the problem of women in computer science, and the coming together of women to tackle such hurdles. This book provides a fresh look at computing history from a gendered perspective and will be of interest to scholars interested in women's history.