

# Chapter 1

## Women in Technology: History

### **ABSTRACT**

*Throughout history there have been women in technology who have made key contributions, but they have been few and far between. The chapter explores the past pervasive social and cultural contexts that hindered and practically suppressed female involvement in such fields, requiring exceptionally resilient, strong individuals to identify their interests and come to excel in those fields.*

*Life is an unfoldment, and the further we travel the more truth we can comprehend. To understand the things that are at our door is the best preparation for understanding those that lie beyond. – Hypatia of Alexandria, 4<sup>th</sup> Century AD (attributed)*

Throughout history there have been women in technology (and its ancestors philosophy and mathematics) who have made key contributions (Alic, 1986). They have not been in abundance, but they have been there. But what has history captured, and what is really known? There was a time when women could only be published under male pseudonyms. There was a time when girls were not educated or not allowed to enter the halls of higher learning. The pervading social and cultural contexts hindered and practically suppressed female involvement in these key fields. However, some enterprising, resilient females managed: some masquerading as men, some using male names or having work published via a male colleague; a few managing to become

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known in their own right. Reflecting our modern concerns where the issue is much broader than just IT, similar issues were faced by pioneering women in science as well. In both cases it took exceptionally resilient, strong individuals to know their interest areas, to pursue them and to achieve in the face of the prevailing cultural and social conditions.

The history of early computing is peppered with tales of the early computers and the pioneers behind them. Generally, the first names people associate with them are Colossus (Alan Turing), ENIAC (John Mauchly and Presper Eckert), UNIVAC (Eckert and Mauchly), ILLIAC (John von Neumann) and CSIRAC (Trevor Pearcey). But as the information below demonstrates, women were involved as programmers and analysts across all of those early computers; though their involvement was relatively unreported and “below the line”, it was there.

This chapter is not meant to be a complete history of women in technology, which would be a book in its own right. Rather its intent is to highlight some historical pioneers and their contributions, while drawing out the social and cultural circumstances that have contributed to the “lack of women in technology” throughout history. As you read you may begin to see that often these pioneers went unrecognised for their achievements, and certainly all of them had to overcome the barriers of their times.

Women are rarely mentioned in the technology history books, with the exception of Ada Lovelace and Grace Hopper. These two high profile pioneers are generally the first that are noted, spoken about, and presented as evidence that women have played a role in the technology fields (Table 1).

There are interesting and compelling tales behind both of these “IT Leading Ladies”, such as Ada’s rumoured affair(s) and gambling addiction, and Grace’s literal “computer bug”. Elements of those stories are related below.

Both of those well-known and remarkable pioneers exhibited an ability to see the future directions of computer science, and deserve their place in the history books. But there are other women pioneers in computing who are occasionally mentioned and can serve as role models, such as those in Table 2.

*Table 1. The most recognised female pioneers in computing*

| <b>Era</b>  | <b>Person</b> | <b>Role</b>  | <b>Significant Contribution</b>                      |
|-------------|---------------|--|--|
| 1815 - 1852 | Ada Lovelace  | Analyst, Metaphysician and Founder of Scientific Computing | First computer programmer                            |
| 1906 - 1992 | Grace Hopper  | Pioneer Computer Scientist                                 | Compilers and machines understanding normal language |

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