

## **Teil I: Fairness und Schutz marginalisierter Gruppen**



# Gender, Labor, and Power in the History of Computing

## (Extended Abstract)

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This paper situates the history of computing in relation to current, pressing, labor concerns in high technology fields. Specifically, it looks at historical examples that foreground categories of difference from the perceived norm in technological labor forces, in order to show continuities in who wields control over computing systems. As the U.S., U.K., and Europe enter an era that many journalists and tech critics have characterized as a “techlash”—a period of reduced optimism about technologies’ ability to fix social problems, paired with the widespread realization that many technologies tend to exacerbate social, political, and economic inequalities—the history of computing, gender, and labor can provide some key context for how we arrived here.

Although the recent discourse on computing in wealthy nations often situated it as a neutral technology that would tend to lead to a net positive for society, this paper argues that the beginnings of computing in warfaring, with limited and highly gendered workforces, and the changing gender of those workforces as the field saw a rise in status, indicate that electronic computing has been, from its inception, not simply a tool for speeding up work or increasing efficiency but a tool for wielding power over others, both globally and domestically. In 1943 and 1944, as workers in the U.K. finished designing, constructing, and deploying the first Colossus computers for codebreaking at Bletchley Park, the intended use case of these early electronic computers was, in effect, cyberwarfare and information warfare. Women were targeted as the primary labor force for these early computers not simply due to the exigencies of war but because they were seen as the most appropriate workforce for work that was erroneously perceived to be deskilled, rote, and mindlessly technical.

Fast forward to the present day, when misinformation, disinformation, and surveillance threaten people’s fundamental rights and the legitimacy and stability of many technologically advanced, nominally democratic nations. Narratives of computing that position these developments as surprising or discontinuous with the past tend to neglect not only the origins of

the field but also the interim period in which the most advanced computer technologies were used in peacetime to promote the goals of a Cold War geopolitical model. As technologies aligned with “hot” war (munitions, etc.) began to be matched and surpassed by technologies intended for information warfare, computers became ever more important as political tools, as well as instruments of soft power wielded over populations during periods of relative peace. During this period the labor pools targeted to work in the field of computing (from programming, to systems analysis, to computer operation) began to trend towards being composed primarily of men. This was not because women willingly left the field en masse, nor because they were judged technically incompetent. Rather, it was because women were no longer seen as a suitable workforce as computing became ever more aligned with wielding state and corporate power. Instead, they were shunted into other forms of work with less perceived power and responsibility.

How does this relate to today? The same issues of power, surveillance, and control that defined 20<sup>th</sup> century computing have continued to silently define 21<sup>st</sup> century computing, even as newer computing technologies have been marketed first and foremost as a consumer good and secondarily as a means of increasing efficiency in industry and government. Baked into many of the systems and products that are being marketed as indispensable for people’s work and everyday lives are assumptions about corporate and state power born out of the 20<sup>th</sup> century conception of technology as a key pillar of the military industrial complex. Even when not explicitly geared to military applications, advances in computing afford greater control over populations, beginning with the labor forces required to sustain and expand the field. From the gig work economy to the voracious, and often dubiously legal, collection of online information to create datasets for AGI (Artificial General Intelligence) and LLMs (Large Language Models), computing’s leading edges have continued to be more extractive than generative, requiring ever more labor to achieve their goals even as they position these advances as labor-saving. In truth, these advances are labor intensive and more committed to controlling current and potential future workers than eliminating drudgery or creating new socioeconomic models that would be more egalitarian or broadly economically uplifting.

Instead of meaningfully reckoning with this history, the most profitable companies in the field have begun eating their own, firing and shaming workers who have acted as internal critics or attempted to be ethical and conscientious practitioners, while at the same time largely ignoring external

criticism. The tech workers speaking out about labor rights, the harms of scaling up unsustainable systems, and the growing crises of online manipulation and disinformation in the global political landscape have found themselves fundamentally at odds with the larger direction of their field. Even as diversity initiatives purporting to value difference have begun to undo the homogeneity of high-tech workforces, these nominally more diverse workforces are subject to the same forces that have long attempted to foster a narrow conformity under the guise of technological progress, and to disallow that diversity from meaningfully reshaping the field.

In the present, as in the past, computing presents itself as a site for societal progress and advancement, while cementing its status as a set of tools usually wielded by the most powerful against the less powerful. Those who wield the most influence in the field increasingly find themselves in a position to reshape society in line with their goals and ideals, while continuously rewriting the history of computing to erase evidence of dissent, resistance, or possible alternatives.

### *Further readings*

Hicks, Mar (2018): *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing*. Cambridge, Mass. and London: MIT Press.

Mullaney, Thomas S., Benjamin Peters, Mar Hicks and Kavita Philip (Eds.) (2021): *Your computer is on fire*. Cambridge, Mass. and London: MIT Press.

