## TECHNOLOGY

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Ellen K. Pao **RESET** 

My fight for inclusion and lasting change 274pp. Spiegel and Grau. £22.50 (US \$28).

Marie Hicks
PROGRAMMED
INEQUALITY

How Britain discarded women technologists and lost its edge in computing 352pp. MIT Press. £32.95 (US \$40).



"Airports Are Like Nightclubs", 2005, by Urs Fischer.

© Urs Fischer. Courtesy of the artist and Gavin Brown's enterprise, New York. Photograph: Mats Nordman

## Storm clouds

## PAUL DUGUID

Since the 1980s, Silicon Valley has competed with Hollywood to be the face not merely of California, but of the United States. Where Hollywood might offer stories that reflect human progress, the Valley claims to drive such progress, "making the world a better place". But as evidence of sexism and sexual abuse piles up in both places, the two seem now to be competing over which face should blush more. This has provided an unintended yet robust launchpad for Ellen Pao's *Reset*, which draws on her Silicon Valley experience in

technology (as CEO of the social media company reddit) and venture capital (as a junior partner in Kleiner, Perkins, one of the Valley's most prominent venture capital funds). Pao, an Asian American, begins by announcing that she "grew up firmly believing the world was a meritocracy", before tracking throughout the book her loss of that faith as she was demeaned, molested, ignored for promotion and paid less than male colleagues. On complaining, she was encouraged to leave Kleiner quietly; yet when she asked for no less in compensation than a former colleague who had molested her had been granted – he had first fondled Pao as she recovered from being knocked down by a car – the company refused and the case went to court.

Fights over pay and position are significant because they are Valley measures of merit. Pao takes us into a world of men boasting about not only pay and bonuses, but the number of planes and houses owned, where those who cannot make similar claims are deemed inferior. That women and minorities fall short by these measures becomes a self-reinforcing reality. If they keep their "place", they are assumed to belong there; if they resist, they are condemned as "having a female

chip on [their] shoulder", as Pao's boss suggested was her problem. The infamous "Google Memo", which escaped that company's internal message boards in the summer of 2017, sought to justify the sort of career subordination Pao describes as the inevitable consequence of biological and cultural inferiority. Consequently, the memo's writer James Damore maintained, attempts at equality undermine meritocratic progress for both individuals and firms. Controversies surrounding Pao after she sued Kleiner in 2012 and Google after the release of the memo reveal a significant audience for such views. Both thus expose a strange paradox in the Valley's approach to progress and merit: on the one hand, it boasts of encouraging "disruption" and "breaking things"; on the other, management jargon stresses "fitting", "pattern matching" and "compatibility". Those who don't "fit" are made unwelcome until they submit or leave. And fitting in includes conforming to a macho work culture. Pao was expected to overlook the presence of pornography in the office, for example, and to accept exclusion from group invitations to dinners, golf, skiing and sex clubs. Those who complain merely confirm that they don't belong. Curiously, as the memo

suggested, "boys" who do fit in tend nonetheless to see themselves as victims. (As one reader commented beneath a recent *Washington Post* article: "It's the white male that is continually shit upon in the USA . . . . . There's quite a list of months for celebrating 'diversity'. Where's my month?")

Tung-Hui Hu's recent study of the digital "cloud" (*A Prehistory of the Cloud*) portrays the internet as the product of paranoia, and Pao's account lends support. Macho behaviour, including big spending, belies personal as well as global insecurities (bomb-resistant bunkers and New Zealand hideaways are surprisingly popular), and a gathering of tech employees can reveal more class tensions than a gathering of Marxists. Yet despite this, most seem blind to their own insensitivities: when Pao sued Kleiner for its entrenched discrimination, the firm's management gathered to consider their defence, and, realizing they needed a record, the chair instructed a woman to take notes.

Pao sued because this "culture was corrupt and needed to be aired". It was not a trivial act – it cost her her job

and reputation (Kleiner hired a "crisis management firm" to demean Pao and her husband), and she suffered a miscarriage which she attributes to stress. She also lost the suit, and the book represents a determination to continue fighting nevertheless. Uninhibited by non-disclosure agreements, the Valley's usual way to buy off dissenting voices, Pao provides an unflinching account of the people who claim to be improving the world, among them her boss John Doerr, one of venture capital's most celebrated figures who, in funding firms great and small (including Google and Amazon), has helped to shape the ethos of the sector. Doerr was avuncular and supportive in many respects – apart from asking Pao to take minutes of meetings and babysit his children. But when she asked to be paid the same as men in her position, he wrote, "I strongly recommend you stop complaining about your compensation . . . that attitude of yours is . . . damaging to your standing". I was reminded of Edward Pickering, Director of Harvard Observatory between 1877 and 1919, an institution Dava Sobel explores in The Glass Universe: How the ladies of the Harvard Observatory took the measure of the stars. One astronomer wrote in her diary that the boss "seems to

think that no work is too much or too hard for me, no matter what the responsibility or how long the hours. But let me raise the question of salary and I am immediately told that I receive an excellent salary as women's salaries stand". That the twenty-first-century visionary so closely resembles the nineteenth-century one is noteworthy because, while Pao loses faith in meritocracy, she maintains the Valley's Whiggish faith in the progressiveness of technology. If protests and court cases cannot disrupt entrenched behaviour, she suggests, perhaps tech can.

Here Pao stands in contrast to Marie Hicks, whose insightful *Programmed Inequality* traces the development of computing in Britain, showing how a sector built on female workers slowly pushed them out. In the wake of Bletchley Park, Hicks argues, the country "led the world" in computing, but lost ground as it made computing a masculine endeavour. Hicks's study thus offers evidence for Pao's claim that sexism is not merely unfair, but bad for the industry.

Originally, Hicks points out, "computers" were women, the term, like "typewriter", referring to the people who

ran the machines, rather than to the machines themselves. When it was not clear how computing would develop, women were encouraged to compute, and they did so successfully. Once a profession developed, however, computing had to be integrated into organizational hierarchies, presenting, Hicks shows, the challenge either of subordinating the position of the "computer" or allowing the women to discomfit the hierarchies. After the Second World War, the Civil Service, wrestling to encompass the developing welfare state, became Britain's dominant computer-user. But women were anathema to its conventional career paths. Paternalism assumed women would (indeed, should) marry and leave in their twenties, to be supported not by salaries, but by men, breadwinners to whom the Civil Service thus offered preferential salaries and promotion. The speciousness of this approach led to women, perceived as having "no special aptitude for supervising staff", supervising and training the men hired to replace them in a hierarchy now open to advancement. Women were either held back or let go. Some went into the private sector, but, having only recently devolved from state control, that was not much more welcoming. Recently, the two

female founders of the Silicon Valley start-up Witchsy invented a third partner, "Keith Mann", because their communications were being ignored; they found, however, that people replied to Keith. Similarly, Hicks notes how "Stephanie Shirley's company only succeeded once she began signing her letters 'Steve'". Rather than inherently progressive, then, for Hicks technology can be "as socially regressive as it is technically revolutionary". The men depicted in both these accounts, rather than being threatened by tech's transformations, as Pao might hope, use it to consolidate control.

From the dawn of the telegraph, people have believed that electronic technology would disrupt entrenched hierarchy. In the 1840s, Philadelphia's *Public Ledger* predicted telegraphy would "head off" the most adroit speculators, because they will not have the power to monopolize intelligence". In fact, the first great monopoly was the first great telegraph company, which still survives after 140 years: AT&T. Today, adroit firms – consider Apple, Microsoft, Google, Amazon and Facebook – move more rapidly from upstarts to monopolies. Entrenched in all are attitudes of

discrimination in hiring and promotion, attitudes that now pervade the profession of computer science as a whole. After rising steadily to 1985, since Silicon Valley came to prominence, the proportion of women studying computer science in the US has steadily dropped, though proportions in law, medicine and science have risen. Such statistics support Pao's and Hicks's arguments while feeding assumptions in the Google memo. Embarrassed by the memo's release, Google quickly fired its author. While it has since been revealed that Damore has high-functioning autism, this can have no bearing whatsoever on why so many Google employees agreed with him. For some time the company has resisted US government requests for a gendered breakdown of employees, claiming it can't afford the \$100,000 cost. Given its billions, a more plausible insight might come (unintentionally) from the chair of Google's parent company. Responding to complaints of Google's invasiveness, Eric Schmidt argued, "If you have something that you don't want anyone to know, maybe you shouldn't be doing it in the first place". Ellen Pao and Marie Hicks indicate that, on grounds both of equity and progress, the relevant "you" is not Google users, but rather the company itself and

the sector in which it is situated.