

Book Review

Invisible Women: Exposing Data Bias in a World Designed for Men

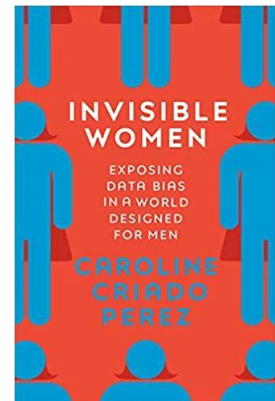
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In the long history of feminist movement, there have been significant developments where feminist perspectives have taken big leaps and achieved profound success in improving the social, political, cultural and economic position of women. Feminism has contributed to the reformulation of various perspectives, particularly in analysing the gendered nature of social relations and stimulating a rethinking on the many aspects of the ways in which we make sense of society. However, there continues to remain a huge gap in terms of an appreciation of society from a women's standpoint. Women remain largely outside the limits of the mainstream sociological analysis. The advances in the field of feminist perspectives and gender studies have not been able to dent the 'malestream' orientation and bias, consequently the studies which are available in the field of women's studies are seriously bereft of the gendered lens which would in turn explore, analyse and critique the needs, problems and concerns of women from the position of women. There is very little questioning of the structural determinants of women's position, for example, on the role of

particular cultural formations in constructing and circulating the gendered norms or about the fundamental social processes by which our understandings and experiences of femininity and masculinity are produced, maintained or changed.

The volume under review “*Invisible Women: Exposing Data Bias in a World Designed for Men*” not only addresses these questions but travels beyond. In an encyclopaedic treatment to the subject of invisibility of women in every realm of her existence, the author tears through the universalization of knowledge from a male gaze and a generalized conception of humanity being exclusively male. *Invisible Women* is a story about absence- more importantly of data of various kinds- in relation to women. The author shows us how, in a world largely built for and by men, women are both systemically and systematically ignored. The grave paradox also rests in the fact that while in the contemporary society ‘data’ is not only ruling every domain of human life but the whole world, the data gap vis-a-vis women remain largely unnoticed and uncounted. And thus remains Beauvoir’s ‘*Second Sex*’ firmly rooted in its perpetual form of invisible existence even in the context of data availability and research.

The chapters in this volume explicitly address the difficult questions on the range of issues pertaining to women, setting them in a range of theoretical and political contexts and presenting a variety of possible responses. The questions are by no means limited to the sphere of academic writing only, rather Caroline Perez, the author raises the level of analysis to the extended spheres of female body, from algorithms to medicines, from technology to natural disasters and to gender politics and social policy. The book exhibits how discrimination of women and their systematic erasure are deeply permeated in our culture-infecting all fields of activity, representation and enquiry. The author reiterates and emphasises these questions time and again and explores how they have been answered in the past, are being answered in the present and might be answered in the future, only will determine the state of human lives. Most importantly she highlights the issue of crucial gaps that exist in the field of gender data.

She exhorts the academicians, economists, and policy makers, technology experts to address this deep-rooted anomaly and attend to questions of gender data gap. She affirms that if this gap is not explicitly addressed in the given contexts-at work, in the home, in science, education, law, politics-then assumptions about gender will operate on an unspoken or unconscious level, lurking within and silently shaping our beliefs and behaviour. As a consequence, a particular cultural context-through its language, vocabularies and signifying practices, through its customs and conventions, through its social structures, institutions and technologies-will encourage certain ways of thinking and behaving and preclude others. And the phenomena of ‘*Invisible Women*’ will persist.

The book highlights the basic difference between perspectives taken up by the so-called ‘gender-neutral’ discourse and a gender conscious approach. Exploring and articulating what is called an *essentialist* model of sexual difference, which Germain Greer, labelled as men working very hard at creating *masculinism* as whatever is presented as universal difference between masculinity and femininity in the social sphere are socially and culturally constructed and have nothing to do with the biological difference between a male and a female. Thus, biological maleness or femaleness-SEX, which is entirely different from GENDER-the norms of *masculinity/femininity*- is understood to be a variable and unstable social and cultural construct. Such debates are widely discussed in the feminists’ analysis that culture/s do not exist in the abstract. On the contrary, it is in the broadest sense of the term ‘textual’, inscribed in paintings, sculptures (statues of Jhon and Queen Victoria mentioned by the author in the text), paintings, operas, furnishings, fashions, bus tickets, even the form of public transports and public urinals (on gender-neutral urinals). The author has rightly highlighted that societies invest these artefacts with meanings, such meanings are normalised in such a way that they pass as the ‘obvious’ and ‘natural’.

In this way, the book sets forth the *problematique* of knowledge and practices being considered universal and natural. It fundamentally contests and challenges the normalization and naturalization of the gendered subjectivity and universality of maleness. The chapters, one after another, brings home the stark reality of the persistent silencing and erasure of women from the public arena. It puts forth a compelling argument in favour of denaturalising and defamiliarizing these embedded meanings. The phenomenon of ‘invisible women’ is all-pervasive and constitutive of the objects and practices that surround us and points to a deeper structural reality of the role of history, culture and language in the differential understandings of what it means to be a woman or a man. The author explicitly identifies the true nature of society, which is patriarchal, in which it is overwhelmingly men who occupy positions of power and influence, and ‘describe it from their own point of view’.

The book is divided into six parts with chapters containing deeper analyses of various dimensions of women’s lives, unearthing the humongous data gap which exists in each of these fields- the daily life, the workplace, the myth of meritocracy, designing, medical field, public life etc. thereby succinctly analyzing the consequences of a deep data gap. The facts presented in the chapters are extensive and are based on in-depth research in highlighting the deeper malaise of data invisibility. The issues highlighted in the book have long-term consequences not only for women but societal well-being. These domains have remained unaddressed and needs critical attention for the progress of society at large as rightly emphasised by the author.

The criticality of unpaid work is one of them. Women do 75% of the world's unpaid care work and the work-hours for women far exceed that of men. Within the limited sex- disaggregated data available for all the countries, the trend is extremely clear. The issue of women being employed in low paid work and the gender pay gap is another domain where due attention is missing. It appears that modern workplaces do not work for women, from its location, to its hours, to its regulatory standards- it has been designed around the lives of men. The author calls for a re-designing of the 'world of work' in fundamental ways which are, of its regulations, of its equipment, of its culture- and this redesign must be led by data on female bodies and female lives.

Another field of analysis which goes often unnoticed is the domain of 'work-life stress'. The author has cited a 2017 report on health and safety executives and the level of stress in the workplace which revealed that, in every age range, women had higher rates of work-related stress, anxiety and depression than men, but the difference was particularly dramatic in the age range of thirty-five to forty-four. The women constituted a majority in public service sectors of education, health and social care where stress is more prevalent, and there is little focus on this dimension in the research on work-life stress. The author explains that this culture of unpaid work and unequal pay and unfair terms with regard to maternity leave and child care leave is also a bad economics. Women's work is intrinsic to the economy, it is not an added extra, and must be counted. Women have always worked invisibly while being unpaid, underpaid and under-appreciated.

Limited access to public transport and women's experience of harassment on public transport are another set of glaring injustice faced by women. The official statistics show that men are in fact more likely to be victims of crime in public spaces, and this is another erasure of the women's problem in the public spaces. As women navigate public spaces, they are also navigating a slew of threatening sexual behaviours- some of which are like catcalling, being leered at, to the use of sexualized slurs- not exactly criminal but they do add up to feeling of sexual menace. The invisibility of the threatening behaviour and such everyday sexism goes on unhindered and completely unnoticed because there are fewer spaces where women can feel free to talk about it. To compound it further, public awareness on these kinds of issues is almost non-existent. A lot of this is also about the way data is collected- large scale data for the prevalence of sexual harassment is lacking, not only because of underreporting but also because it is 'often not included in crime statistics. Added to this is the problem that sexual harassment 'is often poorly classified with many studies' failings to either define harassment or codify harassment types. There is a paucity of 'up to date quantitative data' on the sexual harassment at work place a problem that seems to

exist in the whole world, with official statistics hard to come by. The author presents the stark reality through meagre data available and quotes the UN estimates (estimates are all we have) that up to 50% of women in EU countries have been sexually harassed at work. In China it is as high as 80%.

Meritocracy is another domain on which the author has dwelt upon extensively. Meritocracy is an insidious myth, a myth that is perpetuated and provides cover to institutional male bias. Author has highlighted that dishearteningly, it is a myth that is remarkably resistant to all the evidence. She further states that If this myth has to be killed off, a lot more has to be done than merely collecting data. Meritocracy is taken as an article of faith, and employment and promotion strategies over the past few decades have increasingly been designed as if meritocracy is a reality. Citing an analysis of 248 performance reviews collected from a variety of US-based tech companies' findings, she states that women receive negative personality criticism that men simply don't. Women are told to watch their tone, to step back. They are called bossy, abrasive, strident, aggressive, emotional and irrational. Most damningly, several studies of performance related bonuses or salary increases have found that white men are rewarded at a higher rate than equally performing women and ethnic minorities, with one study of a financial corporations uncovering a 25% difference in performance-based bonuses between women and men in the same job.

The same data gap exists when it comes to the machinery and equipment which are invariably designed according to the size of men, therefore assuming that if one-size-fits-men is the same as one-size-fits-all. This supposedly gender-neutral size-tearing into the supposed neutrality- is disadvantageous to women. So is the case of voice recognition software, which is utilized in almost every field from medicine to smartphones to car navigation system- remains hopelessly male biased. Quoting a study on Google's speech-recognition software which was 70% more likely to accurately recognize male speech than female speech, the author brings this stark reality home.

She further explains how women's voice is neglected by the speech recognition technology database like corpora and are dominated by recordings of male voices. Several voice based and text based and image-based algorithms like translation software, CV scanning software and web search algorithms are also riddled with gender data gaps. And not only that, such stereotypes and gender data gaps are also found in artificial intelligence (AI) technologies already in widespread use. Such algorithms are guiding decision making in recruiting people and making a male prototype as an ideal choice, thus a male biased algorithm trained on corpora marked by a gender data gap could literally throw a woman out of job. Thus, the author laments, such a product

design is disadvantaging women and affecting human health and safety. When it comes to algorithm-driven products, it is marking our world even more unequal. For solutions, there needs to be acknowledging them, she asserts.

The ordeal of women continues even to the field of startups and venture capitalists. A substantial chunk of start up is backed by venture capitalists (VCs) and 93% of the VCs are men and they put their stakes with men. This happens despite the fact that while female business owners receive less than half the level of investment their male counterparts get, they produce more than twice the revenue. Quoting another crucial research, the author highlights that for every dollar of funding, female owned start-ups generate seventy-eight cents, compared to male-owned start-ups generate thirty-one cents. She also establishes the fact that women are 'better suited for leadership than men'. Having five key traits (emotional stability, extraversion, openness to new experiences, agreeableness and conscientiousness) of a successful leader.

Another glaring research and data gap exist in the field of medical sciences. Author infers that medical science and education are historically skewed and for years and has focused on a 'male' norm. Students learn about physiology and female physiology, anatomy and female anatomy. The gender data gaps found in medical textbooks are also present in the typical medical school curriculum. And sex and gender related issues were 'never systematically addressed in curriculum development' a 2005 Dutch study quoted. Author says that these gaps matter because contrary to what we've assumed for millennia, sex differences can be substantial. Researchers have found sex differences in every tissue and organ system in human body as well as in the 'prevalence, course and severity' of the majority of common human diseases. There are sex differences in the fundamental mechanical workings of the heart, differences in the lung capacity. It has been also found that 'male and female human cells 'exhibited wildly different concentrations of many metabolites. There is a vast gender data gap that needs to be filled, with the inclusion of sex-specific data, particularly on females because women have largely been excluded from medical research and data is severely lacking on them.

Despite obvious sex differences, the vast majority of drugs, including 'anesthetics and chemotherapeutics' continue with gender-neutral dosages, which puts women at risk of overdose. For millennia, medicine has functioned on the assumption that male bodies can represent humanity as a whole. As a result, we have a huge historical data gap when it comes to female bodies and this is a data gap that is continuing to grow, the bias researchers carry in ignoring the pressing ethical need to include female cells in their research. The evidence that women are being let down by the medical establishment is overwhelming. The bodies, symptoms and disease that affect half

the world are being dismissed, disbelieved and ignored. And it's all a result of the data gap combined with the still prevalent belief that men are the default humans. The author asserts that Data collected on men, does not, cannot, and should not, apply to women.

The same data gap is visible in the measurement of GDP. In fact, the author has cited many instances indicating that GDP has a 'woman problem'. The failure to measure unpaid household services is perhaps the greatest gender data gap of all. Estimates suggest that unpaid care work could account for up to 50% of GDP in high-income countries, and as much as 80% of GDP in low-income countries. In virtually every country, women undertake a disproportionate share of all non- market work, and also tend to work longer hours overall than men do'.

The author highlights how the tax systems around the world, presented as the objective trickledown if market-driven forces have intensely gendered impacts. They have been created based on non-sex disaggregated data, and male default thinking. Together with our woman-blind approach to GDP and public spending, global tax systems care, are not simply failing to alleviate gendered poverty, they are driving it. And if the world cares about ending inequality, we need to adopt an evidence-based economic analysis as a matter of urgency. The fact of the matter is that there are substantial gender data gaps in government thinking. Women's representation in public life and politics also make a huge impact in the way policies are formulated concerning women and also on other human development parameters. If half the population are excluded from governing themselves, a huge data gap is created.

Another field of enquiry that is-women's role in peace building- have been hugely underestimated- they focus on inclusivity and accessibility of processes and institutions. In other words, as ever, the presence of women fills in a data gap. Recent research has found 'compelling evidence' that countries where women are kept out of positions of power and treated as second class citizens are less likely to be peaceful. Women are also disproportionately affected by conflict, pandemic and natural disasters. The data on the impact of conflict (mortality, morbidity, forcible displacement) on women is extremely limited and sex disaggregated data is even rarer. But the data which is available suggest that women are disproportionately affected by armed conflict. Women are the ones who are most likely to die than men in natural disasters.

What this book actually shows that closing the gender data gap is good for everyone, a win for all. The evidence presented in every domain in the present book makes it amply clear that female perspectives do matter. The author points to the serious need of sex-disaggregated data and warns that women's need cannot be ignored in pursuit

of a greater good. Failing to collect data on women and their lives means that we continue to naturalize sex and gender discrimination and are not seeing any of these discriminations. Women continues being ‘hyper visible’ when it comes to being treated as the subservient sex class and ‘invisible’ when it is important to be counted’.

The prominent themes raised in the book is the female body and precisely its invisibility. Routinely forgetting to acknowledge the female body in design, whether medical, technological or architectural domains- has led to a world that is less hospitable and more dangerous for women to navigate. The author has made multiple suggestions to address the data gap and also emphasizes that only closing this gender data gap will not magically fix all the problems faced by women that would require a wholesale restructuring of society and an end to male violence. The author reminds us that an important beginning in this path would be a recognition of the reality that ‘gender-neutral’ does not automatically mean ‘gender-equal’ world.

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