Kat Jungnickel
Bikes and Bloomers. Victorian Women Inventors and Their Extraordinary Cycle Wear, Cambridge, MA, the MIT Press, 2018, pp. 323

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In the late 1800s, a cycle craze swept across Britain. The bicycle became the new means of getting about for the middle and upper classes, men as well as women. While there were very few concerns as to the suitability of this activity for men, for women who took up cycling, their new activity was deemed problematic, on several accounts. There were strong social norms in place around mobility and the (in)appropriateness of women appearing in public. Medical beliefs of the alleged weakness of the female body prevailed, and, there was the "dress problem". A woman striding a bike in men's wear was unthinkable. Riding a bicycle in long skirts was of course both difficult and dangerous. But, the alternative, that is, to simply removing them and wearing trousers was definitely out of the question. The clothes thus had to be adapted and adjusted to meet the needs of riders, while at the same time respecting the notions of what was considered proper clothing for a respectable woman.

This required creative and innovative thinking and actually resulted in various patterns and designs being created by women, for women. Many of the ideas were patented. But who were these inventors and how did they come up with their designs? What motivated them and how were they and their inventions regarded? What can patents for cycle wear from the late 1800's tell us about mobility, technology and women's positions and possibilities? In her highly interesting and captivating book, Kat Jungnickel traces some of the women behind these inventions. By combining materials found in archives with ethnographic insights gained from actually making dresses from these patterns, she sheds light on a hitherto neglected area.

At first, I have to admit, the prospect of reading a study of patents did not really spark my interest. But, very soon I realized this was neither dull nor dry. On the contrary, it was exciting and, as Jungnickel notes, it helped me get closer to the women of the era as I could hear their voices and see significant sides of society through their eyes.

In one article on strategies for gendering design, Maja van der Velden and Christina Mörtberg (2012) discuss and demonstrate the intricate connections between gender, design and material objects. Similarly, in a study on Philips electric shavers Ellen van Oost (2003) shows how shavers configure the users' femininity and masculinity. Patents, as Jungnickel's book convincingly shows, prove to be excellent sources for exploring the close ties between design and gender. As they constitute both social and technical data, patents "reveal how the politics of mobility and ideas around

gender, citizenship and public space have been debated, imagined and materialised onto bodies over time" (p. 5). As the focus is on patents of cycle wear this becomes even more revealing, since it very clearly highlights the relationships between the physical body, technology, society and public space. Cycle wear both enables and constrains mobility for women.

The book is divided into three parts. In the first one, which consists of five chapters, the author explores cycling in Victorian Britain, the emergence of the Lady Cyclist and the "Dress Problem". As mentioned, the various creative solutions to this problem led to a number of inventions and patents. Important in this context is that in the1890s, the patenting process was changed and thus it became possible for new groups of inventors, among them women, to claim their inventions. At the same time, bicycling became fashionable with the middleclass. This led to a rapid growth of the production of cycle-related paraphernalia and apparel. One of many examples is "the Pneumatic Tube Coil" – hairstyle, promoted as the "latest novelty" for mobile women, which appeared in advertisements in 1897. The popularization of cycling also led to an intensification of patent applications. In the year that patent applications rose to 30958, as many as 6000 were cycling-related.

Moving to the second part of the book we get to know some of the inventors of the time. In five chapters, the lives and histories of six women, two of them sisters working together, are presented. One of them is Alice Bygrave, a London-based dressmaker and the woman behind the "Bygrave Convertible Skirt". With the help of archival records, census-aggregate data and patents, contemporary journals and newspapers such as *Bicycling News* and *Pall Mall Gazette*, Jungnickel paints a picture of a successful entrepreneur. Alice Bygrave travelled to New York to promote her skirt and get it patented; the skirt was appreciated by the highly popular Stanley Cycle show, and it was praised in Australia. She was not the only inventor in the family though; her father, who was a watch- and clockmaker, was an avid cyclist with a keen interest in bicycle design and he held several patents. In 1894, the year before Alice's patent, he submitted a patent for "Improvements in Cycle Saddle Springs". Jungnickel speculates that father and daughter might have spent time talking about ideas and making models. His experience with the patent process may have helped her become familiar with the application process.

There were also professional cyclists in the family; one of her younger brothers and his wife were both racing cyclists. Rosina Lane, as was her sister-in-law's racing name, was a successful cyclist. In several photographs, she can be seen wearing the "Bygrave Convertible Skirt". Though Alice Bygrave appears as to have been a both talented and industrious business woman, Jungnickel emphasises the importance of not forgetting the collaborative work that that seem to have gone into her creations. "Piecing together Alice's story", she writes, "reveals a diverse range of influences that helped her shape her creative endeavours" (p. 154). The exploration

of Alice Bygrave's life and invention ends with a section called "Interviewing the 'Bygrave Convertible Skirt'" which accounts for how Jungnickel and her collaborators set about making the skirt. Following the step-by-step instructions provided by the patent, turned out to be quite difficult and raised many questions. But it also becomes obvious how: "the skirt operates like a timepiece. There are clear parallels between her invention and her family's watch- and clockmaking influences" (p. 154). This is knowledge that could have been gained only through the researchers' practical engagement with the patent.

The chapters that follow are structured in the same way and centre around other inventors and their patents. Some designers made cycle wear that would conceal and understate while others did the opposite: their dresses were designed to stand out. This shows how important it is, as Wiebe E. Bijker states in *Of Bicycles, Bakelites, and Bulbs* (1995), to "never take the meaning of a technical artefact or technological system as residing in the technology itself". Instead, we "must study how technologies are shaped and acquire their meanings in the heterogeneity of social interactions" (p. 6).

As genealogists are well aware, it is always easier to follow the extraordinary or the people of ill-repute. Tracing an ordinary and law-abiding individual is much harder, as she leaves few traces in the archives. This is the case for Julia Gill, the woman behind patent no. 6794: "A Cycling costume for Ladies". There were several women with this name and which one of them designed the convertible cycling semi-skirt is not clear. As Jungnickel points out, we can never fully know the past. But we can test various possible scenarios and see what emerges. Julia Gill self-identifies as a court dressmaker, which means she made clothing for high-society women to wear for special occasions. Jungnickel discusses how cycling became fashionable among upper class women, which meant they also needed to include cycle wear in their wardrobe planning. The section ends, like the others in this part of the book, with focusing on the inventor as Jungnickel and her team sew the skirt. "On paper this garment looks socially possible, but in material, it reveals itself as very risky!" (p. 180). The third and final part of the book is a conclusion, which is about the politics of patenting. This is followed by a list of British Cycle Wear Patents 1890-1900.

To conclude, *Bikes and Bloomers* proved to be one of the most exciting books I have read in a long time. Interesting and well written, it adds a lot of new knowledge to the fields of both the history of bicycling and of fashion and design, and to Science and Technology Studies. It is a fascinating "account of cycling, sewing and suffrage" (p. 6) and the arguments are strong, substantiated by the use of various materials and sources. Jungnickel's combination of methods works very well and the procedure of actually making and wearing the skirts clearly deepens my understanding of both the idea behind the invention and its applicability. Located in the theoretical framework of feminist and science technology studies it is also

a feminist reclamation project. Jungnickel wants to render the inventors and their stories visible, arguing that "Learning about past lives invites us to reflect on our own" (p. 9). Because what women wear while cycling, still matters.

References

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Christopher M. Kelty

The Participant – A Century of Participation in Four Stories, Chicago and London, University of Chicago Press, 2020, pp. 344

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Christopher Kelty is an anthropologist and historian who has dedicated the last couple of decades of his scholarly work to study, discuss, and understand participation. *The Participant* stands apart from his previous works as it shifts the focus away from grassroots or domain specific forms of participation with their localized practices, cultures, politics, and infrastructures. Indeed, the book encompasses a far-reaching aim. Its starting point is that participation has increasingly become associated to decision-making and political processes. The aim of the book is to investigate the genealogy of participation pertaining to the last century of US and EU societies, and therefore to identify both the particularities and "the singularity of participation, not just its variations." (p. 6). The book goes beyond the usual questions about "participation in what?" or "why do we participate?" and it focuses on the thought-provoking one about whether it is possible to participate in participation. As such, the contribution of the book is ambitious and, admittedly, unique in its scope, finding its place along those few that try to question participation in fields such as, for instance, media and cultural studies (Barney et al. 2016) and participatory