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# Jesse Adams Stein, *Industrial Craft in Australia: Oral Histories of Creativity and Survival* (Cham, Switzerland: Palgrave Macmillan, 2021)

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and immigrant taxi drivers as servility and misogyny as a potential passenger threat and thus antagonize drivers against (particularly vulnerable and/or feminine) passengers. Hua and Ray report that drivers and passengers are entwined in mutual precarity. This kind of racial narrative of masculine threat, depicted as a gendered concern, not only ignores drivers' exposure to workplace harm but also obscures the racial power that leverages gender and race as matters of personal identity to drive industry profit. Hua and Ray also disclose that the broader legal framework of discrimination casts drivers and passengers in antagonism through the calculations of value and lives. The framework distinguishes rehabilitative lives from reproductive lives, resulting in discriminatory outcomes. Rehabilitative lives are those of the "worthy disabled" who are imagined as employable, while reproductive lives are tied to those with the ability to serve and attend to worthy lives. These value calculations place them in the context of disability justice and reproductive labour. Both drivers' calls for health and passengers' calls for mobility are thus threatened by systematic debilitation.

*Spent Behind the Wheel* is a must-read for readers interested in work and labour in the gig economy. Those who follow the development of the professional passenger driving industry closely will also find this book inspiring. Considering the rapid expansion of the gig economy and the increasing opportunities of gig work over the past few years, Julietta Hua and Kasturi Ray's critical analysis of drivers' reproductive labour is certainly timely and highly valuable.

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**Jesse Adams Stein, *Industrial Craft in Australia: Oral Histories of Creativity and Survival* (Cham, Switzerland: Palgrave Macmillan, 2021)**

JESSE ADAMS STEIN'S important book explores the little-known world of engineering patternmaking, situates it within the context of long-term industrial decay, challenges common assumptions about the causes of that decline, and makes suggestions about what might reverse it. Her book deals specifically with Australia, but much of it applies to other countries of the Global North, including Canada.

Stein treats the details of the lives and work of engineering patternmakers with empathy and respect. Few people have heard of the trade, and it has never employed many people. Patternmaker Tim Wighton relates how government officials initially rejected his request for an \$800 apprentice tool subsidy because they did not believe his job existed! Yet patternmaking is an essential industrial craft, second only to toolmaking in terms of the complexity of skills. Able to visualise blueprints in three dimensions, the patternmaker fashions wood into moulds used to produce a myriad of commodities made of metal, plastic, and even confectionary. Stein stresses that although patternmakers do not design products, they nevertheless need great design knowledge and, until recently, have enjoyed a great deal of autonomy in their work.

Traditionally, patternmakers used hand tools and/or hand-operated machines such as lathes, bandsaws, sanders, and thicknessers. They made many of their own hand tools and kept these in beautifully crafted wooden toolboxes they fashioned in their apprentice years. Proud of their skills, they saw themselves as a creative industrial elite. As the book's photographs suggest, many of the patterns shaped by these craftspeople are incredibly beautiful. It is no accident that

several of the patternmakers we meet became artists.

Much of this has changed forever. A modern-day Rip van Winkel who awoke in Australia or Canada today after a fifty-year sleep would reel at the extent of deindustrialisation. Stein reminds us that in 1966, the manufacturing industry employed a quarter of the Australian workforce. By 2001, this had fallen to twelve per cent, and by 2021 to less than seven per cent. In 2021, there were only one hundred patternmakers in Australia, and only six apprentices (one of whom Stein is pleased to say, is female in what has been traditionally a masculine occupation).

Until recently, patternmakers enjoyed job security and decent pay and conditions. If they desired it, they could work for the rest of their lives in an occupation that provided great satisfaction and self-esteem while also allowing them a great deal of professional autonomy. However, the last years of the 20th century, saw the eclipse of traditional patternmaking methods in all but a handful of jobbing shops. Traditional ways of making things have given way to automated processes such as Computer Aided Design (CAD), Computer Aided Manufacture (CAM) and Computer Numerical Controlled (CNC) milling machines, and, to a lesser extent, 3D printing.

The consequences for the industry and its employees have been profound. Although there is still a demand for patternmakers in foundries, their overall numbers have fallen steeply. A CNC milling machine can achieve in a couple of hours what would take a craftsman a whole working week to complete using hand tools. More disturbing has been the deskilling and alienation of the work, in which CAD and CNC have given much greater control of work processes to management and tertiary-educated engineers – and in the process, reduced the self-respect of the patternmakers.

One of the strengths of Stein's use of oral histories is that the workers themselves tell their stories, and one chapter, which focuses on a female patternmaker called Debbie, casts light on the enormous problems facing young women entering a masculinist trade. Alas, with industrial decline, initiatives to increase the number of women in skilled trades have failed.

At the same time, much of the Australian manufacturing industry has moved offshore to avail itself of cheap labour. The public, Stein observes, has accepted deindustrialisation as inevitable – even as progress. However, she argues that patternmakers and other manufacturing workers have also suffered the effects of deliberate political and economic decisions. Since the 1980s, Australia's mainstream political parties have embraced neoliberal economic ideology and allowed and even encouraged the demise of the country's manufacturing base.

Governments have downgraded manufacturing in favour of mining (particularly of fossil fuels), the service and financial sectors, and export education. Ironically, although Stein does not mention it, the machines that dig up the minerals or cut down forests, and the ships that transport the coal, gas, and woodchips are manufactured overseas. The same political parties have presided over the dismantling of the country's technical and further education (TAFE) colleges, particularly those parts dealing with industrial skills. Only two TAFES now teach patternmaking apprentices, and privatized utility providers no longer see the training of apprentices as a public duty.

One female patternmaker (a *rara avis*) laments the loss of crucial industrial skills and thus the ability of the country to make things. Another of Stein's patternmakers now works in a retail hardware store – a not-uncommon fate for

former industrial workers in a deindustrialized economy.

Early in the book, Stein relates an early, disastrous attempt to interview a skilled worker employed in a foundry to sharpen expensive axes. Full of bitterness, he turns on her, delivering a bitter rant. She is one of the people he wrongly blames for industrial decline, in the same way that victims of deindustrialization have turned to far-right demagogues such as Donald Trump in the US and Pauline Hanson in Australia.

Such demagogues offer no solutions, but they do draw attention to those who “have borne the brunt of the ‘scorched earth left behind by neoliberalism.’” (231) Stein concludes by offering some alternatives. Firstly, she insists, ‘manufacturing renewal cannot be left to the market alone’ because the decline “has gone on for too long to hope that business will just ‘pick up’ to meet particular demands.” (230) The state must intervene, otherwise, human beings will continue to suffer, national sovereignty will be damaged, and crucial skills will disappear, perhaps forever.

She reminds us that most citizens favour value-added industry over the extractive export of primary commodities and insists that, despite the fierce global competition, Germany and the Scandinavian countries show that there is a place for the high-quality manufacturing industry in Australia. From personal experience, the reviewer knows that regions such as the Black Forest are not well-endowed with natural resources, but sustain high-quality manufacturing industries, such as precision instrument making, which relies on highly skilled tradespeople and does not depend solely on digital technology.

Stein concludes by reminding us that “without industrial craft, we would be far less capable and more superficial as human beings attempting to survive in

this fragile world.” (235) This tightly argued, incredibly rich text should be read not just by labour scholars and activists, but also by progressive politicians and citizens. The themes it raises echo back to the early days of the Industrial Revolution and show that deskilling and the alienation of labour are still with us.

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**Keith Plummers, *No Wood, No Kingdom: Political Ecology in the English Atlantic* (Philadelphia: University of Pennsylvania Press, 2021)**

THIS BOOK BRINGS an important new perspective and a lot of archival research to an old topic. The rise of ironworking in England put new pressure on the long-term sustainability of English forests. The kingdom relied on the navy to preserve its sovereignty, so the possibility of a scarcity of shipbuilding timber created concern and shaped the political ecology of the early modern period. The actual crisis never materialized, and the navy shipyards continued to find domestic supplies of oak and other essential timber. At the same time, the pressure on the forests was real, and British ports turned to Norway for increasing quantities of construction timber during the 17th and 18th centuries.

The 17th century also saw the English extend their imperial reach in Ireland, North America, and the Caribbean. Plummers shows how boosters looking to increase government support and investment in overseas colonies tried to capitalize on the endemic concern about forests in England. Following two chapters on England and Ireland, his book details efforts to promote forest industries in Virginia, Bermuda, and Barbados. The Irish chapter includes a well-researched analysis of the pressure ironworks