Is Australian manufacturing finished? Or is it just changing?

JESSE ADAMS-STEIN (UTS) TALKS ABOUT HER CONVERSATIONS WITH THE PATTERNMAKERS FEATURED IN S2EP2: INVISIBLE HANDS

With the dissolution of Australian auto-manufacturing in 2017, other traditional industrial sectors – such as metal foundries – are sometimes assumed to be 'on the way out', a thing of the past.

This negative perception of Australian manufacturing belies the statistical reality. Since 2016, productivity and employment in Australian manufacturing has increased, albeit gradually. One key difference is this: the technological and social mix is shifting. In an effort to stay competitive, businesses are embracing digital technologies, robotics and innovation. This has changed manufacturing's occupational mix, and it changes the work itself.

So does this mean that industrial craft – all those old manufacturing trades that emerged in the industrial revolution – is officially over?

Well, yes and no.

As I'm beginning to discover, high quality manufacturing requires both advanced technology *and* craft skill. Industrial craft isn't just a thing of the past: it is a living history, and we need to nurture it, as well as support its evolution.

Over the past two years I met with industrial craftspeople and manufacturing business owners, and I asked them how they've coped with the massive shifts in Australian manufacturing since the 1980s. This formed the basis for the *Reshaping Australian Manufacturing Oral History Project*, a collaboration between the National Library of Australia (Oral History & Folklore) and UTS. The project identifies people who have lived through significant changes to manufacturing in Australia, and records their oral histories for the national oral history collection. The resulting interviews are lengthy, and take a 'whole of life' approach; this means I ask interviewees to reflect on their entire lives, putting their experiences in a broader social context. You can listen to my interviews with engineering patternmakers here (some are online, more to be uploaded soon).

Engineering Patternmakers

As a vector for focusing the research, I honed in on one particular industrial craft: engineering patternmaking. If you've never heard of an engineering patternmaker before, don't worry, you're not alone. Patternmakers often complain to me that their entire industry fails the 'pub test' – almost no one has heard of them.

Not to be confused with textiles patternmaking – engineering patternmaking is an industrial craft that is used in manufacturing processes that use casting, moulding and toolmaking for metal and plastics production. Patternmakers use engineering drawings (or nowadays CAD files), to construct a three-dimensional 'pattern' (kind of like a model) that makes a mould viable.

We are surrounded by mass-produced objects every day, but most of us have little idea how they are made. I'm a design historian, and even within that discipline, we have a habit of focusing in on the design stages, vaguely referencing production, before focusing again on the uses and meanings of objects out in the world.

As this podcast suggests, patterns are like the 'shadows' of the industrially produced objects we use every day. And while the patterns themselves are destroyed and forgotten, you can still speak to patternmakers about their role in bringing things into being.

For the past two years, I've interviewed patternmakers across Australia: men and women, aged from their early 30s to their mid-80s. As it turns out, patternmakers are a fascinating bunch. They're outspoken, thoughtful and staunch defenders of the value of making high quality things, keeping production local and ethical. They're also highly skilled. Traditionally, patternmakers have been precision woodworkers, working to extremely fine tolerances using complex mathematics as well as refined manual skill. In more recent years, patternmaking has shifted beyond woodworking to include other materials – resins, polyurethane, fiberglass – and emerging technologies, such as 3D printing, Computer-Aided Drafting and CNC machines. So patternmakers have also faced technological challenges along the way, which some see as a form of 'deskilling', and others see as an evolution.

And then there is creativity. We aren't used to thinking about manufacturing workers as *creative*, but many are. The patternmakers I interviewed are also sculptors, artists, instrument-makers, furniture-makers, toy-makers, writers and poets. They've also worked in many other jobs: opera set design, costume-making, catering, teaching, hardware retail and aircraft construction.

My next book, *Just Finishing? Voices of Industrial Craft*, is currently in development.

Listen to History Lab **S2Ep2: Invisible Hands** here.

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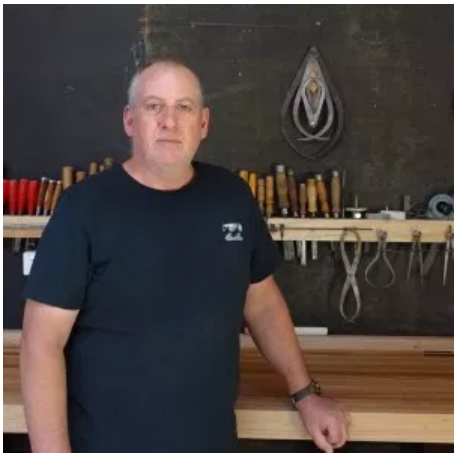
Jesse is the author of *Hot Metal: Material Culture & Tangible Labour*



Conversations in the shadow of Australian manufacturing

Is Australian manufacturing finished? Or is it just changing? Jesse Adams-Stein talks about her conversations with industrial craftspeople and manufacturing business owners.

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S2Ep2: Invisible Hands

Where do jelly babies come from? Mass-produced things are all around us. But they all start with a single object. Olivia goes looking for the patternmakers, whose invisible hands create many of the products we use every day.

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S2Ep1: The Bank, the Sergeant his bonus

In 1817, the Bank of New South Wales opened as the first financi institution in the Australian color But when the first customers arr for the grand opening, they foun someone had already made a deposit.

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