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# Soulful work or selling the soul? Cultural production and the custom surfboard industry

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**Soulful work or selling the soul?**  
**Cultural production and the custom surfboard**  
**industry**

**Andrew Warren**

**A thesis submitted in fulfilment of the requirements for the degree of Doctor of**  
**Philosophy**

**University of Wollongong**

**Australian Centre for Cultural Environmental Research**

**School of Earth and Environmental Sciences**



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*A Research Initiative of the  
University of Wollongong*

## Abstract

This thesis documents custom surfboard-making as a distinctive cultural industry, drawing on archival and ethnographic work with eighteen surfboard workshops and their eighty-seven workers operating in four renowned surfing regions: O`ahu Hawai`i, southern California, Gold Coast and Illawarra regions, Australia. As a cultural industry, custom surfboard production is tightly linked to physical geography. Focused in coastal settings, board design is driven by the creativity of key individuals who seek to produce a faster, smoother and more responsive ride for surfers specific to prevailing waves and surf breaks. Unlike many other forms of commodity production, surfboard makers are not detached from their customers; instead makers depend on local surfing communities, providing a customised experience where the consumer meets with and even surfs alongside the craftsperson. Surfboards are thus central to surfing participation, sharing important cultural origins, stories and rituals.

The production of surfboards is, however, in a state of flux. Since the 1950s the international growth of surfing as an industry has been driven by convergence with other popular culture and media industries (TV, sport, tourism, fashion, film and music). This has given rise to transnational firms including Billabong and Quiksilver that package the surf in the form of equipment, clothing and fashion accessories. Such firms now dominate a multi-billion dollar industry with tentacles spreading into various other lifestyle and leisure pursuits. Against a background where consolidation of corporate power and offshore manufacturing have up-scaled surfboard production, I document how independent custom workshops survive in surf-friendly coastal regions.

They do so through their use of two cultural production systems. The first enrolls hand-based crafting methods and emphasises customisation. Here surfboards are made to suit local environmental conditions and individual surfers: customers pay high price for quality, hand-made and personalised products. This system relies on artisanal skills gained over years or even decades, and specialised, embodied knowledge, where artisans produce boards for consumers they know and will see riding them. Board-makers are iconic individuals within regional surf scenes, and take great pride in the practice of crafting tangible cultural products in this way, by hand. Yet this system of production is vulnerable to growing external competition from imported, mass produced boards. Hence independent workshops have increasingly turned to a second system: one that has speeded-up production following a computerised process that generates replicated boards for mass consumption. Relying on networks of surf retailers, sponsorship of professional surfers, and niche branding strategies, independent surfboard workshops can through automation make more boards than is possible through customisation, and thus potentially access wider markets for their products.

While fifteen of the eighteen participating workshops have shifted production towards the use of mechanised technologies – to varying degrees – all but three maintain hand-shaping techniques, guarding hard-gained skills while lending cultural capital to their customised surfboards and brand identity. Their ageing makers – all of whom are men, the outcome of the highly gendered surfing subculture – consequently survive precariously in financial and logistical terms, the result of limited production capacity. Working hours and conditions have become erratic and irregular, rates of pay fluctuate across short temporal scales, skills development is informal and there is a lack of succession planning amongst an older generation of craftsman.

Why hand-makers ultimately persist with uncertain, lowly paid and demanding jobs relates to the emotional transactions surrounding this form of cultural work. To understand meaning and value in this cultural industry I adapt the notion of an *emotional terrain* to expose the attachments and passions of surfboard-makers to their jobs. While uncovering deeply pleasurable pay-offs – surfboard shapers frequently described it as ‘soulful work’, making artful physical artefacts they saw being used locally, that linked to regional traditions, and in which they could take pride – there are equally significant unpleasurable experiences where workers are open to exploitation. Here discourses of ‘flexibility’ and ‘lifestyle work’ within surfing subculture mask more sinister conditions for labour. As surfboard production has shifted from labour-intensive to capital-intensive methods, automated production has become a flashpoint between workshop owners and their workers. The advent of automated production only increases the sense amongst these precarious workers that they make ‘soulful’ products using rare, inherited skills, valuable to surfing subculture beyond purely ‘economic’ considerations. I argue that for symbolic goods like surfboards, analysis can fruitfully combine political-economic considerations (competition, work place relations, labour markets, technological change) with greater sensitivity to local subcultural settings and the emotional transactions of cultural work. In the surfboard industry subcultural motivations powerfully drive design and production, and persistence with precarious forms of work. Hand-shaping survives only because of embodied and emotional connections to the work and to surfing subculture more generally.

## **Candidate's statement**

I, Andrew Warren, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the School of Earth and Environmental Sciences, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Andrew Warren

April 2012

## **Acknowledgements**

This thesis represents the culmination of many different things: curiosity, persistence, hard-work, procrastination, good advice and fortune, enthusiasm, friendship and trust. I started out three and a half years ago with a great love of surfing – and it remains an important part of my life – but, in truth, I had little appreciation for how the surfboards I was riding were made. I talked a lot with my local shaper Mick, but the conversations were often selfish ones about what I wanted from my next board. I understood little about the skills, talents, knowledge and struggles of surfboard-makers. So, where I have ended up, in writing a thesis about people like Mick, who make their living from crafting and selling surfboards, gives me a great sense of satisfaction. My hope is that I have produced in this thesis a true reflection of their experiences. Surfers owe a lot to these artisans.

For getting me to this point I owe a big thank you to my wife Alison: first, for always putting things into perspective and second, continually supporting my ideas, aspiration and work. At times doing this PhD has taken me away from home but never did you show anything but unconditional encouragement. I am so grateful for her kindness.

I also owe a huge thank you to Chris Gibson, my supervisor and good mate. Chris always gave honest advice, challenged my perceptions of a topic and promoted critical thinking about the world. For me that combination was exactly what I needed. The group of people that make up AUSSCER at the University of Wollongong also created an exceptional environment in which to do doctoral research. Tea room conversations, seminars and conferences were always stimulating and helped me greatly in working through problems and blockages that inevitably come along when doing a

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## **Glossary of terms**

**Acetone:** A popular solvent used by surfboard workshops to clean boards, tools and equipment. Acetone is highly combustible and toxic.

**Airbrush:** Artists spray painting gun for painting graphics or murals and colors on surfboards. The paint is propelled through the gun by compressed air from an air compressor.

**Association of Surfing Professionals (ASP):** body responsible for governing the sport of surfing at the International level. The ASP control six different circuits of competitive surfing: World Championship Tour (WCT), the World Qualifying Series (WQS), the World Longboard Tour (WLT), the Pro Junior Series, the World Masters Championship and other Specialty Events.

**Barrel:** The hollow section of the breaking wave just below the lip. The larger the hollow section the more desirable for surfers.

**Blank:** the moulded foam core of a surfboard. Made from polyurethane, polystyrene, carbon fibre or a combination of other buoyant materials.

**Bottom curve:** the curve in the surfboard from nose to tail.

**Carbon Fibre:** A specialised fibre now used in conjunction with resin for extra compressive and tensile strength in surfboards.

**Carve:** to make dynamic turns on a wave face when surfing.

**Catalyst:** The chemical component of the two parts mix that causes the resin to cure and harden.

**Channel:** The bottom contour on a surfboard. Grooves cut lengthwise into the tail half of the board. Channels can vary in the design to give different drive and turning characteristics.

**Concave:** design feature of a surfboard, shaped by dishing out the desired section of the bottom to give additional lift and manoeuvrability.

**Deck:** the upper side of the surfboard.

**Ding:** a damaged part of a surfboard.

**Drag:** the slowing effect on a surfboard as water flows across the bottom and fins. Drag can be a negative if it occurs in the wrong places on a surfboard. But controlled, drag is

an essential requirement of surfboard design so that surfers can control their board's movement.

**Epoxy:** a type of resin used in combination with polystyrene foam blanks.

**Fibreglass:** The ultra-fine extruded glass strands that are woven together to provide a cloth sheeting used to form the skin of a surfboard.

**Fins:** are positioned on the bottom surface of the surfboard to provide control to the surfer. There are many different fin design set-ups available from single-fin longboards to six-fin shortboards.

**Fin system:** the grooves installed in the surfboard to allow for different fin set-ups.

**Fish:** A design of board made with a wider nose and tail, with more volume to allow surfers to ride better in smaller, fuller waves.

**Foil:** is the changing curve and thickness in a surfboard from the nose to tail. Resembles an aeroplane's wing.

**Glasser:** the worker whose job is to seal the surfboard using fibreglass and resin

**Glassing room:** a separate part of a surfboard workshop where already-shaped boards are sealed/laminated prior to completion.

**Gloss coat:** a final coat of resin over the hot coat to leave the board looking shiny.

**Goofy foot:** Surfing with the right foot forward on the surfboard.

**Grommet:** a young or junior surfer.

**Ground swell:** a swell generated from a storm some distance away. The swell travels a great distance, meaning the period between waves extends and leads to clean, breaking waves. A surfer's favourite type of swell.

**Gun:** a surfboard designed for large, powerful and fast moving waves. These designs originate in Hawai'i.

**Heavy:** powerful breaking waves, often where the lip of the wave is breaking in shallow water.

**Hot coat:** the coat of resin that goes on top of the fibreglass sheet. Also called a fill coat or sand finish. After sanding, the board may then have a gloss coat added for aesthetic reasons.

**Hot curl:** a 1950s surfboard design shaped by Californian Dale Velzy.

**Hull shape:** where the bottom shape resembles that of a boat's hull. The shaper creates a convex shape on the bottom of the board from rail to rail. This was common on long boards during the 1960s.

**Impact zone:** the place where the waves break.

**Kevlar:** a type of compressive cloth now being used in the surfboard industry as a lighter and stronger alternative to fibreglass.

**Laminate:** the first coat of resin applied over the fibreglass sheeting.

**Lapping:** Laying the fibreglass over the shape, so that it overhangs by several centimetres.

**Leash/leg rope:** The leash is a leg rope made from synthetic urethane cord and used to attach the board to the surfer's leg. The leash was invented by Pat O'Neill in 1971.

**Malibu:** refers either to a) the surf break in southern California, or b) a design of board that originated in Malibu during the early 1950s and revolutionised surfboard riding. The term is still used to refer to long board designs.

**M.E.K.P:** the catalyst used to cure the resin, Stands for Methy ethyl ketone peroxide.

**Mid point:** the point on the board mid-way between the nose and tail.

**Mini-Mal:** a hybrid design halfway between a long and short board. There has been resurgence in the popularity of mini-mals over the past decade.

**Moulded boards:** where the surfboard blank is cast as one large foam and fibreglassed structure. This enables quicker mass-production because fibreglass sheeting is not required; only needs a thin coat of resin.

**Mushy:** when the waves are breaking weakly and inconsistently due to unfavourable winds, swell and/or tide.

**Noob:** a derogatory term for describing an unskilled surfer.

**Nose:** the front 12 inches of the surfboard.

**Offshore:** ideal winds that blow from land towards the ocean, helping the wave to stand-up and barrel.

**Off the top:** a cutback manoeuvre, where the surfer turns off the top of the wave.

**Onshore:** where the winds blow from the ocean towards the beach, creating mushy surf.

**Pintail:** Where the outline of the board draws from behind the centre into a point at the tail. Ideal for large waves and completing long, smooth and drawn out turns.

**Planer:** a tool (either electric or manual model) used by shapers to sculpt out the blank foam into the appropriate surfboard shape. The blank is finished with surface form tools, sanding and fly screen mesh.

**Point break:** a headland where waves break in one long direction along it. Points can break in either a right or left direction. Famous point breaks include Malibu, Rocky Point, O`ahu, the Superbank on the Gold Coast and Illawarra's Sandon Point.

**Polyester:** the type of resin most often used in sealing surfboards.

**Polystyrene:** a light type of foam used with epoxy resin.

**Polyurethane:** the traditional foam core used in the surfboard industry. Sealed with a polyester resin.

**Quiver:** a surfer's personal collection of surfboards, equivalent to an archer's quiver of arrows. It can range from three to thirty surfboards.

**Rail:** the edges of the surfboard where the deck and bottom outlines meet. The rail shape influences turning control.

**Reef break:** where waves break over rocks or a coral reef.

**Regular/natural foot:** where the surfer rides with their left foot forward.

**Release:** how fast the water flows off the surfboard as the rider completes a turn. Controlled release and drag are crucial for surfboard design to allow the rider to quickly release out of turns without losing too much speed.

**Retro board:** contemporary takes on older surfboard designs e.g. the fish or mini-mal

**Reverse vee:** a design where a 'V' is shaped into the first half of the board and then flattens out towards the tail.

**Rip:** refers to either a) high performance manoeuvre on the wave, or b) a current that forms at a beach where the water flows out to sea.

**Ripable:** high quality surfing conditions, where the waves have a smooth workable face

**Rock-hopping:** where surfers carefully walk across a rocky headland or platform to access a break.

**Rocker:** The measurement of the surfboard's curvature from the nose to the tail, observed from the side.

**Round tail:** where the tail of the board is shaped with a rounded finish. Gives a loose feeling on the surfboard, making it easy to turn.

**Sanding finish:** where the surfboard is completed with the fill or hot coat only.

**Sand through:** a crucial error by a sander or glasser where they sand through the layer of cured resin into the fibreglass sheeting.

**Shore break:** waves breaking right onto the beach, leaving little time to ride the face.

**Shaper:** the person who most often designs and works on the surfboard blank, sculpting it into a finished design before it goes to the glasser for sealing.

**Shaping bay:** that part of a surfboard workshop, usually a contained, separate room, where foam blanks are planed into a custom shape by an expert shaper.

**Shoulder:** the as yet unbroken wave face.

**Skeg:** another term for a surfboard fin, first invented by Tom Blake in the 1930s.

**Sketchy:** scary or uncertain conditions for surfing.

**Snaking:** where another surfer paddles onto the inside of the line-up and drops in on another rider.

**Snap:** a sharp turn off the top of the breaking lip.

**Square tail:** where the tail of the surfboard is shaped with a straight finish from rail to rail. Gives good forward propulsion for the surfer.

**Squash tail:** In between a round and square tail. The most popular design on modern shortboards because it gives excellent all round performance.

**Stick:** a surfboard.

**Stoked:** happy, overjoyed, excited feeling.

**Stringer:** Used to strengthen the foam cast, which is cut in half before a thin piece of timber (usually balsa wood) is glued down the centre line of the blank. This adds strength and also helps the shaper achieve symmetry, because it becomes a reference point.

**Swallow tail/fish tail:** where the tail is shaped like a 'v', resembling a bird or fish tail

**Tail:** the rear 12 inches of the surfboard.

**Take off:** where the surfer paddles, connects with the wave's energy and stands to their feet.

**Template:** a thin sheet of timber or plastic cut and used by shapers to sketch out the outline of their next design.

**Tint:** where colour is added to the resin by the glasser to create a unique finish. Is a difficult and time consuming process to get the mixture between resin, catalyst and paint correct.



**Thruster:** Simon Anderson's three fin surfboard design, which he used to great effect in the early 1980s and has since become the most popular fin system. The three fins provide excellent control, drive, speed and turning ability in all wave conditions.

**Wall:** the wave face on which one surfs.

**Wide point:** how the surfboard is curved from the nose to tail, and the point at which this curve is widest from the mid point of the surfboard.

**Wipe out:** term used to describe a surfer falling on a wave.

**Zooed out/a circus:** where a surf break is crowded and resembles a zoo or chaotic circus.

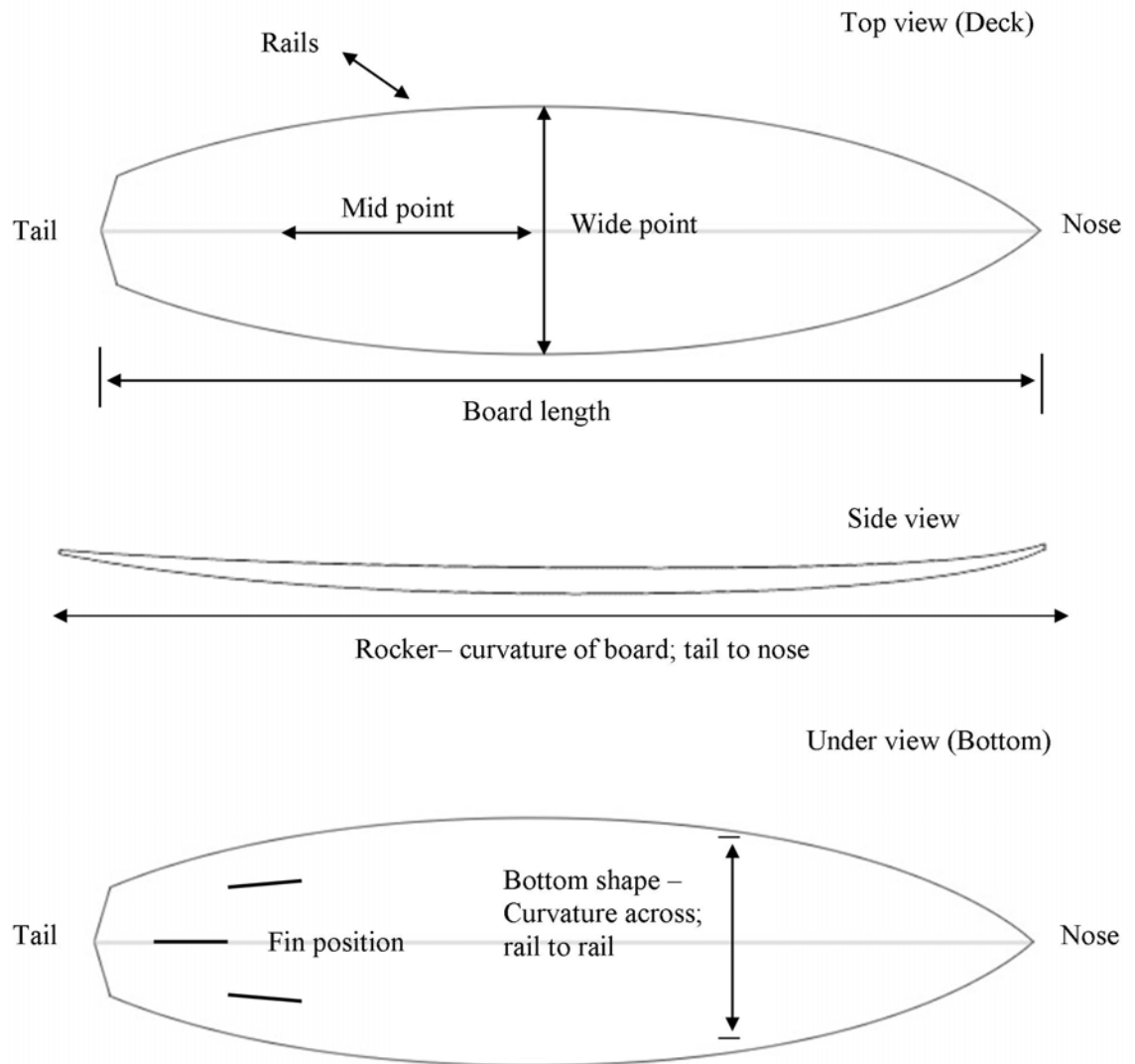
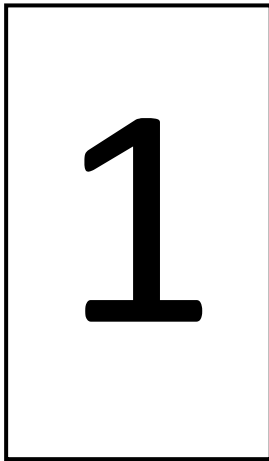


Figure 1: A diagram showing the profile of a typical post-1980s surfboard. This particular board is a three fin thruster set-up, however boards are shaped today with five fin set-ups as experimentation continues with new materials and boards that cater for many different surfing styles. (source: Author)

Table 1: The design features of a surfboard and their general influence on surfing performance. (source: Author)

<b>Surfboard design elements</b>	<b>Characteristics for surfing style/performance</b>
<b>A) Tail:</b> Types – Pin, round, squash, swallow/fish, square tail	Provides different ranges of movement on wave face e.g. turning ability, manoeuvrability and or what surfers refer to as ‘looseness’
<b>B) Nose:</b> Types – Pointed, rounded pointed or round	Impacts floatation and paddling ability, affects stability and take off. The nose must have some curve shaped into it otherwise the board will plough into the wave and throw the surfer off
<b>C) Foil:</b> <b>(Rail shape):</b> Types – Curved or straight rails	The board area from nose to tail, responsible for distribution of foam and board thickness; impacts paddling, floatation and manoeuvrability
<b>D) Rail profile</b> Types: Down rails, rolled rails or hard rails	The profile shape of the rails (where the deck and bottom mesh together on the surfboard). The rails influence turning ability on the wave
<b>E) Rocker:</b> (Deck shape) Types: Dome deck, Flat or Step deck	The curvature or bend of the board from tail to nose. Less rocker provides more surface area in the water, reducing speed but increasing stability. More rocker gives greater responsiveness and turning ability but less stability. More rocker is suited for steeper, hollow waves, while less rocker is best in gentle rolling waves
<b>F) Bottom shape:</b> Types: Flat, concave, double concave or channel	The shape of the board across its surface (from rail to rail). Bottom shape determines turning responsiveness and speed on wave face
<b>G) Fins:</b> Types: Single fins, twin, thruster three fin, Quad fins	Provides surfer with control, turning and manoeuvrability; act like a rudder on a ship. Without fins the board would slide sideways, or what surfers in the 1930s and 40s referred to as ‘sliding ass’



# Introduction

## 1.1 Introducing the thesis

This thesis explores custom surfboard making as a cultural industry and an emotional, yet precarious form of cultural work. As an ancient human-environment interaction surfing is an exciting and fluid pastime where breaking waves, the body and a surfboard interact. As the only essential piece of equipment needed for riding waves, surfboards are inherently entangled with the act of surfing. For surfers their board acts as a point of physical connection between their body and the surface of the wave. Surfers use their board to paddle with enough momentum to connect with a wave's shifting energy source before manoeuvring to their feet<sup>1</sup> to ride its breaking crest toward shore. To surfers, a favourite surfboard is more than an expensive piece of equipment – it is symbolic of cultural, economic, social and emotional meanings. Contained within a surfboard are physical reminders (marks, scratches and imperfections) along with

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<sup>1</sup> While it is acknowledged that surfing includes many different forms of wave riding, using many different forms of equipment, in this thesis surfing means the form of wave riding in the Hawaiian *ali'i* tradition; where a surfer uses a specialised surfboard to ride breaking waves in an upright, standing bodily position (see also Evers 2005; Waitt and Warren 2008; Walker 2011).

memories and stories that embody a surfing lifestyle. Etched into boards are experiences of joy, pride and elation at negotiating a difficult tube ride, or embarrassment, shame and discomfort at wiping out in front of others.

Alongside surfing's exponential growth in participation over the past two decades, researchers in the social sciences and humanities have become increasingly interested in exploring the cultural, social, environmental and political dimensions of surfing (see Booth 1995; Finney and Houston 1996; Preston-Whyte, 2002; Buckley 2003; Evers 2004; Ford and Brown 2006; Waitt and Warren 2008; Lawler 2011; Walker 2011). This work has engaged with the practice of surfing to conceptualise the 'surf zone' as performative, hierarchical and gendered where strict 'local' regulations and pecking orders constantly regulate space and performance (Henderson 2001; Preston-Whyte 2002; Waitt and Warren 2008; Walker 2011). While this body of work has been crucial for understanding the history, practice and popularity of surfing there has been scarce attention paid to understanding surfing as industry (see Lanagan 2002; Lazarow 2007; Stewart et al. 2008; Lawler 2011 for exceptions). This is surprising given surfing's saturation into popular media industries (in film and music for example) and the geographic spread of both participation in surfing and consumption of its products. This thesis therefore represents the first scholarly examination of a form of capitalist commodity production from which all other forms of surfing have been commercialised: surfboards.

The focus of the thesis is on surfboards and their professional makers as enrolled by a unique form of cultural production. This story plays out historically, as an accompaniment to wider narratives of colonialism, post-war population growth and coastal regional development; and geographically, on a global stage, where surfing has

gained international popularity and the selling of its visual aesthetics and style has proliferated into a multi-billion dollar industry. As well as document this dynamic historical and global situation surrounding the production and trade of surfboards, the thesis examines four regional scenes of surfboard-making in greater depth: Hawai`i and southern California in the United States, and the Gold Coast and Illawarra regions, Australia (Figure 1.1). Here extensive ethnographic work was carried out over three years with eighteen different workshops. All are located in coastal settings with vibrant surfing cultures and legacies, and where unique skills and forms of knowledge have developed and been put to use in creating high quality surfboards suited to local populations of surfers and specific marine conditions. This is, then, a thesis about a particular, novel form of cultural production – an atypical industry – focused in four regional locations where surfing amounts to vernacular cultural heritage. It seeks to challenge the dominant theories in economic geography about the location, structure and proximity of cultural industries to large, urban settings.



Figure 1.1: The four case study locations of the thesis. (source: Chris Brennan-Horley)

The context is also of rapid global change in the surfing industry. Since the 1980s surfing and surfboard production have become big business. Companies with ‘backyard’ origins including Billabong and Quiksilver, Inc. have grown into transnational corporations, trading publicly on stock exchanges from New York to Sydney, and pursuing vastly different regimes for producing and selling the surf to the masses. Surfboards now sit at the heart of an industry with immense agency and capacity to generate economies of scale, and with tentacles spreading into related surf tourism, film and retail industries based upon the manufacture of wetsuits, clothing, fashion accessories, shoes and watches. With brand visibility, sophisticated distribution and production networks, cheaper pricing and large marketing budgets, global surfboard producers threaten the viability of smaller, independent surfboard companies, such as those profiled here in Hawai`i, southern California, the Illawarra and Gold Coast.

Thus many of the stories profiled in this thesis are about how such smaller players survive in an increasingly internationalised surfboard industry – and what worries workers and workshops in terms of future prospects for local, manual and artisanal forms of surfboard-making in an era of cheap mass-produced imports. But there are other crucial stories too: about the history, skills and secrets of commercial surfboard production; the particularities of making related to local surfing geographies and cultures; the influence of Polynesian surf heritage on contemporary board-making rituals and processes; an apparent disinterest among a younger generation of workers to learn traditional skills; and the emotional terrain across which surfboard-makers carve out their unique livelihoods. So while this thesis is concerned with the production of surfboards as capitalist industry, it draws into focus issues of subculture, corporate hegemony, work place and employment conditions, globalisation, heritage, generational



change and the economic survival and continuation of skilled local surfboard-makers in an era of speeded-up advanced capitalist production.

With surfing practiced, circulated and consumed in different societies around the world (from the Micronesian and Indonesian Islands, South Africa to North America), patterns of production and distribution of surfboards link geographic locations through their passions and popularity for surfing. Yet surfing and surfboards can also distinguish places because local wave types, surfing subculture, riding styles and crowds shape the design of surfboards. Thus the locational settings for researching this form of cultural production become crucial. In the discussion that follows attention is given to the significant historical backdrop to surfing in each of the four case study locations. While the eighteen different workshops participating in the thesis all rely upon the local popularity of surfing and the skilled labour of workers to produce boards for consumption, there are also important legacies, customs and mythologies that have made surfboard-making distinctive in each region.

## **1.2 Structure of the thesis**

The remainder of this introductory chapter provides an account of the historical geographies of surfing and surfboard-making. Across varying temporal and spatial scales surfing and surfboard-making are cultural activities with distinct heritage. This historical explanation is an important prelude to the remainder of the thesis. Following from this, Chapter 2 provides a framework for conceptualising surfboard production for its cultural economic, emotional and embodied dimensions. A growing body of literature has emerged in geography, media studies and social science disciplines over recent decades, which grapples with the economic formations surrounding forms of

cultural and creative production. The surfboard industry can be understood within cultural economy frameworks, as a form of cultural production with particular spatial concentration, systems of production and networks of distribution and consumption.

But, significantly, while cultural economy literatures prove useful as an explanatory skeleton they have been criticised for their lack of critical engagement with the wider processes of advanced capitalist production that have led to the deterioration of working conditions (Gibson and Kong 2005). Seeking to push cultural economy concepts further, in Chapter 2 I explore literatures from labour geographies, feminist geographies and emotional geographies, for their capacity to conceptualise the human dimensions that shape the process of surfboard-making: the unique relationships, rituals and mythologies that organise and influence workshop manufacturing, and the relationships between makers, work spaces, tools, the ‘things’ produced, and customers. This thesis therefore interrogates the attachments of workers to their jobs – outside the collection of a wage – examining the way work is performed, the personal interactions, skills and knowledge developed along the course of a career in the surf industry. This focus draws into play the embodied nature of skills and talents, the gendered nature of surfboard-making, the meanings invested in the material things (surfboards) produced, and the emotional transactions in the work. In Chapter 2 I therefore propose an adaptation of the notion of an *emotional terrain* to assist theorisation of forms of cultural production and work.

After outlining this conceptual framework, Chapter 3 is concerned with detailing the research methodologies used for the duration of the thesis. The chapter begins by highlighting the positionality of the researcher, which includes an important self-reflexive conversation about the motivations that underlined pursuing the work. This

chapter explains how participants were recruited, rigour was sought and privacy of workshops and individuals maintained. The specific research tools implemented in the research are detailed. For an ethnographic thesis the analysis of the surfboard industry included use of in-depth research tools: participant observation, semi-structured interviewing, guided work tours and archival research. But beyond words, stories, thoughts and behaviours a quantitative component of the research was also needed. I outline how key qualitative data from participating workshops, and more broadly across the industry, was sourced. This helped to contextualise the broader economic forces within which smaller, independent workshops must now play. Chapter 3 concludes by outlining the form of narrative analysis used to make sense of the rich qualitative material.

Chapter 4 then provides a detailed account of the dynamics of the local surfboard industry in each of the case study regions. It demarcates the individual specialisations involved in the production of surfboards, and how, as cultural assets, board-making industries become embedded in places that are often regional in their nature. These are settings where rich surfing legacies are embedded and social relationships formed between makers and consumers. Discussing the locally-specific practices of surfboard-making across the eighteen workshops, Chapter 4 also documents the custom system of production now viewed as ‘traditional’ – a bespoke, manual and creative approach to surfboard-making.

Next, Chapter 5 focuses on a second documented approach to surfboard production: an automated, mechanised system, which involves a contrasting relationship between market scale, technology, workforce relations and practices. This system of production is used both by global surf-brands, and by independent board workshops in

the case study regions seeking to maintain relevance and market share amidst global competition. The contribution of this chapter is the analysis of the surfboard industry's global contours, particularly the way globalisation and changing production systems have exacerbated oligopolistic and offshoring tendencies, in turn threatening the viability of localised, smaller scale workshops. At the same time, the influx of mass-produced, generic surfboards has meant that locally based hand-shapers can differentiate and authenticate their boards by maintaining focus on traditional approaches to customisation. Custom makers thus capitalise on discontent among 'hardcore' local surfers with wider forces of cultural homogenisation.

Chapter 6 more closely examines the precarity of labour in the surfboard industry. In it, I outline an important structural concern for those workshops that remain committed to hand-making: inadequate succession planning. The need for more certain and formal systems of training and occupational attainment is discussed here. The chapter also explores how, as workshops shift increasingly towards automated mechanised production, hand-shaping becomes more precarious and insecure.

Chapter 7 examines the gendered, embodied and emotional terrain of surfboard-making (and by extension, of surfing as subculture). In an industry dominated by men – many of them ageing and approaching retirement – I explore how emotions, senses and embodied knowledge become crucial for producing personal, high quality surfboards, which both reflect the personal surfing attributes of the rider and the waves they surf. Focusing on the attachments of workers to forms of precarious work, the chapter explores the hand-making process as a distinctive form of emotional labour, where workers think of jobs as soulful and artistic. Because of this, work incites personal feelings that are highly pleasurable. But the emotional terrain of the surfboard industry

can leave workers vulnerable to ‘flexploitation’ and ‘breaking bodies’. This chapter seeks to extend economic geographic and emotional/embodied research in two ways: first, by explicitly focusing on a unique cultural industry where wages are relatively low, and second, where a masculine surfing identity is contrasted by the way emotions and feelings are drawn upon and ramped up across different interactions in the workshop and surfing spaces more broadly. While local surfboard-makers may be rich in social and cultural capital, they are comparatively poor in terms of economic wealth. Their bodies both possess great tactile skills and bear the damage of lifetimes spent making things with dangerous chemicals and equipment.

Finally Chapter 8 synthesises the thesis, drawing together threads that describe the complex dynamics re-shaping surfboard production. In this chapter I offer some views about what is at stake for small, locally-distinctive cultural industries and their workers in the age of globalisation, technological change and mass production. A number of potential strategies are discussed, which can potentially assist with revaluing and better understanding the meaning of local cultural forms of production beyond measuring commercial contributions. Surfboard-makers are central actors in an artistic and artisanal form of manufacturing work. They constitute important local cultural assets for coastal regional places. Focusing on their stories of making surfboards for a living reveals how subcultural factors and social relationships come to shape the immaterial design, production and trade of surfboards as a distinctive cultural industry.

### **1.3.1 WAVE ONE: Historical geographies of *he'e nalu*, *Kānaka Maoli* and the *po'ina nalu***

While the emergence of surfing in western cultures has been comparatively recent surfing and surfboard-making are ancient activities (Walker 2008). Native Hawaiian surfers (*Kānaka Maoli*) refer to surfing (wave-sliding) as *he'e nalu* and the space where waves break as the *po'ina nalu*. In Captain James Cook's expeditions across the Pacific Ocean in the eighteenth-century he and his crew regularly observed surfing in Tahiti (1772-1775) and the Hawai'i Islands (1776-1779). His Lieutenant James King – an astronomer and geographer – was so amazed at the spectacle of wave sliding in Hawai'i he devoted several pages of journal in detailing his observations of Hawaiian men surfing on carved wooden boards:

But a diversion the most common is upon the water, where there is a very great sea, and surf breaking on the shore. The men sometimes twenty or thirty go without the swell of the surf, and lay themselves flat upon an oval piece of plan [carved wood] about their size and breadth, they keep their legs close on top of it, and their arms are used to guide the plank, they wait the time of the greatest swell that sets on shore, and altogether push forward with their arms to keep on its top, it sends them in with a most astonishing velocity, and the great art is to guide the plan so as always to keep it in a proper direction on the top of the swell, and as it alters its direct. If the swell drives him close to the rocks before he is overtaken by its break, he is much praised. (James King, March 1779 Kealakekua Bay, Big Island of Hawai'i, on board *Discovery*<sup>2</sup>)

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<sup>2</sup> The quotes regarding surfing from observers on Captain Cook's expedition across the Pacific Ocean are taken from four archival sources: A) the archives of the *Surfer's Journal*, B) the Surfresearch Organisation C) Bishop Museum archives in Hawai'i and D) Surfing Heritage Foundation.

King continued in several more journal accounts outlining the optimal ‘times for amusement’, places where surfing was commonly practiced, and the environmental conditions under which the Hawaiians preferred to surf (Finney and Houston 1996). The naval surgeon on Cook’s ship *Discovery*, David Samwell, was another who wrote about surfing extensively and was particularly inspired by the skill of the Hawaiian surfers:

The motion is so rapid for near the space of a stone’s throw that they seem to fly on the water, the flight of a bird being hardly quicker than theirs...it [surfing] requires great dexterity and address...in such a tremendous wave that we should have judged it impossible for any human being to live in it, they rise on the other side laughing and shaking their locks. (David Samwell, January 1779, Kealakekua Bay, Big Island of Hawai`i, onboard *Discovery*)

Not simply restricted to Hawaiian men, women and children (*keiki*) also rode waves as a form of pleasure, using carved planks of wood to manoeuvre their bodies onto breaking waves. Skilful performances were highly praised by fellow *Kānaka Maoli* as well as the novice European onlookers, most of whom could not swim (Hough 1994). But what early British explorers initially neglected in their accounts of surfing were the highly artistic and meticulous processes for constructing surfboards and the spiritual significance of surfing to Hawaiian ways of life and valuing systems.

As blessed, religious symbols, early Hawaiian surfboards were crafted using advanced hydrodynamic knowledge, following cultural traditions and production rituals that were passed down through stories and songs from one generation to the next (Finney and Houston 1996; Clark 2011). Place names and events across the different Islands of Hawai`i were regularly named in honour of memorable surfing events and incidents. One such event was the prestigious *Makahiki* festival, a tribute to the god

*Lono*, which featured numerous surfing rituals and competitive performances as part of celebrations. According to Hawaiian historian Isaiah Helekunihi Walker (2011), outside of the *Makahiki* festival Hawaiians regularly competed in surfing events and even gambled on the surfers they thought would complete the best ride as judged by its length and gracefulness (see also Booth 2001).

While an exact timeline for surfing and surfboard-making are ambiguous (and disputed) Hawaiian petroglyphs (*na ki'i pohaku*) dated to 800AD are commonly found across Hawai'i and provide insight into the early significance of the sport. However, based on Hawaiian cultural stories and songs that depict the spirit and adventures of surfing chiefs it is widely recognised that advanced forms of stand-up surfing using specialised boards date back to at least 500AD (Finney and Houston 1996; Walker 2011).

By the time Cook named Hawai'i the 'Sandwich Islands' – after the British Earl of Sandwich and ironically the location where he would be later killed and eaten for kidnapping a local village chief (see Hough 1994) – surfboards were made using at least three different types of timber (Marcus 2007). *Koa* trees (*Acacia Koa*) were the heaviest and most plentiful timber; *ulu* (*Artocarpus altilis*, commonly known as the breadfruit tree) were less abundant and more difficult to work with, while the most popular and prestigious trees were the *Wiliwili* (*Erythrina sandwicensis*), quite rare and highly prized for their light weight, colour and superior buoyancy (Finney and Houston 1996; Marcus 2007).

The best lumber, without structural faults and of correct length and width, was carefully selected by village surfboard-makers and tribal *Kāhunas* (community priests). Each tree was ceremonially blessed, before being felled with stone fashioned axes,



carefully chiseled and carved using blades of jagged coral (*pohaku puna*) and an *oahi* stone. Once the correct shape had been sculpted, *Kukui* nuts were burned to ash and used as a dark stain. According to Ben Marcus (2007), when the soot was applied to the board's surface it promoted the timber's natural grain, giving it a polished shine. Pre-dating colonisation, *kapu* (a set of taboos/laws) widely governed Hawaiian ways of life (Clark 2011). *Kapu* also determined the process and technique for surfboard construction and delineated those who could ride waves standing up on their surfboards – often only allowed by *ali'i* (royal classes) and those *maka'ainana* (common class) who were restricted to riding waves lying down on their boards. While *ali'i* could surf the most prized breaks<sup>3</sup> across a given territory, *maka'ainana* were restricted geographically and regularly surfed in designated areas (Finney and Houston 1996).

In terms of their designs, Hawaiian surfboard-makers produced up to four styles, which included *olo* (O-lo), *kiko`o* (key-CO-oo), *alaia* (ah-LAI-ah) and *paipo* (pie-poe) (see Chapter 4). These surfboards ranged dramatically in terms of their length, width, weight and the type of timber used in construction. The finest cuts of wood were for the production of *olo*; massive surfboards that measured up to twenty feet in length, and were carved with turned-in decks and narrowed, thin and rounded edges (what are now referred to as rails). Given their immense weight (they were regularly more than 70 kilograms) and lack of manoeuvrability in the water, *olo* were best suited to riding the gently rolling waves that broke around Waikīkī Beach (see Figure 1.2). While contemporary western surfers would see these performance restrictions as design flaws

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<sup>3</sup> A 'prized break' is a surfing location where the waves are of high quality and consistency. Prized breaks can be valued differently by various types of surfers, which can depend on surfing style, age, gender and ability. A prized long boarding break, such as Waikīkī Beach, is quite different to a prized short board wave like Banzai Pipeline.

(Waitt and Warren 2008), for Hawaiian surfers *olo* were considered the most prized boards because of their tremendous size and graceful sliding style on the wave (see Figure 1.3). The shorter, broader and less convex *alaia* surfboards were better matched to the more hollow curling waves that break in shallower water.

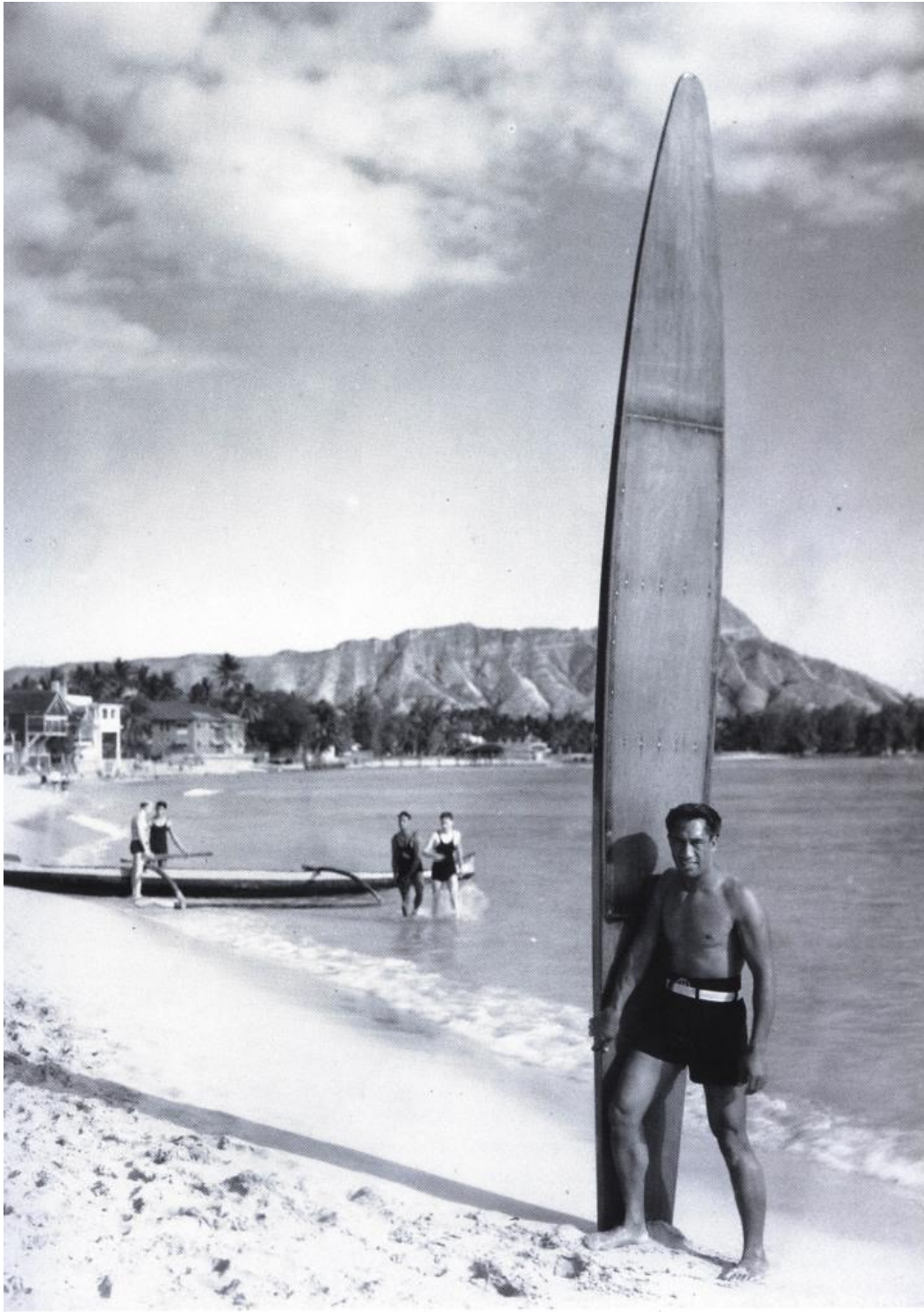


Figure 1.2 Duke Paoa Kahanamoku posing on Waikiki Beach, circa 1934. (source: Bishop Museum Archives)



Figure 1.3: Tom Blake riding a hollow surfboard off Waikīkī Beach, circa 1935.

(source: Bishop Museum Archives)

The *maka'ainana paipo* surfboards were then sculpted from the shortest and widest forms of *Koa* wood (Marcus 2007). Revered Hawaiian surfer and waterman<sup>4</sup>, Duke Paoa Kahanamoku elaborated on the highly class-based system of pre-colonial Hawaiian surfing:

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<sup>4</sup> A 'waterman' is a Hawaiian term used to describe a person who is especially skilled at different water activities – swimming, surfing, fishing, rowing, sailing etc. As a waterman Duke Paoa Kahanamoku was a three-time Olympic gold medal winning swimmer, expert surfer, paddler and outrigger canoeist.

They [maka'ainana] had to settle for the heavier, less buoyant, Koa wood. It stood to reason then that the *ali'i* became the greatest surfers of those times, as they certainly had every advantage. A man's board became a mark of his standing in society...sort of a status symbol. (Duke Kahanamoku, quoted in Marcus 2007 pp 20-21)

Early Hawaiian surfers developed an appreciation for the way different surfboard designs and timbers suited particular types of waves, marine conditions and surfing bodies. This understanding emerged from an island life that evolved around the rhythms of the ocean, where embodied environmental knowledge was not only crucial for everyday survival in Polynesia – hunting for food, accessing shelter, drinking water – but also used for accessing the best surf for the greatest amount of fun. As skilled seafarers, Pacific Islanders recognised how the right combination of winds, tides and swell direction provided clean ocean waves and the opportunity to go surfing. This is how surfing came to be a routine and central part of Hawaiian life (Walker 2011).

Each family within a community owned a surfboard and considered it a prized possession. According to Kanahale (1996), prayers were specifically designed for surfing, and were recited in village *heiau* (temples). One important *heiau* was known as *Papa'ena'ena*, located at the foot of Diamond Head, Waikīkī. Here *Kāhuna* offered prayers to improve surfing conditions and bring larger waves during times when swells were small (Kanahale 1996). According to Walker (2011) in one prayer called *pōhuehue* the *Kāhuna* would chant while lashing the ocean with *pōhuehue* vine (*Ipomoea* sp.) in order to awaken the great waves from the *Moana* (vast ocean):

Ku mai! Ku mai! Ka nalu nui mai Kahiki mai (Arise! Arise, you great surfs from Kahiki)

Alo po‘i pu! (The powerful curling waves!)

Ku mai ka pōhuehue (Arise with the *pōhuehue*)

Hu! Kai ko‘o loa (Well up! Long raging surf) (quoted in Fornander 1965 pp 206-207)

When environmental conditions became favourable the *Kāhuna* would fly kites into the trade winds above the *Papa‘ena‘ena heiau* to encourage Hawaiians to pause from other daily duties and gather at the ocean to go surfing (Finney and Houston 1996; Kanahele 1996). Rather than an individual, self-centred activity, Hawaiians valued surfing as a social, communal affair. Nineteenth-century anthropologist and surfing admirer Nathaniel Emerson described the significance of surfing for Hawaiian culture:

The sport of surf-riding possessed a grand fascination, and for a time it seemed as if it had the vitality of its own as a national pastime. There are those living... who remember the time when almost the entire population of a village would at certain hours resort to the sea-side to indulge in, or to witness, this magnificent accomplishment. We cannot but mourn its decline. But this too has felt the touch of civilisation, and today it is hard to find a surfboard outside of our museums and private collections. (Emerson 1892 p 57)

While surfing was a ‘national pastime’ and held a prominent place in Hawaiian culture throughout the Islands, from the early nineteenth-century colonisation began to wreak havoc on Hawaiian cultural practices and rituals (Walker 2011). In particular, the incursion of European and American capitalist, religious and enlightenment thought – embodied in the influx of explorers, developers, businessmen, adventurers, sugar and cattle farmers, whalers and Christian missionaries – caused enormous political, economic, social and cultural upheaval in Hawai‘i (Emerson 1892; Finney and Houston

1996; Clark 2011; Walker 2011). Native Hawaiian historian and writer Huanani-Kay Trask explains the significant difference between Hawaiian and Western European ways of life:

...Our Native [Hawaiian] culture...was as antithetical to the European developments of Christianity, capitalism, and predatory individualism as any society could have been. (Huanani-Kay Trask 1993 p 4)

In 1779 James King had estimated that close to 400,000 Hawaiians inhabited the eight major islands (Hawai`i, O`ahu, Mau`i, Kauai`i, Moloka`i, Lana`i, Ni`ihau and Kaho`olawe). Yet by the early twentieth-century the Native Hawaiian population had declined to around 40,000, which constituted about 25 percent of the total population (see Finney and Houston 1996).

Quite rapidly, recreational pastimes and customs – surfing and surfboard-making, canoeing, *hula* (dance), *pukui* (songs), and traditional language – declined throughout Hawai`i as a direct consequence of Western imperialism. Following the death of King Kamehameha in 1819 and the abolition of *kapu*, surfing declined alarmingly. In particular, Christian missionaries from New England (many young college graduates) actively discouraged Hawaiians from surfing. Performed by naked ‘native’ bodies, missionaries viewed *he`e nalu* as a lustful and morally wayward exercise and instead sought to impress upon locals a western educational, economic and religious value system. Rather than surfing, Hawaiians were told they should aspire to learn Science, become practicing Christians and find work labouring on the growing

proportion of land that was owned, farmed and developed by a growing *haole*<sup>5</sup> middle class constituency (Clark 2011; Walker 2011).

Despite its decline, surfing participation between the mid-nineteenth and early twentieth-centuries did not disappear altogether. While denounced as a vagrant and wasteful pastime, groups of Hawaiian men, in particular, continued to surf as an expression of a marine masculinity and of Native Hawaiian identity, resisting the colonial suppression that had pervaded life on land (Clark 2011; Walker 2011). Walker (2008 p 91) argues this point powerfully:

...In the ocean, Native surfers [*Kānaka Maoli*] secured a position on top of a social hierarchy. Because Hawaiian surfers contended for this autonomous cultural space they had the freedom to defy colonial prescriptions for how Hawaiian men should behave. As they transgressed *haole* expectations and categories in the waves, Hawaiian surfers simultaneously defined themselves as active and resistant Natives in a colonial history that regularly wrote them as otherwise.

The re-activation of surfing from the early twentieth-century is largely owed to the Hawaiian surfers who defied colonial denigration and maintained their oceanic kingdoms in opposition to *haole* hegemony on terra firma (Walker 2008; Clark 2011). In Tahiti, a place where surfing shared an almost parallel cultural and colonial history to Hawai`i, resurgence was much less successful (Henry 1928). Also suffering population decline, political, religious and cultural upheaval as a result of colonisation, surfing for

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<sup>5</sup> The term *haole* ('*how-lee*') is used by Hawaiians in reference to people foreign to Hawai`i. It is commonly used to describe white Americans or Europeans. *Haole*, according to Walker (2011) is not a racially derogatory term, but rather a social construct defined by attitude, not race. In contrast to Hawaiian cultural values of behaviour and community, *haole* attitudes are considered self-oriented and individual.



Tahitians (governed by the god *Huaori*) took a long time to recover and even by the mid-twentieth-century was not as widely practiced as when James Cook sailed through in 1772 (Ellis 1831; Henry 1928; Gault-Williams 2005).

By the early 1900s a demand had developed for *he'e nalu* among western tourists, like novelist Mark Twain, who were curious and began to ask if they could surf themselves. Hotels that were developing along the stretch of Waikīkī beach on O`ahu (beginning with the Moana Surfride in 1901) started to employ Hawaiian surfers to make surfboards and provide surfing demonstrations for tourists. In 1905 Hawaiian surfers started a surf club called the *Hui Nalu*, which according to Walker (2011 p 62) was created to preserve '*he'e nalu* from an exploitative *haole* constituency'. The *Hui Nalu* members used the Moana Hotel and its locker rooms as a bathhouse, with surfers paying an annual membership fee of US\$1. By 1910 the *Hui Nalu*, made up of Hawaiian surfers, was increasingly competing against a rival club of *haole* surfers who had started the Outrigger Canoe Club and based themselves on rented land near Diamond Head. The two groups regularly competed in surfing competitions and canoe racing around Waikīkī, which the Hawaiians tended to dominate (Walker 2011).

From the 1910s numerous *Kānaka Maoli* opened-up beachside businesses in Waikīkī that provided the large number of tourists with guided Island tours, surfing demonstrations, canoe rides and cultural entertainment (music, hula dance etc). These became lucrative enterprises, and according to Walker (2011) some of the *Hui Nalu* members were making US\$6 per day giving surfing lessons to *haole* visitors; considerable income at the time. These *Hui Nalu* members eventually became known as the Waikīkī Beach Boys, because they spent most of their time hanging out and working along the beach. The group gained increasing attention and fame for their skills in the

water, not just as surfers but also as sailors, swimmers and canoeists (Feinberg 1988; Moser 2008). The Waikīkī Beach Boys also achieved a particularly favourable reputation with *haole* women (Walker 2011). Following the end of World War Two, surfing in Hawai`i was further energised as the Islands became bustling tourist sites, and locals continued to surf for pleasure. Hawai`i tripled the size of its tourist industry in the 1960s, and surfing – and surfboard making – entered its first modern ‘boom-period’.

As the home of modern surfing and first case study region of the thesis, Hawaiian surfers, their *po`ina nalu* and surfboard-makers have been increasingly packaged for the tourist gaze – emblematic of the world’s most celebrated tropical surfing space (cf. Connell and Gibson 2008). The Island of O`ahu and its North Shore in particular have become synonymous with modern surfing culture. To this day surfing’s season ending World Championship Tour (WCT) event is held at Banzai Pipeline (*Ehukai* Beach Park) and in front of several thousand fans; surfers match their skills and abilities against the Island’s most powerful, hollow winter swells aiming to be crowned the ‘Pipeline Master’. It is in this cultural setting that a large number of surfboard-makers also work in close proximity, helping to establish a contemporary industry on O`ahu which has gained international recognition. Six of these workshops and their specialist workers are the subject of the Hawai`i case study in this thesis: Eric Arakawa Surfboards, Cheater 5, Bushman, Aipa Surfboards, Tore Surfboards and Kimo Greene Surfboards (Figure 1.4).

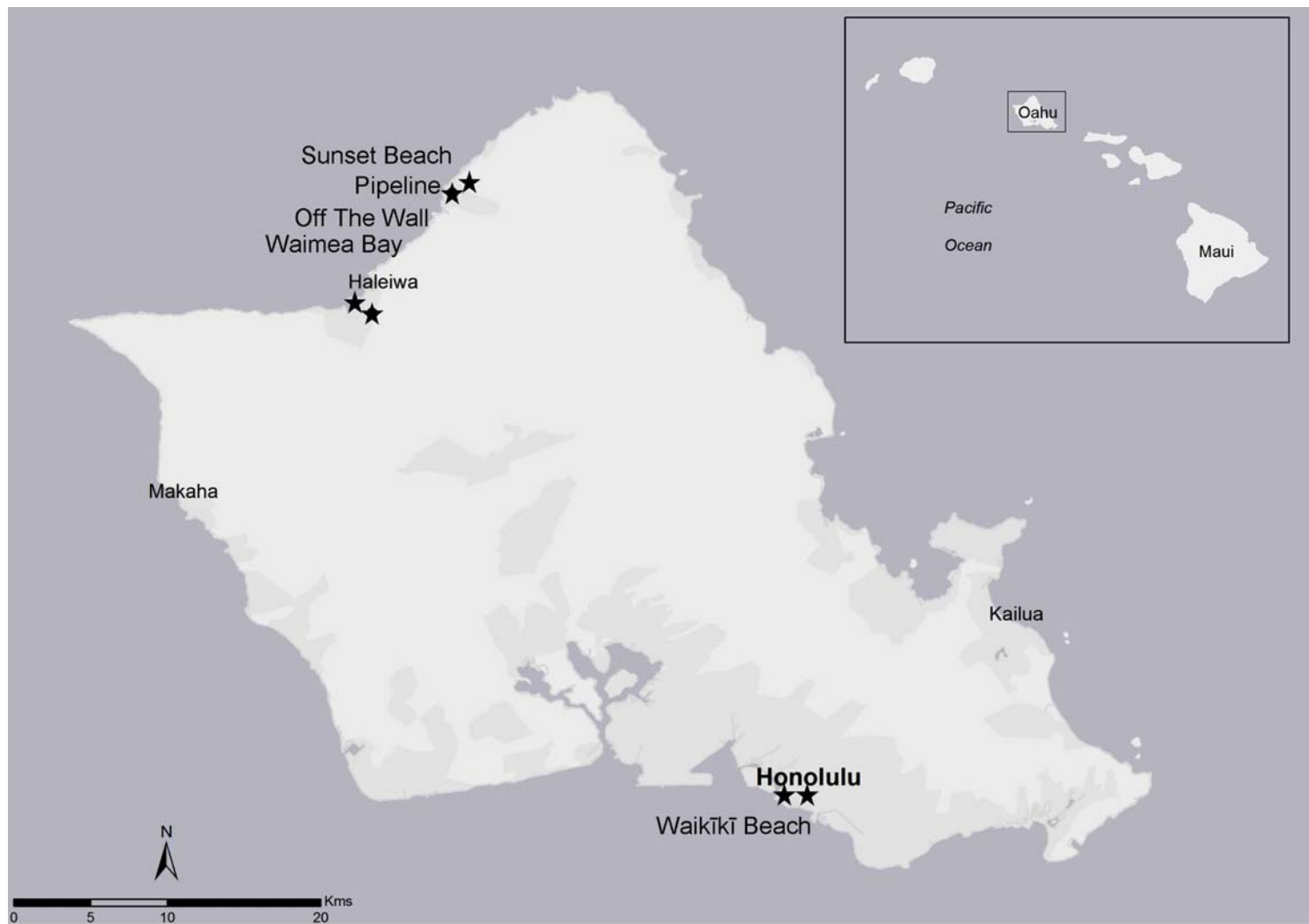


Figure 1.4: Location of participating workshops, O`ahu. (source Chris Brennan-Horley)

### 1.3.2 WAVE TWO: California dreaming

While Hawai`i and the *po`ina nalu* of O`ahu are acknowledged as surfing's most significant sites historically, culturally and politically, there are now many other locations where the surfing bug has bitten. In Australia, Japan, the United States, Brazil, France, Spain and South Africa surfing has become hugely popular in under a century, valued as a lifestyle pursuit, competitive sport and increasingly big business. The second case study region of the thesis, southern California, is considered the most famous, congested and lucrative of these (Jarratt 2010). While the precise timeline for the transportation of surfing to California has been contested, surfing was talked about in conversations from the mid nineteenth-century as businessmen and traders moved by ship between Honolulu and mainland cities like Los Angeles and San Diego (Finney and Houston 1996; Moser 2008). Then in 1885 three Hawaiian princes, Jonah Kūhiō Kalaniana'ole<sup>6</sup> (aged 14) and his older brothers Edward Keli'iahonui (aged 16) and David Kawānanakoa (aged 17) – nephews of Queen Kapi'olani and King Kalākaua – travelled to California to attend St Matthew's military school at San Mateo, south of San Francisco (Finney and Houston 1996).

On weekends during the warmer summer months the three Hawaiians regularly travelled to Santa Cruz where they had several surfboards milled from local cuts of redwood timber (*Sequoia sempervirens*) (Finney and Houston 1996). They used the boards to ride waves at the mouth of the San Lorenzo River, and although it is not recorded whether they stood upright, this was the first known example of surfing on the U.S. mainland. It was described by local media at the time:

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<sup>6</sup> Prince Kūhiō would later become Hawai`i's delegate to congress after the United States annexed the Islands in 1898.

The young Hawaiian Princes were in the water enjoying it hugely and giving interesting exhibitions of surf board swimming as practiced in their native land.

(Author unknown, *The Santa Cruz Daily* 1885 p 2)

While large crowds regularly sat and watched the Hawaiians catch waves on their redwood logs, surfing was not taken up by Californians as a recreational activity for another two decades. It took a visit by Hawaiian surfer George Freeth to Redondo Beach, southern California in 1907 for surfing to catch on as a practiced activity. Freeth was paid to travel to the U.S by real estate magnate and developer Henry Huntington, who wanted him to give surfing demonstrations as a way to advertise and promote the Redondo to Los Angeles railway. At the time railways in the Los Angeles area had become an avenue to sell private real estate land (Abu-Lughod 1999). As well as his general demonstrations, Freeth made a point of teaching younger Californian children how to swim and ride waves using surfboards. As an all round waterman, Freeth became an early symbol of American surfing culture and his exhibitions happened to coincide with the national release of Jack London's famous book *A Royal Sport* (1908) – a tale about Hawaiian surfing, with which London had become intrigued with after visiting Hawai'i. These were important moments in surfing's geographic dispersal as increasing numbers of Americans – particularly Californians – become aware and enthused. While the waters were much colder than in Hawai'i, the mild climate and wave exposed coastline meant surfing was well suited to California, where waves were of consistently high quality.

With Freeth staying on to live in California, by the time Duke Kahanamoku visited Santa Monica in 1912 on his way to the Stockholm Olympics (where he would win a gold medal in the 100m freestyle in record time), there were some thirty to forty

regular surfers in southern California. Over the course of several weeks Duke used a heavy redwood board and surfed around Santa Monica and Corona del Mar, often in front of several hundred onlookers (Finney and Houston 1996; Marcus 2007). Both Freeth and Kahanamoku were highly influential figures in initiating surfing's first wave of popularity outside of the Pacific Islands.

By the 1920s surfing was more commonly witnessed along the southern Californian coast, especially during the summer months, with a modest surfing community estimated at 120 to 150 (Marcus 2007). Across the different beaches of southern California<sup>7</sup> from Malibu to Windansea groups of surfers attached and constructed spaces for hanging out, making surfboards and surfing. Boards were made for personal use or sold to friends for a few dollars each (Kampion 2007; Marcus 2007). Because of their weight and size most surfers left their boards littered on the beach, or they commandeered lifesaving sheds for storage space. As participation continued to expand in the early twentieth-century surfboard-making developed in southern Californian towns like Santa Monica, Venice Beach, San Clemente and La Jolla – an explicitly commercial activity. These became the first mainland American surfing hubs after post World War Two and inspired a generation of younger and more radical surfers. This region would become iconic with surfing in the 1960s through Gidget films, television shows and Beach Boys and other west coast surf-pop bands.

The second case study region for examining the cultural production of surfboards in this thesis takes in that portion of southern California from Los Angeles to San Diego (Figure 1.5). The four workshops that participated were Senate Surfboards,

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<sup>7</sup> Early surfing in the U.S. tended to be clustered in southern California simply because of the more favourable climatic conditions. With no protective wetsuits the year round cold water that sits off the north-western and eastern coasts of the U.S. means conditions there would have been unbearably cold.

Barker Surfboards, Bessell Surfboards and Sauritch Surfboards. Each are closely attached to local surfing communities around southern California and have been in operation for up to four decades. The stretch of coastline along which they operate represents some of the world's most densely concentrated spaces for surfers and surfboard-makers, with hundreds of different breaks, surf shops and board hire businesses in operation. With so many surfers in close proximity it makes the region a central market for selling the surf and an ideal place to explore surfboard production and creativity.

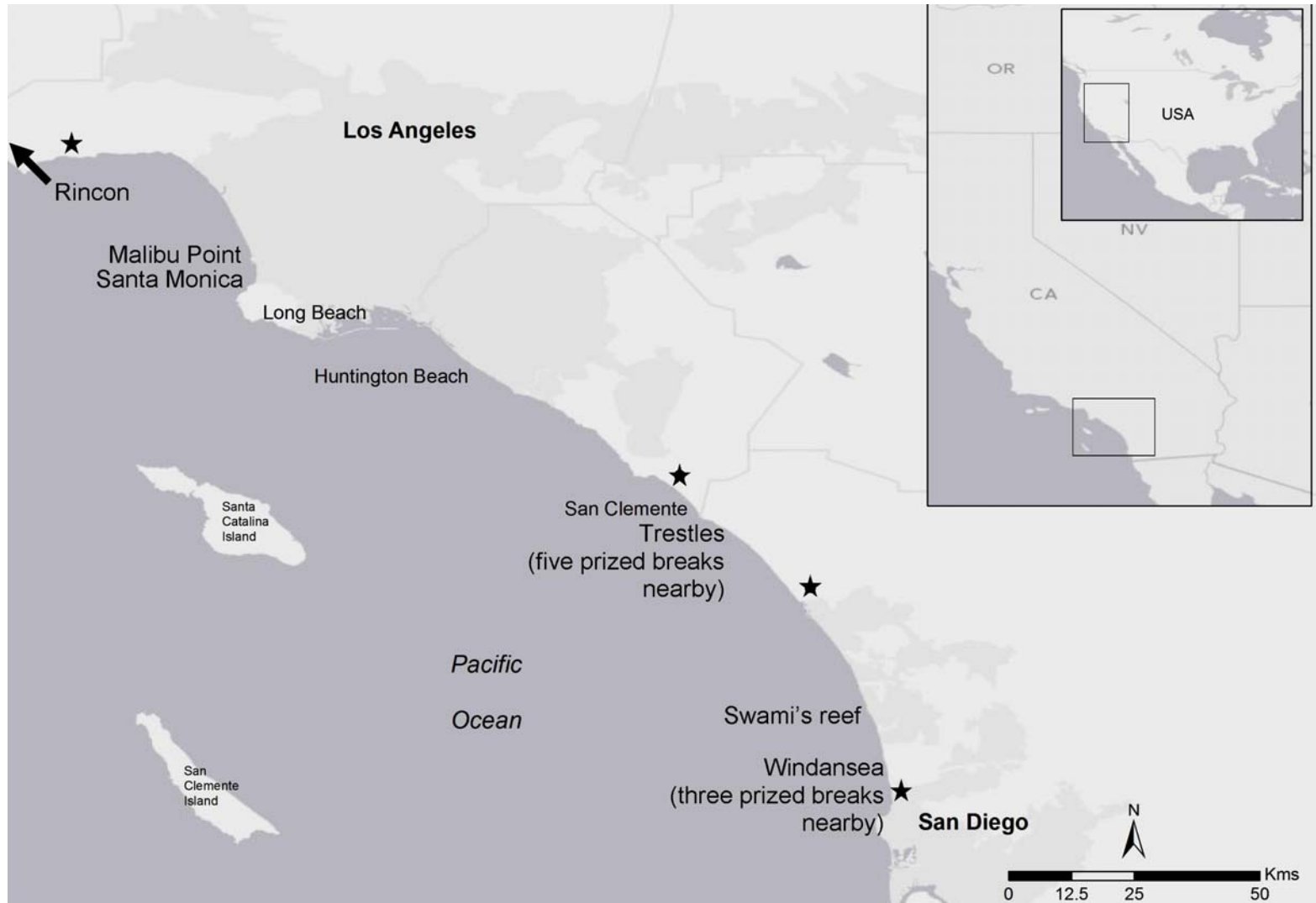


Figure 1.5: Location of participating workshops, southern California. (source: Chris Brennan-Horley)



### **1.3.3 WAVE THREE: Surfing down under**

Outside of the north Pacific, surfing has also become a favourite leisure pursuit and cultural lifestyle in Australia – the location for the Gold Coast and Illawarra case study regions of the thesis. In 2009, 12 percent of the Australian population (about 2.5 million people) was estimated to be recreational surfers (Surfing Australia 2010). As an island continent with 85 percent of the population living near the coast (and more than 10,000 individual beaches), surfing has become an ingrained part of the Australian way of life. Surf Lifesaving clubs were established along many metropolitan Australian beaches by the early 1900s. They became essential safety patrols for governing beaches that had gained a social reputation as ‘dangerous’ and ‘untamed’, following a number of drowning deaths (Booth 2001). The early Australian Surf Lifesaving clubs (now called the Australian Surf Lifesaving Association or SLSA) operated under the guise of protecting bathers, adapting floating water craft for use in rescues, with members often catching waves with their boards in order to quickly return to shore. When Duke Paoa Kahanamoku toured several Australian beaches in the summer of 1914 – as part of an international tour following his gold medal in the 100m freestyle at the 1912 Stockholm Olympics – stand-up surfing was expertly demonstrated to large and enthusiastic crowds (Figure 1.6).



Figure 1.6: Duke coming from the water after a surfing exhibition at Sydney's freshwater beach in February 1915. (source: Warringah Library Service)

While the Duke's exhibitions are credited as the first examples of stand-up surfing in Australia, Gary Osmond argued this was a myth – or what he termed a 'culturally discursive partial truth' (Osmond 2011 p 262). He argues that surfing was being practiced in Sydney several years before the Duke's visit, with some beach-goers using surfboards that had been purchased and imported to Australia by a few surf club members – including famous Australian surfer Tommy Walker – following a trip to Honolulu in 1909 (see Warshaw 2005). In writing a letter to the magazine *The Referee*

in 1939, which had two weeks prior been promoting an upcoming surf competition in Honolulu, Walker contested how he had been regularly surfing several years before Duke Kahanamoku arrived at Freshwater beach on Sydney's northern beaches:

I saw an article by you in 'The Referee' regarding surfboards, so enclose a photo of myself and surfboard taken in 1909 at Manly [Figure 1.7]. This board I bought at Waikīkī Beach, Hawai'i, for two dollars, when I called there aboard the 'Poltolock' I won my first surfboard shooting [surfing] competition at Freshwater carnival back in 1911, and that wasn't yesterday...Regards, Tommy Walker.

According to Percy Hunter, the head of the state tourism bureau at the time, by the Australian summer of 1910-11 several Hawaiian surfboards existed on Sydney's northern beaches (see Hunter 1911 p 12). In an issue of Sydney's *Sun* newspaper dated Thursday February 2<sup>nd</sup> 1911 a surfing exhibition of 'shooting the waves on the long Honolulan boards' was promoted to be taking place at famous Bondi beach over the upcoming weekend (see Osmond 2011 p 265). While imported surfboards existed in Australia before Duke's arrival most beach enthusiasts (apart from Tommy Walker) struggled to ride them, let alone produce one.



Figure 1.7: Tommy Walker with his Hawaiian-made surfboard at Manly beach, circa 1909. He sent the photo along with a letter to the magazine *Referee* in 1939. (source: Warringah Library Service)

During the length of the Duke's stay in Australia (between December 1914 and February 1915) surfing became widely covered by local print media and while perhaps not the first person to practice stand-up surfing in Australia, Duke was certainly responsible for its popularisation, also showing local water enthusiasts how to craft them. Not only did his surfing exhibitions 'stimulate local surfers to construct boards

and master wave-riding' (Osmond 2011 p 270), but Kahanamoku provided a legitimacy to surfing, as a sport that had not been taken seriously by those within the SLSA movement.

Despite this boost, surfing in Australia did not become an overnight craze. Surfboards were depicted as dangerous and improper, and beginning with the passing of a *Local Government Act* in 1906 (which was amended in 1912), surfboards were actively restricted from use on most Sydney beaches (Osmond 2011). The *Act* even provided beach inspectors with the authority to confiscate surfboards from beach users who were not members of a surf life-saving club. Under these social restrictions Australian surfing participation remained tightly constrained within the SLSA clubs for nearly five decades (Booth 2001).

Following World War Two groups of Australian surfers began to separate themselves from the militant and regimental structure that defined the SLSA. Since its inception the SLSA had operated under strict organisational controls and expected members to closely follow club rules, as Douglas Booth (2001 p 89) recounts in his sociological study of Australian beach culture:

When the whistle blows at 9:50am it is to remind the active members to assemble in front of the club room and to be in readiness for the march past (rescue and resuscitation) and bronze (medallion) drill. At the final whistle, 10:00am, the drill starts.

Surf clubs required members to participate in regular marches, volunteerism and fundraising; surfing became a counter-cultural reaction to such rigid institutional structures. By the late 1950s surfing and surfboard-making in Australia developed into a subculture instilled with a distinct visual style (long hair, tanned skin), attitude and

vernacular language (cf. Pearson 1979; see also Cohen 1991). Resistance to social morals and norms of behaviour meant Australian surfers (like their Californian counterparts) became increasingly branded by local media as ‘lazy’, ‘jobless’ and ‘trouble makers’ (Booth 1994). For example, a 1950 *Time* magazine feature article referred to surfers as ‘beach bum(s)’ (Time 1950 p 116). Surfing was demonised as a wasteful and selfish leisure pursuit (Booth 1994), with surfers assuming a perceived pose of opposition: ‘not only to the dominant culture...but also the dominant body of the beach, that of the surf-lifesaver’ (Fiske et al. 1987 p 66). This was an opinion that lasted well into the 1960s (Pearson 1979).

The two Australian case study regions of the thesis, the Gold Coast and Illawarra, are hubs of surfboard manufacturing 900km apart along Australia’s wave exposed south-eastern coastline. The Illawarra lies 75kms to the immediate south of Sydney (Australia’s largest city), while the Gold Coast is about the same distance south of Brisbane (Australia’s third largest city). These regions are home to some of Australia’s most prized and consistent breaks. The Gold Coast, Australia’s most recognised surfing region, is famous for its long peeling point breaks, including the Super Bank at Snapper Rocks, Kirra, and Burleigh Heads. The Illawarra meanwhile, less known internationally but an equally rich surfing region, is home to prized breaks including Sandon Point, Virgins, Windang Island, Cowries and The Farm – which in 2009 was listed as a National Surfing Reserve. These regions are home to thousands of local surfers and number of well-known surfboard-makers. Each thus holds a particularly important place in Australian surfing and surfboard-making history.

In the Illawarra, the main city centre of Wollongong – referred to by the City Council in planning documents as the ‘City by the Sea’ – was the site for one of

Australia's first Surf Lifesaving Clubs, established at North Wollongong beach in 1908. Listed as an historical site of state significance by the New South Wales (NSW) Heritage Council, the Surf Club is acknowledged for demonstrating the key role of surfing and beach culture in Wollongong's identity as a place (see [www.heritage.nsw.gov.au](http://www.heritage.nsw.gov.au)). When surfing globalised most rapidly in the 1950s and 1960s, beaches in the Illawarra as well as Sydney and the Gold Coast were early hubs, and the Illawarra has remained one of these, though with much less of a tourist element than the three other case study regions. Rather different to all other case studies in this thesis, the Illawarra is a region with strong working-class legacies, home to a large steel-making plant, industrial port and number of high grade coal mines. Employment in these industrial sectors accounts for over 15 percent or about 13,000 jobs for the local labour market. Questions about the future of industrial manufacturing in the Illawarra have meant that over the past decade city council planners have sought ways to diversify the regional economy (Warren and Gibson in press). Part of the council's economic development plan includes strategies that aim to promote cultural and creative industries growth, as remedies for industrial decline (Warren and Gibson in press). Ruminating on the sidelines of this thesis is therefore whether surfboard making, not normally factored into discussions of cultural or creative industries, constitutes a vernacular cultural asset of some economic value to a region otherwise struggling with uncertainty over its industrial future.

As a location where surfboard production has existed as a commercial activity since the counter-cultural surf movements of 1960s, my analysis focuses on four surfboard workshops in this region: Carabine Surf Designs (CSD), Byrne Surfboards, Chris Homer Creations (CHC) and Skipp Surfboards (Figure 1.8). These businesses

have 133 years of combined experience in the surfboard industry, a demonstration of the strong and ongoing surf culture that exists in the Illawarra.

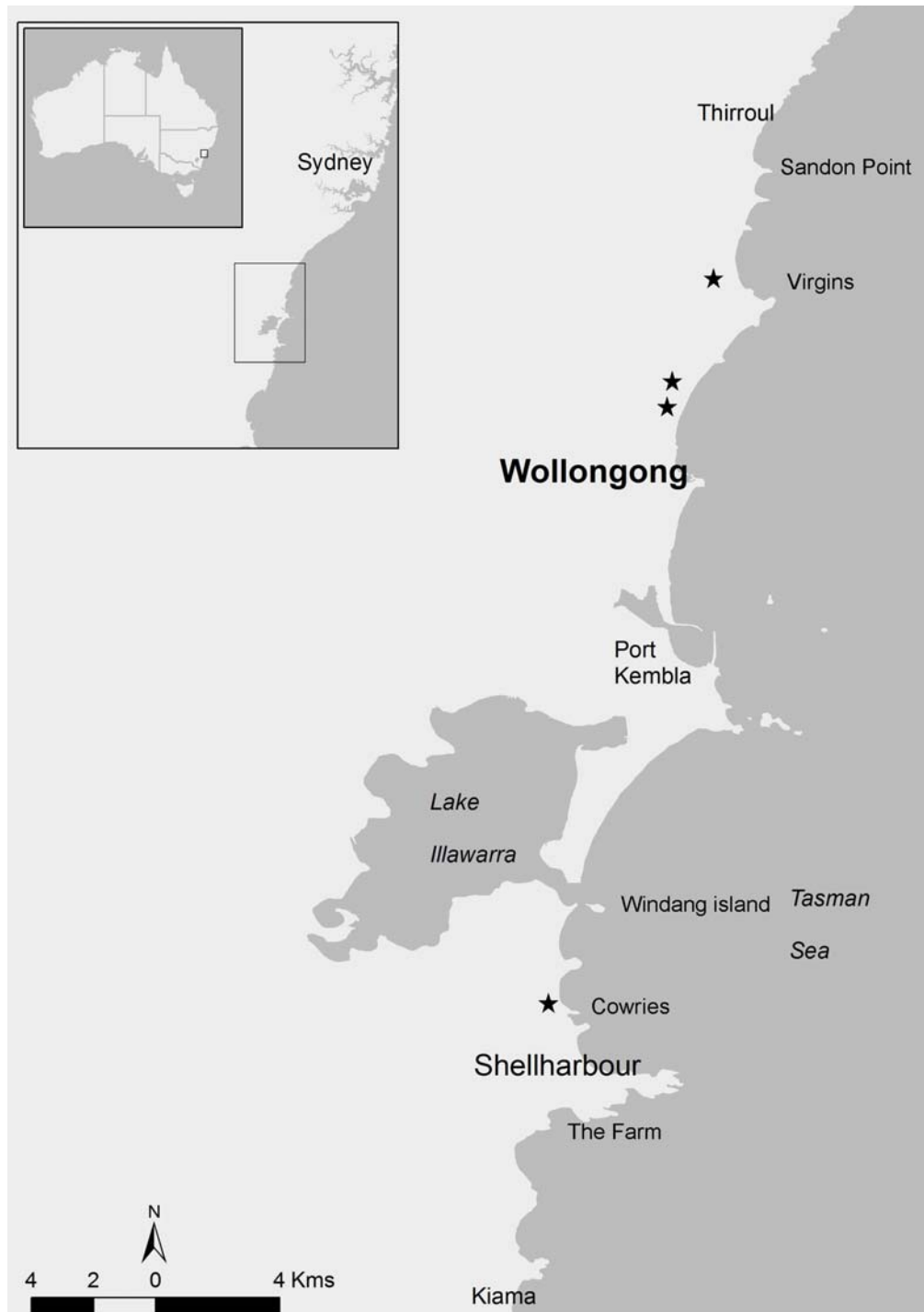


Figure 1.8: Location of participating workshops, Illawarra region, Australia. (source: Chris Brennan-Horley)



The second Australian case study region of the thesis is the Gold Coast. In comparison to the Illawarra the ‘Goldie’ enjoys a warmer subtropical climate and different economic base. The permanent population on the Gold Coast increased slowly until the mid 1920s when a coastal road was completed between Brisbane and Southport, at the northern end of the Gold Coast (Figure 1.9). In 1925, developer Jim Cavill built the Surfers Paradise Hotel near the suburb of Southport in an area between the Nerang River and Elston Beach. This infrastructure helped spawn the region’s tourism industry, which grew steadily into the 1930s, so that by 1935 most of the land between Southport and the New South Wales border (about forty kilometres south) was developed with housing estates or hotels. As a sign of the region’s affinity with the beach and popularity of Surf-Lifesaving Clubs, in 1933 Elston residents successfully lobbied to have the town name changed to Surfers Paradise.

Following World War Two the region became a favourite holiday destination for returning servicemen, with developers and local media branding it the Gold Coast because of its sunny weather and pristine beaches – a name the town council officially adopted in 1958. Decades of urban development ensued (including rampant high-rise hotel and apartment growth in the 1980s and 1990s, shadowing over immediately adjacent beaches) and the economy to some extent diversified from tourism into theme parks, aged care provision, luxury property developments, service industries, and film and television production (Goldsmith, Ward and O’Regan 2010). Tourism was still a mainstay, especially internationally from Japan, and domestically from southern areas of Australia (with peaks in winter, at the end of the school year in November/early December, and in the traditional January holiday period). By 2010 the Gold Coast attracted more than eleven million overnight visitors, who added US\$4.1 billion to the

regional economy and supported some 35,000 jobs (Tourism Research Australia 2011), though this has declined since the early 2000s, a function of global economic downturn, and a high Australian dollar making it a more expensive destination for international visitors.

According to Coolangatta local Sid Chapman he and Duke Kahanamoku made a surfboard<sup>8</sup> together in 1915, and used it to surf at Greenmount. Like in Wollongong, the first regular surfers on the Gold Coast were Surf Club members: Sid Chapman, Bill Davies, Eric Lane and Laurie Powell. These men rode waves at Kirra Point from the early 1920s (Warshaw 2005). Despite growing slowly in popularity the suitable weather, warm water and quality surf meant board-riding became a common leisure activity along the Coast by the 1960s (Warshaw 2005). The region has since become one of the world's most prestigious surfing regions, known as Australia's 'surfing capital' (Surfing Australia 2010) and at Coolangatta (its southernmost beachside hub), the headquarters to the Association of Surfing Professionals (ASP), who run the annual professional World Championship Tour (WCT). Thousands of Gold Coast surfers (as well as some tourists) are now supplied surfboards by local workshops located along the Gold Coast, with a small workshop or two on most individual beaches, and larger clusters in the light industrial areas back from the beaches in Currumbin and West Burleigh Heads (see Chapter 4). Four such workshops participated in this research: Mt Woodgee, D'Arcy, Diverse and Intruder Surfboards.

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<sup>8</sup> According to Historian Sandra Kimberely, Duke made atleast eight surfboards during his four month visit to Australia in the summer of 1914-1915 (Surf World Museum 2011).

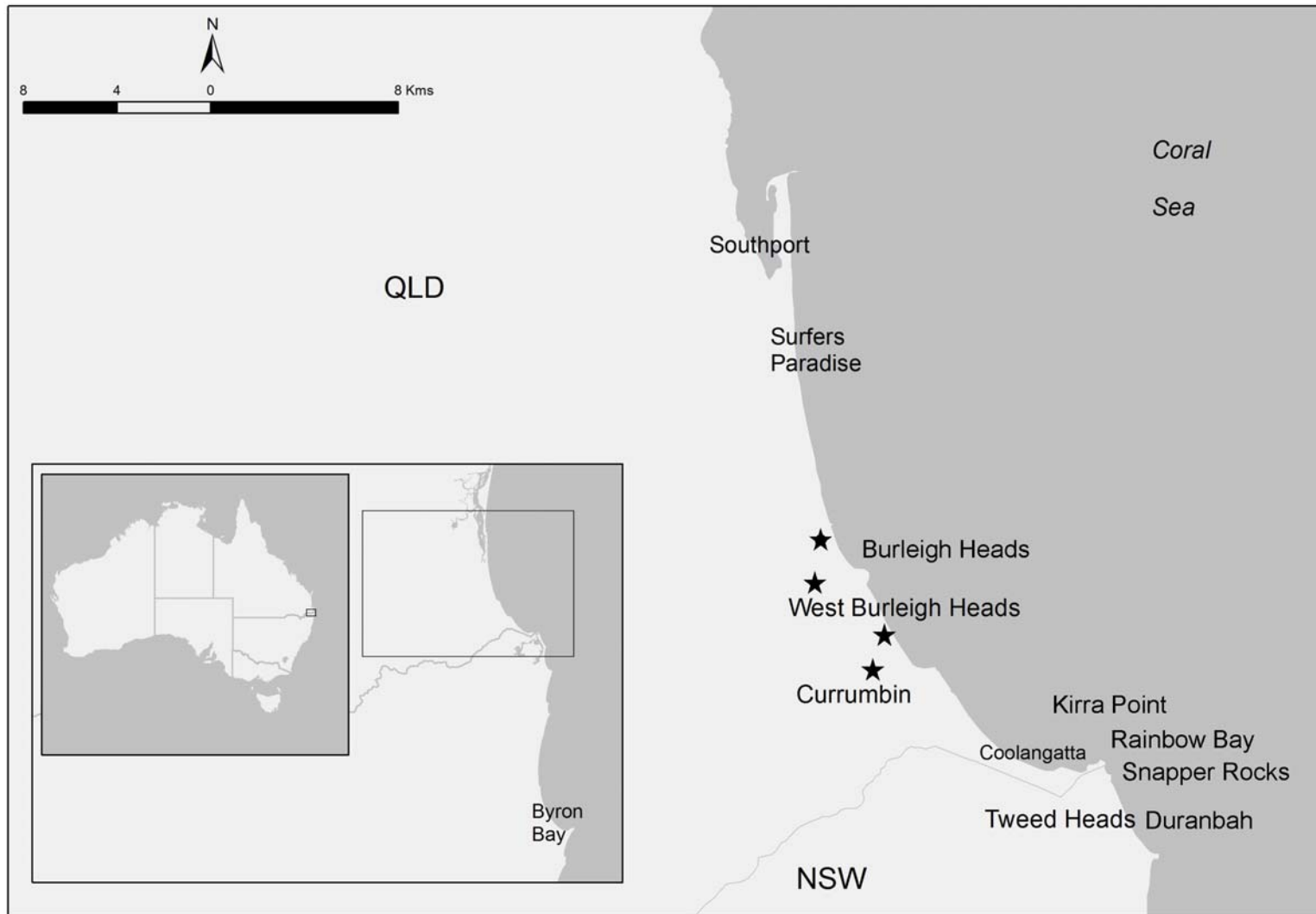


Figure 1.9: Location of participating workshops, Gold Coast, Australia. (source: Chris Brennan-Horley)

## **1.4 Surfing places, surfboard-makers**

In this thesis comparison of the four case study regions reveals key historical differences and resonances. In each location surfing is a highly visible and popular activity. The most obvious difference is surfing's Polynesian cultural heritage in Hawai'i, colonial experience and post-war incorporation into the tourism industry of the United States, processes that deeply shape the context within which Hawaiian surfboards are made, and become known globally as 'authentic' (cf. Connell and Gibson 2008). Southern California, the Gold Coast and Illawarra by contrast are all coastal regions in industrialised nations that experienced rapid post-war growth, with surfing a newly imported, yet iconic, cultural watermark of this process – emblematic of the youth, naivety and heedlessness of the era.

Notwithstanding contextual differences, there is a remarkably consistent story that will unfurl throughout this thesis about surfing subculture, history, geography and surfboard-making practices. Surfing in each of Hawai'i, southern California, the Gold Coast and Illawarra passed through periods of time where it was socially stigmatised, and evoked notions of lazy, ambitionless and idle 'beach bums'. In the 1950s in particular, episodes of social controversy set around heavy drinking, drug taking and outbreaks of violence propelled surfing into the media headlines across the Pacific, circulating sentiments of suspicion and social mistrust towards surfing groups (Booth 1994). Pioneer surfboard-makers in each of the four regions profiled in this thesis began in these heady early days, in a quasi-anarchic pseudo-industry operating out of garages and sheds. Surfboard-making was informal, experimental, and almost completely unregulated, a part-time accompaniment to days spent surfing, taking (and in some instances selling) drugs and hanging out on beaches. Hence the industry's early

geography in all three regions was characterised by small-scale manufacture in a sequence of scattered towns and small settlements adjacent to important beaches – more a linear rhythm of vernacular craft-based production than a tightly constrained big city industrial cluster.

Importantly, exchanges between pioneer surfboard-makers in each of these regions was common, even in the early days, as they travelled back and forth across the Pacific (this was the beginnings of the jet age that connected for the first time West Coast United States, Hawai`i and Australia). Early board-makers crossed the Pacific primarily to surf themselves (they were all expert surfers), but also to learn more about how to make better boards. Although highly informal and embedded in local subcultural life, surfboard making was even in its early days informed by international flows of people, knowledge and ideas.

It was with the release of *Gidget* in 1959, commercial success of surf films like *Big Wednesday* and *The Endless Summer* (not to mention Elvis and his many Hawaiian themed movies) and popularity of music styles like *The Beach Boys*, that surfing began a slow progression towards mainstream social acceptance in the United States and Australia (Lawler 2011), and Hawai`i would become its spiritual homeland. As more people took up surfing, and as tourism in all but one of the regions (the Illawarra) boomed, the market for surfboards grew locally, and early surfboard-makers found they could make respectable livings from crafting boards for local waves. They absorbed technological advances and established somewhat more formalised workshops (although the garage phenomenon is still found today – see Chapter 4). These workshops were within light industrial estates that grew along with residential populations in each of the Gold Coast, southern California and the Illawarra, in a form

of urban development that connected previously separated towns and beachside settlements. In these three regions the industry's contemporary geography thus reflects their 'post-suburban' (Essex and Brown 1997; Gibson 2002) settlement pattern: a string of previously distinct settlements now joined in an extensive, coastal urban complex, along which surfboard workshops are periodically located (Chapter 4). On O`ahu the scattered towns and settlements on its north shore remained somewhat more separated than in the other case study regions, with the tourism-led urbanisation focusing instead on the island's south-side, where waves suited visiting tourists, and less so surfers. There, the industry's contemporary geography remained linear and scattered, reflecting the north shore's comparatively sparse urban settlement pattern.

By the 1990s, surfing had become an acknowledged and legitimate leisure pursuit, cultural practice and burgeoning professional sport, and those early pioneers had become renowned 'legends' of the sport and master craftsmen in their own right: Joe Quigg, Dale Velzy, Bob McTavish, Dick Brewer and Greg Noll. Remarkably, as will become apparent in Chapter 4, surfboard-makers in each of these four regions would by the 2000s share similar conditions, market niches and potential workshop size. Regular local surfers in each region create demand constantly for new custom surfboards, which only have a twelve month to two year life cycle. This is due to the constant abuse inflicted on surfboards by the ocean and the surfing body placing uneven pressure across the surface of the board. What emerges is a story about the character and scope of artisanal forms of cultural production – the consistent limits to growth when making artful objects by hand for primarily local markets.

Today a surfing identity is considered 'cool' and is associated with distinctive environmental knowledge, values, beliefs, language, and membership of subcultures, or

‘surfing fraternities’ (Booth 2001). The marks of surfing identification are also witnessed through fashion, personal adornment (tattoos, haircuts, cars and stickers), styles and tastes of music. Surfer and cultural studies scholar Clifton Evers describes this surfing identity:

As a surfer I immerse myself in a world of rituals, myths, representations, feelings, bodies, and experiences where the riding of a wave is more than an act.

To ‘become surfer’ is a complex lived experience. (Evers 2005 p 111)

As four prestigious surfing regions with world renowned breaks (Trestles, Pipeline, Snapper Rocks and Sandon Point), large surfing memberships and networks of expert surfboard-makers, O`ahu, southern California and Australia’s Gold Coast and Illawarra regions are each in their own ways idyllic surfing locations of global significance. They are all within the United States and Australia – the two largest surfing nations in the world (that have produced all but three World Tour champions since 1983). While each region is defined by its own diverse social, political, cultural and economic dimensions, they are also undeniably iconic ‘surfing’ meccas, and share surfboard industry characteristics. Connected by their inimitable surf culture these are ideal places in which to examine locally vibrant scenes of surfboard production as set against a backdrop of surfing’s global economic intensification. Three of these case study regions (southern California, Gold Coast and the Illawarra Australia) are in distant corners of the Pacific Ocean, while the other is an island in that ocean’s centre and the historical heart of surfing – this is therefore a Pacific story of common narratives and points of difference.

This thesis accordingly explores how surfboard production – an activity pioneered by Pacific Island cultures – enrolls unique skills, cultural heritage and knowledge. Surfboards are assembled with specialised materials, designs, tools, images,

stories, networks and markets. Their makers are both colourful local identities and economic assets for these emblematic surf regions.

While surfboard production is a multi-million dollar industry it is also a gateway into discussions of the physical, immaterial, emotional, and spiritual dimensions of making things – with surfboard-making in its own unique way contributing to the vitality, creativity and shared cultural heritage of these places. Surfboard-making is an asset for O`ahu, southern California, Gold Coast and the Illawarra in terms of jobs created, brands established, markets generated and incomes earned. Beyond this however, surfboard-making is also symbolic – in terms of the human skill sets, specialised knowledge, social links, and traditions that pertain to the work of making boards. This thesis explores both these economic and symbolic dimensions – investigating an ancient form of cultural production while updating matters with insights from three different parts of the world where surfboards continue to be made and consumed locally.



# 2

## Shaping surfboards: a conceptual framework

### 2.1 Introduction

Global surfing culture is a mix of wildness, grace and cool. (*Bombora: the story of Australian surfing*, ABC TV 2009)

This chapter outlines the conceptual frameworks used to examine surfboard-making as a form of cultural production imbued with unique artisanal skills, forms of knowledge and professional networks, as well as human experiences, emotions and frustrations. Geographers and others working on post-1970s advanced economies have highlighted the shift away from a reliance on heavy industry and manufacturing sectors to a post-fordist, post-industrial, flexible or knowledge based economy (Burawoy 1979; 1983; Scott 1988; Harvey 1989; Amin 1994). Under these supposedly ‘new’ economic conditions, cultural forms of production (entertainment, film, music, fashion, design,

architecture, ICT, research and development) are now considered significant components of advanced capitalist economies (Scott 2000; Jeffcutt and Pratt 2002). Surfboard-making in each of the four case study settings can be conceptualised as a distinctive form of cultural production, in line with the notion of cultural economy (Gibson and Kong 2005), but it also in some ways links to a previous era of the manufacture of physical goods. Although intellectual property and design components of surfboards are a central component, in ways that mirror other cultural industries (see Chapter 4), the physicality of surfboards is central to their usability and popularity, and the political economy of the industry shares much in common with other kinds of manufacturing (see below, Chapter 5 and Sections 7.4 and 7.5). Indeed, as Pratt (2009a p 496) argued, ‘the cultural economy is the manufacturing economy. Cultural production is driving the development of manufacturing, or the whole economy’. Surfboards are one example of exactly this link between cultural and commodity forms of production. In describing two production systems in this thesis, I thus adapt my own version of Pratt’s (2004a p 58) ‘production system’ approach, which attempts to go ‘beyond simple mapping of co-location...to open up space for the analysis of process’ (see also Pratt 1997). In Chapters 4 and 5 the exact processes of surfboard-making are the basis upon which I analyse these two production systems.

While the conceptual framing of cultural forms of production is useful here for analysing the surfboard industry – particularly its organisational and technological arrangements – there are limits to this, and in various ways I seek to extend a cultural economy approach and connect it to other concerns and debates. One of these is the engagement with experiences of workers in such industries. Notwithstanding notable exceptions (see Kraft 1996; Gibson 2003; Ross 2006; Gill and Pratt 2008), most

economic geographical analysis of cultural forms of production focus on the firm, and the region, as the primary loci of agency (e.g. Scott 2000). To move beyond abstract explanations of production, spatial patterns and markets for cultural goods this thesis seeks to engage with the experiences and interactions of individuals who scrape a living from making and selling surfboards, even though globally surfing is increasingly dominated by transnational conglomerates and mass production. Rather than a peripheral concern, the agenda here is to turn attention to the custom surfboard industry as a unique yet precarious form of cultural production. In Hawai`i, southern California, the Illawarra and the Gold Coast this precarity is discussed in the context of global economic pressures, imperfect forms of competition and growing cost pressures for local operators. At the same time, local workshops and surfboard-makers also have agency in maintaining workshops and differentiating markets for high quality, personalised surfboards. Their various tactics and adaptations are theorised here.

Second, as a way to concentrate on the workplace skills, interactions, relationships, solidarities, problems and uncertainties of this form of cultural work, this thesis seeks to push a cultural economy focus further by interrogating the gendered, embodied, haptic and emotional dimensions of the surfboard industry. Surfboard-making is remarkably gendered. In addition, for surfboard-makers felt phenomena matter for understanding the production process (it is literally a process felt in the hands) and their experiences of a precarious form of employment, as much as the economics structuring the wider industry. While cultural and creative industries scholarship has mostly privileged institutional economic forms – with heightened focus on inter-firm relations and production networks – an emerging literature identifies and interprets the significant social and emotional landscapes of cultural work (Grindstaff

2002; Ross 2006; Gill and Pratt 2008; Hesmondhalgh and Baker 2008). What this emotional and embodied conceptual dimension adds is a way to understand how surfboard-makers in Hawai`i, southern California, Illawarra and the Gold Coast come to make material things and what significance this has for them, politically, financially, and socially.

In light of this focus on surfboard-makers in four iconic surfing regions the contributions of the thesis to research on cultural industries includes:

- To shift the point of focus for cultural production to the regional, and to a capitalist industry in which regional, not large metropolitan centres dominate. The concentrated production of surfboards in the four case study regions means they are not marginal sites for a cultural industry but rather its global centres.
- Provide an opportunity for thinking about the scope and scale of cultural activities in regional places, and the way such settings could be much more vibrant and sustainable as centres of cultural production than previously thought. Taking a regional approach to researching cultural production shows how cultural firms and artisans in certain regional locations create value, viability and sustainability via participation and embeddedness in vibrant cultural scenes.
- Present new insight on the way physical geography can be important to the formation of a cultural industry. In the production of surfboards breaking waves have entered into the development of a surfboard industry, to become dominant features in determining where workshops have established and what types of boards they make. Taking note of physical geography in cultural industry development can act as a useful counter point to the dominance of urban based explanations for cultural industries development.

- Contribute important insights into cultural industry production and consumption, putting into relief some of the unexamined norms of what might constitute a cultural industry.
- Examine the surfboard industry and its workers to open up new understandings of creative workforces, their skills development, methods of production, emotional disposition toward and nature of the workplace and its organisation. This is important because in contemporary analysis of production in cultural industries there has been neglect of the experiences of workers in terms of their embodied skills, the emotional and haptic side of their labour.
- Describe ethnographic research methods appropriate for factory workshop settings, which can comprehend the meaning and nature surfboard-making, its physical and emotional dimensions
- Contribute a thorough understanding of a little appreciated cultural industry at a time of significant change. This can help address a number of cultural policy and development concerns of considerable benefit to the industry, its visibility and self-understanding.
- Finally, in the context of surfboard design and manufacture, the thesis aims to draw attention to the ways in which precarity, cultural networks, clustering, embodied skills, the gendered and emotional character of creative labour interact in the work lives and bodies of participants.

The thesis thus builds on a cultural economy framework but in doing so aims to bring into play a perspective influenced by feminism, to examine the emotional dimensions of value and attachment. It is through these latter dimensions that cultural assets are made

and distinct local identities, sense of place and economic culture survive precariously within the capitalist system.

## **2.2 Conceptualising culture and economy: a framework for analysing surfboards**

A contemporary snapshot of surfing reveals a global geography. Surfing is practiced in places as diverse as Peru, Brazil, Costa Rica, Spain, France, South Africa, Cornwall (UK), Indonesia, Micronesia and the Pacific. The prized surf breaks of each country commonly feature in surf films and magazines, while their best young surfers now frequently qualify for the elite World Championship Tour (WCT) of surfing. Such has been the geographic mobilisation of surfing as subcultural style that it is now possible for inland towns and cities in Australia and the United States – sometimes hundreds of miles from the coast – to sustain a local ‘surf shop’ that trades in surf-based fashions and brand names. Clearly, surfing has come a long way from its Polynesian origins to become a multi-billion dollar, global industry encompassing the trade of sporting goods, footwear, apparel, films and surf travel. Surfboards are an essential element of this – possibly *the* central element, for without surfboards there is no surfing subculture from which to appeal to the increasingly fashion-orientated apparel and media markets. Surfboard production therefore constitutes an important component of the overall surfing industry, but also *authenticates* companies such as Rip Curl, Billabong and Quiksilver – establishing their status as ‘genuine’ surf-brands as they intensively internationalise distribution of a range of consumer goods (see Chapter 5).

Part of what this thesis therefore sets out to achieve is to analyse surfboard-making as an industry, and to illuminate the contrasting, but simultaneous stories of the

globalisation and sophistication of surfboard manufacture at the corporate scale and the continuation of unique forms of vernacular, artistic hand-shaping of boards at the local scale (see Chapter 4). What matters here is that surfboards are not just a form of basic sporting equipment, but instead represent a form of *cultural* production, with some parallel to skateboards and snowboards, to BMX bicycles or electric guitars. All are essential bits of equipment for a particular pastime *and* have additionally become statements of personal identity in subcultures with their own aesthetic dynamics, tastes and styles (cf. Cohen 1991). In thinking about the growing appeal and consumption of such cultural products, Mike Featherstone (1991 p 171) referred to the phenomenon as the ‘aestheticisation of everyday life...through regimes of signification’, where consumers have extended their spending habits, so that goods are now used to help construct a personal identity as much as provide a utilitarian purpose. This is particularly so for surfboards.

What this means for analysing surfboard-making as an industry is that neoclassical economic and orthodox economic geographical theories (of profit and loss, demand elasticity, vertical integration, agglomeration, cluster theory etc.) only partially explain how the industry works, what factors inform production or what are the key issues facing producers in places such as Hawai`i, California and east-coast Australia. By remaining open to the possibility that various ‘cultural’ logics are also at play in the surfboard industry, I thus position this thesis in the most elemental way, within a cultural economy framework.

Use of the phrase cultural economy has emerged from across the social sciences and humanities over the last two decades. In its original application, cultural economy referred to an epistemological agenda to trouble the distinction between ‘culture’ and

‘economy’ as discrete ‘natural’ categories (cf. Gibson and Kong 2005; Gibson 2012a). In what Trevor Barnes (2001 p 547) describes as a ‘remake of economic geography’ scholars working on the spatial dimensions of economic phenomena increasingly recognised the cultural make-up of economic activity. For Gibson (2012a) the ‘cultural turn’ enveloping the social sciences and humanities also increasingly infiltrated economic geography. Geographers thus worked to highlight the blurriness of the boundaries between ‘economy’ and ‘culture’ (Mitchell 1995; Crang 1997; Gibson and Kong 2005), with Mike Crang (1997 p 3) arguing that ‘the economic is embedded in the cultural’, with ‘the cultural seen as materialised in the economic’. The ambition was about changing the epistemology of economic knowledges, moving away from the premise of underlying, abstract market forces towards better understanding of how ‘economic’ phenomena are constructed and remade through cultural processes – symbols, signs and discourses (Lash and Urry 1994; Crang 1997; Amin and Thrift 2007).

Yet as the notion of cultural economy infiltrated economic geography from the mid-1990s, the concept was put to use in very particular ways (Gibson 2012a). In the case of economic geography the things, products, markets and firms associated with ‘culture’ (in Raymond Williams’ sense of culture as way of life) were integrated into analysis but arguably this did not represent a broader paradigm shift within the sub-discipline (cf. Gibson and Kong 2005). While some have indeed sought subsequently to more deeply trouble ‘culture’ and ‘economy’ as ontological categories through cultural economic research (see for example Lewis et al 2008), the predominant approach, especially emanating from North American economic geography, has been to explore an array of ‘cultural’ forms of production within otherwise fairly orthodox economic



geographical approaches (Gibson and Kong 2005), with ‘culture’ an adjectival addition to existing nouns such as ‘economy’, ‘industry’ and ‘communication’, that did not alter their underlying meaning (Pratt 2009b). Such work has concentrated on, for example, the music and film industries (Christopherson and Storper 1986; Scott 1996), and fashion production (Rantisi 2002). In their approach to economic geography ‘the’ cultural economy becomes emphasised as a component (however narrow) of the broader capitalist system.

A key influence informing this approach was David Harvey’s (1989) critical analysis of the changes in the organisation of advanced capitalism. For Harvey (1989) modern economic growth and transformation is being powerfully shaped through the commodification of culture, workplace innovation and the increasingly ‘cultural’ logics that support capitalism. Hence for Allen Scott (1999b p 807) the ‘cultural economy comprises all those sectors in modern capitalism that cater to consumer demands for amusement, ornamentation, self-affirmation, social display and so on’. This included the outputs – physical products, events and intangible services – of previously ignored industries within economic geography such as craft, fashion, music, film and jewellery making, all of which contain a ‘high symbolic value relative to utilitarian purpose’ (Scott 1999 p 807). As Pratt (2005) and Gibson (2012a) highlight, there were other parallels to cultural policy debates and its links to urban regeneration (Landry and Bianchini 1995), media industries (Goldsmith and O’Regan 2003) and internationalised cultural identities (Appadurai 1990).

Scott’s (1999) use of ‘symbolic value’ to interpret the operation of the cultural economy has been particularly influential and can be linked back to sociological analysis of social status. For example, Weber (1947) related status and symbolic value

to non-economic qualities such as honour, prestige, legitimacy and image. In drawing out and expanding on this concept, in his book *'Distinction'*, Pierre Bourdieu (1984) argued that the exchange value of a product could be increased by the symbolic capital of its producer, such as the maker's reputation for quality craftsmanship. Loïc Wacquant (2005) thus interpreted a Bourdieuan notion of symbolic capital as the embodiment of cultural value, meaning the location where a product was made, the materials used in its construction or skills and knowledge required to manufacture – each could also add exchange value. Even further back, before such sociological influences, are antecedents to this cultural economy approach, such as Theodor Adorno and Max Horkheimer's (1977) 'culture industry' thesis. Their neo-Marxist argument took issue with the corruption of culture through commodification; with mass reproduction (of music, theatre and visual art) using new technologies evacuating the traditions and rituals previously embedded in their creation (cf. Power and Scott 2004).

For Gibson (2012a p 5) 'the' cultural economy became 'an object of scholarly investigation' accepted as a new and significant component of advanced urban and regional economies. Because 'the' cultural economy appeared in specific sectors it came to be associated with a specific set of 'cultural industries' (Scott 2000) – which have more recently been re-branded by some as 'creative industries' incorporating an expanding list of activities said to be reliant on innovation and entrepreneurialism (for critique of this see Hesmondhalgh and Pratt 2005; O'Connor 2007). Following the American geographical tradition of understanding 'culture' (right back to a Sauerian super-organic conception), in work on 'the' cultural economy, 'culture' was used to describe the forms of expression in art and new media along with tradition, pastime and pop culture. Voluminous subsequent empirical work on cultural and creative industries

now includes, but is not limited to, visual art, film, music, television, design, architecture, theatre, technology and fashion (see Garnham 2005). The overall argument is that such activities should not be taken as separate from the realm of economics, but incorporated into it.

The peculiar pathway through which cultural economy came to be understood as orthodox economic geographical analysis of ‘cultural industries’ helps explain its translation into regional development policy discourses. As cultural or creative *industries*, such activities became thought of as drivers of economic fortunes (Gibson 2003). The multiplication of ‘new’ industries – from interior design to IT – was said to encapsulate a creative dimension, based on innovation competition rather than price competition, which could be explored for its role in shaping economic growth at different scales, from the national to the local (Pratt and Jeffcutt 2009). Cultural or creative industries are now considered important drivers of economic fortunes because they generate new employment, attract inward investment and diversify labour skills (see Pratt 2011a). These are industries in every sense – consisting of small and large businesses, with inputs and outputs, workers, sometimes unions and factories – yet they also differ from more mundane forms of production because they depend on innovation for their ‘symbolic content’ – the work of musicians, artists, directors, actors, and designers (Scott 2000).

Within this rubric, research themes have included their agglomeration patterns and effects (Scott 1999); reliance on local labour markets (Scott 1997); regional cultural differences and how places become reflected in the design of products (Molotch 2002); and the role of cultural intermediaries as important ‘gatekeepers’ that ‘filter’ the cultural economy by establishing trends and negotiating commercial opportunities (Negus

2002). Geographers have sought to quantify the cultural economy and understand its spatial logics, networks, clusters and topologies (Britton 2003; Pratt 2004a; 2011b; Bathelt et al. 2005; Bathelt and Graf 2008; Brennan-Horley 2010). Substantial work in this vein continues to be produced, invigorated, as Gibson (2012a) notes, by the success of best-selling books on creativity and economic development by authors such as Charles Landry (2000) and Richard Florida (2002; 2005). Others have explored cultural industry activity in working-class contexts (Jayne 2004; Warren and Gibson in press) and types of vernacular creativity beyond money-making ventures (Edensor et al. 2009; Ettlinger 2010), echoing Paul Willis' (1990) classic ethnographic study on working-class youth subcultures and expressions of creativity in relation to everyday life. Related critical work has explored the processes of cultural-led gentrification in urban contexts (Zukin 1988; Ley 2003; Zukin and Braslow 2011); cultures of exploitation in the cultural and creative industries (McRobbie 2002; Gibson 2003; Gill and Pratt 2008) and the widespread infiltration of 'creativity' into corporate advertising, promotion of property and real estate marketing (Gibson 2012a).

In many ways, this thesis draws on this interpretation of cultural economy, and the many previous studies of the economic geography of cultural industries. Surfboard-making is an excellent example of a cultural industry. While not before analysed in this framework, in the locations discussed throughout this thesis it is clear this is precisely what the surfboard industry is: customised surfboard-making involves high levels of creative and artisanal skill, a substantial symbolic component (from the meanings ascribed to the surfboard within surfing subcultures), knowledge of fashions and subcultural preferences, constant updates and adaptations of design, retention of

traditional techniques and materials that stem from specific cultural histories (especially those in Polynesia) (Chapter 4).

In terms of geographic focus, previous economic geographical research on the cultural industries such as film and music has typically concentrated analysis on large western cities and their cultural districts, where there are identifiable pools of requisite labour, complexes and/or clusters of interdependent firms, and highly visible signs of investment (see for example Scott 2006; Bathlet and Graf 2008). Some efforts have been made to diversify the geographical scope of such work by exploring the economic geography of cultural industries in rural, regional and remote areas (e.g. Gibson 2012b). By drawing attention to surfboard-making in this thesis, I also chart a rather different geography of cultural production – focusing not on megacities but instead on the often small, scattered places along coastal regions where proximity to high quality waves and resident surfing subcultures have given rise to vernacular board-making industries. In this regard, one contribution this thesis seeks to make is to chart a geography of surfboard-making as a cultural industry that is intimately tied to physical geography as well as cultural geography: the combination of unique bathymetry, climate and subculture that in large part explains where surfing is concentrated (and surfboard-making along with it). The importance of underlying physical geographical conditions such as distance, proximity and landscape has been drawn out in previous analyses of the visual arts, film and other cultural/creative industries (e.g. Andersen 2010; Goldsmith, Ward and O'Regan 2010). In surfboard-making, physical geography is utterly omnipresent: the presence or absence of reliable quality waves and amenable climate wholly determining the presence of active surfing scenes to which custom surfboard-making workshops are connected (see Chapter 4). As explored in Chapter 5,

corporate actors who have globalised standardised production of surfboards have sought to sever this link to physical geography, enabling production to take place in manufacturing industrial complexes in low labour cost locations, much as for most other physical commodities. Yet for custom board-making, with its interdependency on local surfing scenes and their need for boards crafted to suit individuals and how they surf on specific local waves, the connection to physical geography remains real – a lively and central part of everyday conversations, decisions and manufacturing methods in the industry.

In terms of the development of commercial surfboard-making, to meet the growing demand for surfing in the 1950s and 1960s, production systems developed via a large number of smaller firms, ostensibly workshops, located in close proximity to popular surfing towns and characterised by a few specialisations along design, production and distribution chains. As Chapter 4 explains, in a traditional custom method of making surfboards, expertise is held by individual surfboard-makers who by and large handle all aspects of production themselves from consultation with the individual surfer through to final delivery of a finished custom board. The hubs of activity described here therefore look nothing like Hollywood or inner districts of London or Berlin – they are instead diverse and diffuse locations, anonymous workshops in plain industrial estates, altered garages in surfboard-makers' own homes or shopfronts in coastal beachside surf communities otherwise tiny in comparison with the recognised centres of 'world culture'.

Nonetheless, from these modest workshops consumers pay a premium for surfboards that are customised, stylish and unique – typically phrases used to describe the outputs of geographically-embedded cultural industries (see Molotch 2002; Rantisi

2004). By offering high value-added products infused with artistic and rarity value, surfboard-makers in the Illawarra, Gold Coast, Hawai`i and southern California survive despite intense competition from corporate players. They offer expensive, but high quality boards, personalised to individual riders (through which surfers gain a measure of prestige – a form of ‘subcultural capital’; Thornton 1995) and tailored to local environmental conditions. Thus place association is also highly significant for understanding surfboards as cultural goods that entangle regional identities, physical geography, popular local pastimes and artisanal skills.

As a synthesis of a cultural pursuit and economic form, surfboard production is therefore in many ways an archetypal cultural industry, dependent on local geography, design features, material experimentation, innovation and inventiveness. Throughout much of this thesis, concepts and terms from cultural economy (and cultural industries) literatures are regularly used to make sense of surfboard-making as an industry. These include local labour availability, systems of production, innovation, globalisation and off-shore production, expert knowledge, and the primacy of social networks as means of connecting producers with consumers (unlike mass produced goods, where the consumer never knows, let alone meets, the manufacturers).

However, because of its focus on surfboard-makers as workers, and because of its foregrounding of an ethnographic exploration of custom surfboard-making, the thesis also pivots on extending this cultural economic base into other discussions: of labour geographies, and feminist theories of embodied knowledge and emotion. In this way the thesis also connects with and seeks to extend recent literatures that attempt to open up understandings of the cultural industries in more contingent, nuanced and ethnographic ways (e.g. Drake 2003; Mayes 2010; Oakley and Pratt 2010). While acknowledging that

a somewhat orthodox economic geography of surfboard-making is part of the story presented here, by drawing out ethnographic, embodied and emotional dimensions of surfboard-making the exact nature of what constitutes ‘the economic’ in surfboard-making is rendered blurry in this thesis (Chapter Six and Seven for example).

The premise has to be that in surfboard-making ‘culture’ and ‘economy’ are co-constituted (Pratt and Jeffcutt 2009). In this regard the thesis also in some ways returns back to the original premise of the proponents of cultural economy: that is a critique of the supposed natural categories of ‘culture’ and ‘economy’. This involves phenomenological questioning of what it is that actually constitutes ‘the economy’ and how competing ‘projects’ for what constitute economies and industries are calculated, performed and circulated (Mitchell 2008). In surfboard-making this becomes abundantly apparent in exploring the subcultural origins of the industry, and in the social logics at work within it (Chapter 4), as well as when, as in Chapters 4 and 5, competing production systems for manufacture of surfboards are conceptualised not just as the result of different firm tactics within markets, but as projects that enrol various actors, technologies and material things. This culminates in Chapters 6 and 7 when the personal, gendered and embodied dimensions of this form of manufacturing are revealed.

As Richard Peet (2000 p 1230) argued: ‘[the] Economy is merely that set of material and cultural practices most directly involved in the reproduction of existence’. The material and cultural practices of the artisans at the heart of surfboard-making are what occupy much of this thesis; hence I explore surfboard-making as ‘humans and non-humans caught up in rhythms, movements, relationships and exchanges’ (Gibson 2012a p 8), and through ethnographic work seek to draw out from this the personal,



emotional and political significance of making boards for surfboard-makers, as a type of cultural worker. This conceptual understanding of cultural economy moves beyond the spatial, institutional, economic geography approach typified in the work of Allen Scott, with commonalities with the more recent 'relational turn' in economic geography (e.g. Bathelt 2003; Ettliger 2004, Yeung 2005; Boggs and Rantisi 2003) and work on emotion within feminist cultural geography (see below).

The polysemy and conceptual looseness of cultural economy as a framework (Pratt 2009b; Gibson 2012a) is therefore useful for this thesis. Cultural economy helps to situate and unravel both the symbolic and material elements of the surfboard, and the wider political economic environment that confronts independent surfboard workshops and their workers. In my research, surfboards are an empirical starting point – providing the locus for a discussion of a distinctive industry. Here subcultural traditions, personal passions and relationships, sporting competitiveness, and local geography shape surfboard-making as an industry as much as any narrowly mercenary concerns – yet 'economic' matters of market share and proximity, oligopoly, agglomeration and labour markets still prevail. Cultural economy therefore provides a suitably accommodating conceptual umbrella under which to bring together the various 'economic', 'cultural' and geographical threads involved in surfboard-making. This thesis accordingly focuses on an industry that has grown rapidly since the 1970s, in many ways an archetypical cultural industry that involves technological innovation, design flair and expert knowledge. But at the same time, surfboard-making is about how material items are made and what values and emotions are invested in their production. This is a thesis then about a form of production driven by knowledge, innovation and creativity, and also deeply shaped by an on-going importance to individual workers of the materiality

of making things by hand. Surfboards are such material things, made by a skilful group of cultural workers. In this thesis I am therefore compelled to go beyond describing surfboard-making as a cultural industry only in terms of its spatial patterns, processes of production, inter-firm relations or markets for cultural goods. I wish to additionally connect with an important cross-section of work that engages with workers, their experiences and conditions of work.

### **2.3 The cultural industries and precarious labour**

Although in its early days surfboard-making was characterised by informality and commensurability with a laid-back surfing lifestyle, the independent workshops profiled in this thesis now participate in an economic setting that is highly competitive. Mass-produced, standardised boards are available for sale in K-Mart, on the Gold Coast and Hawai`i in surf-brand ‘superstores’. At the custom end of the market there are other workshops making boards within each region and customers can scroll through websites to order their next surfboard from a business without having to set foot inside the workshop. A number of larger surfboard firms (including Global Surf Industries, Boardworks, SurfTech and Firewire) have outsourced, contracted, offshored and mechanised their production, now importing boards to sell through local surf retailers (see Chapter 5). Exactly how this dynamic picture influences the texture of the working lives of custom surfboard-makers is one aim of this thesis. With an interest in the experiences of board-makers as a group of cultural workers, the thesis thus also intersects with a body of literature on labour geographies.

As a term coined by Andrew Herod (1997; 2001), labour geographies encapsulates a body of largely leftist-critical research focused on issues of employment

(see also Castree 2007; Herod et al. 2007). As opposed to earlier work on the ‘geographies of labour’, which took labour markets to be just one further aspect of locational decision making by firms, labour geographies represents an ‘effort to see the making of the economic geography of capitalism through the eyes of labour’ (Herod 1997 p 3). Perhaps the clearest signals for the shifting phases of capitalism can be uncovered through analysing the experiences of workers (cf. Banks 2010). This is in essence what this thesis aims to do by positioning surfboard-makers as central actors in the surfboard industry. The labour geographies literature has especially sought to connect a geographical perspective with themes of firm organisation, working conditions, rates of pay, changing workplace relations, skills development and the impacts of new technology on skilled manual work (see for example Scott 1984; Peck 1995; Mitchell 1996; McRobbie 2002; 2004; Gibson 2003; Christopherson 2008; Gill and Pratt 2008; Ross 2009; Banks 2010). For Castree (2007 p 853) these contributions have made geography sensitive to employment issues, with an ‘emphasis on worker agency’, and have also grounded discussions of industrial relations, offering spatial understanding of workplace issues surrounding power and inequality.

Under the hegemony of Fordist modes of production from the 1930s to early 1970s labour forces in the booming industrial and manufacturing sectors were engaged in mostly continuous, stable and vertically-organised (known as ‘top-down’) employment structures. With the introduction of the eight hour, US\$5 working day Henry Ford secured worker compliance to his highly efficient assembly line of production. While successfully tying labour to a system of mass production, Ford also provided his army of largely male workers with adequate wages and leisure time so that they could consume the ‘mass-produced products the corporations were about to turn

over in ever vaster quantities' (Harvey 1989 p 126). Indeed much of Fordism's success related to its ability to achieve real wage increases and stimulate effective demand for goods and services. This resulted in a sustained period of stable growth. While labour was generally viewed by capital as a factor of production, as expense, labour organisation on the factory floor during the post-war boom meant unionism was relatively strong and could mount successful campaigns for increased wages, rights or improved conditions. In the Keynesian sense the demand for labour outstripped its supply and thus tipped the balance of power in favour of workers.

Changes to such modes of production have been pronounced since the 1970s. The increasing intensity of globalisation, the spread of communication technologies and the pervasiveness of neoliberal political ideologies all impacted on the stability, patterns and geography of work (Harvey 1989; 2005; 2010; Peck 2004; 2011). Arguably the most clearly defining feature of this flexible phase of capitalism was the shifting experience of workers (cf. Marx 1962). Workers were increasingly expected to multi-task, to be prepared to shift activities at a whim, to be employed casually or on a project-basis, and to be available for communication outside working hours, via new media technologies (Pratt et al. 2007) – now including email, Facebook accounts and mobile phones (Gregg 2011). The working day and expectations of workers have been extended in this advanced phase of capitalism.

Historically, divisions of labour within Fordism were constructed along gender and ethnic lines (see Massey 1984; Hanson and Pratt 1995; McDowell 2001). While white men on the factory floor were engaged in quite well paid forms of secure work, capital regularly exploited (and in most cases continues to do so) the labour power of women, ethnic minorities and immigrants on a part-time, casual, dis-continuous and

lower paid basis. But as the world became more connected and neoliberalism pervaded, access to labour has, for capital, freed up and employment tenure is now characterised by flexibility, shared leadership structures and a system where responsibility is more on the individual than the firm. Meanwhile trade unionism has arguably eroded as competition for work has intensified (Harvey 2006). While workers have come to be seen by firms as an investment, the terms of their employment are increasingly unstable and exploitative (Gill and Pratt 2008; Christopherson 2008). In a relatively short space of time the balance of power appeared to tip back the way of capital.

The notion of *precariousness* is helpful for describing the increasing number of workers engaged across all sectors of the economy in forms of casual, temporary, contracted, insecure, illegal, discontinuous or irregular forms of work (Rodgers 1989; Pratt et al. 2007; Gill and Pratt 2008; Ross 2009). Far from being a peripheral experience, precariousness has come to typify working lives within post-Fordist, flexible, knowledge-driven modes of capitalism (Bell 1973; Burawoy 1983; 1986; Malmberg and Maskell 2002; Pratt et al. 2007; Christopherson 2008).

According to Gill and Pratt (2008) precarity signifies both the amplification of unstable, insecure forms of employment and the new struggles and solidarities that reach beyond traditional models of trade unionism and political partisanship. Cultural and creative industry workers particularly ‘symbolise contemporary transformations of work’ as the cultural industries have grown to become a statistically significant part of flexible, knowledge economies in advanced capitalist regions (Gill and Pratt 2008 p 2). This means that cultural workers employed in the industries producing cultural outputs (whether intangible or material products) have come to be seen as ‘poster’ representatives of a ‘new’ regime of capitalist organisation (Beck 2000; Giddens 2002;

Brennan-Horley 2007; Gill and Pratt 2008). The flexible new 'precarariat' become so-called free agents in determining their own working schedules and corresponding lifestyle. Richard Florida (2002; 2005) more glowingly terms part of this labour force the 'creative class', which he argues makes up about 40 percent of the workforce in the United States. Proponents of this shifting economic structure point to the agency, power and freedom offered to workers via the balancing of work-life time under more flexible work conditions, which free up convenient time for lifestyle and leisure pursuits (cf. Florida 2002).

While cultural industries have been hailed as catalysing a shift from continuous forms of career work (characteristic of Fordism) to more informal, discontinuous and flexible employment regimes (Florida 2002; Hartley 2004; 2005; Deakins and Freel 2009), critical scholarship has revealed the insidiousness of such discourses (see for example McRobbie 2002; 2004; Brophy and de Peuter 2007; Gill and Pratt 2008; Hesmondhalgh and Baker 2008). For McRobbie (2002) cultural industries often devolve risks and responsibilities from corporations and businesses to the scale of individual worker. While cultural work evokes connotations of flexibility and freedom – where workers have more time for leisure and lifestyle if not required to sell their labour power – the reality is an increasing number struggle with financial insecurity and the irregularity of paid employment (Gibson 2003). Discourses of flexibility have become a key part of what Mark Banks (2009 p 668) calls the 'utopianisation' of cultural work – the flexible façade of advanced capitalism. Autonomy and freedom are assumed to exist for cultural workers, yet in reality the integration of new technologies, mechanisation of production and changing modes of political governance characteristic of capitalism means labour is increasingly exploited and left with little capacity to do something

about their employment circumstances (Burawoy 1983; Christopherson 2008; Gill and Pratt 2008; Hesmondhalgh and Baker 2008).

This thesis extends this literature in that it explores examples of labour precarity in relation to surfboard workshops in the Gold Coast, Illawarra, O`ahu and southern California. Such precarity is particularly pronounced given the rise of multinational surf-brands and widespread availability of mass produced surfboards – but as I also explore in this thesis (especially in Chapter 6), there are peculiar cultures of workplace relations in surfboard workshops that shape worker experiences powerfully (cf. Gibson 2003). These include the subcultural logics of surfing, the informal and unstructured nature of hand-making careers, and a guarded and protective attitude towards skills development and generational succession.

## **2.4 The *emotional terrain* of surfboard production**

This thesis also seeks to push the literature on precarity in cultural industries beyond accounts of spatial organisation, wage conditions, working hours and changing tenures of employment. Hand-based forms of surfboard production in O`ahu, southern California, Gold Coast and Illawarra regions are indeed precariously positioned and under threat from much cheaper imports and oligopolistic tendencies (Chapter 6); nevertheless by itself this observation does not encapsulate the experiences of those workers cutting a living in the surf industry. Board-makers are involved in a form of cultural production that is brimming with intense human interaction (between workers, customers and local surfing communities), and this is contingent on diverse embodied skills related to the making of things (designing, shaping, crafting and selling customised products). As a way to draw attention to such workplace interactions,

relationships, solidarities, problems and uncertainties, Chapter 7 of the thesis explores the emotional, gendered and embodied dimensions of surfboard production. As surfboard-makers these felt emotions matter as much as the economics in understanding the experiences of a precarious form of labour. An important component in the analysis of the surfboard industry thus includes consideration of the emotions.

The affective and emotional dimensions of economic transactions have become increasingly popular subjects with which to grapple the endemic contradictions, tensions and changes of capitalism (Hochschild 1983; Bourdieu 1990; Bondi et al. 2004; Thrift 2004; Amin and Thrift 2007; Christie et al. 2008). Recognition of the affective and emotional dimensions of capitalism goes back to Marx's *The Grundrisse* (first published in 1857) where he illustrated an affective difference between the ideas and representation of capitalist economies and the reality of the social dislocation and alienation it produced (Marx 1972). John Maynard Keynes also recognised how 'our decisions to do something positive can only be taken as the result of animal spirits – a spontaneous urge to action rather than inaction' (Keynes 2008 p 144). For Keynes the irregular movement of financial markets was best explained through such 'spirits' rather than logical reason. More recent work on the current global crisis (beginning in the U.S. banking sector and morphing into a European sovereign debt crisis) has further added to the centrality of the emotions in influencing financial exchanges (see Earle 2009).

In considering the emotional dimensions of producing surfboards in this thesis I refer to the intimate, conscious and situated bodily feelings, which rely on interpretation and categorisation (Abu-Lughod 1990; Heelas 1996; Lupton 1998; Goldie 2000; Anderson and Smith 2001; Wood and Smith 2004; Smith et al. 2009; Pile 2010). While the notion of affect has often been used interchangeably with emotion (see Thrift 2004



for example) the approach taken here is that emotion – while intrinsically related to affect (Pile 2010) – differs in that the emotions represent conscious, cognitive and personal expression by our bodies (Bondi 2005; Thien 2005; Sharp 2009; Pile 2010). In the context of our everyday experiences these situated self-feelings locate people in networks of human and non-human relations, helping us make sense of the world (Rose 1997). The experiences and performances that challenge us emotionally are spatially, temporally and socially located (Mackian 2004) and as readable sensory responses the emotions also have powerful capacities to influence individual action and decision-making (Lupton 1998; Anderson and Smith 2001; Ettliger 2004; Pile 2010).

Feminist geographies have therefore strongly influenced the arguments in this thesis, particularly those I construct concerning the emotionality of surfboard production. Feminist approaches help to ‘see’ the emotions as critical assets, rather than liabilities in the production process for surfboards (cf. Hochschild 1983; McDowell 2001; Smith 2005; Morini 2007). In discussing ‘the economic’ in light of emotions, it is thus necessary for this thesis to cast in critical light the dominant interpretation (going back to Keynes’ 1935 General Theory) that the emotions are markers of softness, femininity and irrational thought (see McDowell 2001; Williams 2001; Ettliger 2004; Bondi 2005; Thien 2005; Sharp 2009). The emotions have been gendered as female under patriarchy and through such social discourses have been denigrated as traits that should be evacuated from the ideal body in order to make more cogent decisions – especially in relation to economic actions (Christie et al. 2008). As will become apparent in Chapter 7, this discursive construction of emotion as gendered and irrational is problematic for conceptualising surfboard-making as a cultural industry.

I therefore wish to trouble binary categories between emotion and rationality, especially in terms of economic actions and behaviour. Starting with classical economic roots, Joseph Schumpeter (1934) defined rationality as an entrepreneurial phenomenon based on the 'creative' urge to discover new forms of production, more efficiently organise labour or source new market opportunities for profit generation. Schumpeter did not elaborate on the phrase 'creative' and while perhaps implicitly referencing internal bodily responses to different social conditions – in Raymond Williams' (1977) sense – creativity was a human trait that baffled classical economists (Peet 1997).

Italian Marxist Antonio Gramsci (1971) argued that a society's concrete goals were derived from a complex set of beliefs, convictions and values. In a 'civil society' the concept of reality was diffused by institutions (schools, political powers, church, family, universities etc.) so that over time certain goals in a person's life (to get a good job, get married, start a family, buy a house) became dominant or hegemonic. In Gramsci's use of hegemony a permanent knot is tied between rationality (relating to dominant or concrete goals, values, behaviours) and the economic – as a system of material practices where every social form 'has its homo economicus' (Gramsci 1971 p 208). For Peet (1997; 2000) economic rationalities thus produce the materialities that form the base for future experiences, interpretations, imaginaries and, in turn, behaviour. This plays out through what Judith Butler (1990) would call constant performance so that rationalised behaviour comes to create commonsense logics or regimes of repeated action, which 'discipline economic behaviour by proving some kinds of action to be 'rational'...that is, corresponding to the dominant logic of material reproduction' (Peet 2000 p 1222). Those behaviours or actions not abiding dominant

social logics thus become recognised as irrational (Williams 2001). Within capitalism rationality is fixed in a form of economic determinism.

Max Weber sought to move beyond established Marxist approaches to historical materialism and writing at the turn of the twentieth-century offered a way to move beyond purely economic applications and understandings of rationality. Weber contested that rationality applied equally to all forms of social organisation (religion, kinship, patriarchy etc) and should be understood as the human behaviour to which we attach subjective meaning. What particularly intrigued Weber was an identification of the cultural forms of economic action. Unlike Adorno (1980; 2004) Weber thus did not hold that through capitalism the economic trampled culture. Instead he became fascinated with the religious rationalities determining economic behaviour in Western societies, particularly the relations between Calvinism<sup>9</sup> and their constructions of unique capitalist relations (see Weber 1947; 1958).

The biggest problem with a Weberian take was its endemic Eurocentrism, which presupposed non-European societies as ‘pre-rational’ others (Peet 2000). Indeed in much of this early theoretical positioning of rational action, behaviour and thought, there is an uneasy relationship between the division of social groups into binaristic categories of advanced/primitive, civilised/uncivilised and rational/emotional. It is in this categorisation that forms of economic activity, while shaped by culture actually came to assume the control, manipulation and silencing of felt, emotional responses.

Building from these foundations Nancy Ettliger (2004) has made a significant contribution to reworking understandings of rationality, beyond seeing it as a skill used

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<sup>9</sup> Calvinism stresses the sovereignty or rule of God in all manners of life, not only in salvation after death but also in structuring and shaping all parts of life (see Peet 2000).

to anticipate behaviour for financial gain based upon particular market conditions (the Schumpeterian and neo-classical understanding of rationality). As she argues, economic spaces are always multi-dimensional and not comprised of one-way exchanges or flows. Not just an essentialised, emotionally-barren economic characteristic, rationality is wrapped-up in emotional work where behaviours, motivations and decision making are multi-dimensional, deriving from a kaleidoscope of thoughts, motivations, desire and feelings (Ettlinger 2004; Christie et al. 2008).

Rather than a one-dimensional rationality at play, there are instead therefore multiple rationalities that shape human relations. Decisions made by a commercial business or manual worker can have multiple logics at play and work through intimate chains of ethical relations (the supposed moral course of action) with other actors within the exigencies of everyday life (Gough 2010). For some workers in particular contexts the emotions may be helpful, laid bare, and utilised; while in other spaces they may be deliberately suppressed, unacknowledged and unwanted (McDowell 2001). The display of emotion can last for a long period or just a brief fleeting moment; with life-changing significance or none at all (Pile 2010). The emotions can occur physically, expressed through a sigh or shake of the head, but also well below the skin – readable by only those sharing a close relationship to an individual. In the case of surfboard-making, it becomes important to understand the emotions for the everyday role they play in forming relationships, accessing new markets and even performing high quality work where an attention to detail and high level of persistence are essential.

In this thesis the sensory expressions of surfboard-makers matter for understanding how the emotions inform cultural production and workplace performance. I therefore paid attention to the emotional engagements that took place in

developing, designing and producing surfboards in the workshops visited in each case study setting. The overarching focus here reflects a growing awareness in geography on the importance of ‘emotional’ inputs in doing work and creating value (Power and Scott 2004; Christopherson 2008). While analysing the political economy of the surf industry is important to the story – outputs, value, profits, wages and labour conditions for example – so too are the cultural and emotional dimensions of the job, which should not be taken as absent or suppressed from such activity. Emotions cement relationships and motivate participation in surfboard-making in ways that move outside the collection of a pay cheque. Overlooking the emotional dimensions of the surfboard industry would miss an important element of the experience of being a cultural worker within it. In this thesis I therefore pursue a particular kind of analysis of the labour geography of a form of cultural production: one that seeks to document the emotional dimensions of surfboard-making.

To this end, following Christie et al. (2008) and their work on the emotional economy of housing markets, I adapt their notion of an *emotional terrain* to conceptualise how participants go about designing, making and selling surfboards: how workers construct surfboard-making as a distinctive cultural industry and ‘the economic’ environment that the work takes place within (cf. Christie et al. 2008). I also use *emotional terrain* to metaphorically suggest the continually spatial nature of the emotion-economic nexus in surfboard-making – that is, taking place in contingent social and material spaces of the workshop and regional surfing scene.

The emotional terrain of surfboard-making is a particularly important component of my analysis for two reasons. First, the emotions are key to understanding how this form of cultural production exists and survives, when a rational choice

perspective would have killed it off two decades ago (cf. Becker 1976). In Chapters 6 and 7, I show how workers motivations, goals, values and choices to pursue and continue with precarious forms of work are shaped by the emotional industry terrain, rather than economic or profit generation desires. This has both highly pleasurable and negative consequences for workers – but cannot be simplistically reduced to irrationality. Second, there is a heightened emotional terrain relating to the making of surfboards as tangible ‘things’. In this thesis surfboard-makers participate in a form of cultural production flushed with intense human interaction, amongst workers, customers, local surfing communities and extending to the actual performance of work (Bourdieu 1983). I suggest that the emotions permeate the materiality of making, and giving meaning to surfboards as well as the experiences of individual workers employed within surfboard workshops. Surfboard-makers care about the boards as material icons of their creativity – they enjoy seeing them used and deliver pleasure to customers. This is at the heart of crafting as a form of production, with echoes back to the arts and craft movement of the early twentieth-century (cf. Kraft 1996).

In the four popular surfing regions that form of heart of this thesis, surfboards are on regular critical display. As surfers move through popular surfing spaces in the Illawarra, Gold Coast, Hawai`i and southern California (in and out of the water) surfboards are constantly being reviewed and judged by other discerning board-riders and fellow makers. In these settings local workshops gain credibility as reputations for higher quality workmanship are circulated within and across social groups (Kampion 2007). Pride in work informs production. Here the body – that physical, discursive, personal, inscribed, spatial, social, performative and emotional assortment of bones and flesh (see Gorman-Murray 2012) – expresses felt, sensory responses via movements,

expressions and language, and surfboards as cultural and material objects are the prime target of these emotions. During the designing and making of a new board, sensory entanglements and relations between workers, tools, workshops, customers and suppliers creates a powerful embodied and emotional terrain. At the same time emotional attachments to workshops also mean customers continue to support workshops both financially and figuratively, paying good money for quality craftsmanship and service, and ultimately for a better physical product that works best in local waves.

By seeking to connect cultural economic analysis of the surfboard industry with labour geographies, and a research thread from feminist cultural geography on emotional geographies, I therefore attempt to understand the spatiality of emotion in the production of surfboards, from the perspective of surfboard-makers themselves. The performance of a surfboard-maker, or any other worker for that matter, thus promotes an emotional bodily response not only from the producer but also the consumer(s), audience, observer or competitor (Davidson and Milligan 2004). Sense is made of this reaction by the body, which may help or hinder future relations between people, tools or workshops – and alter the meaning of the physical things being made (in which so much of the emotion and embodied skill is being invested). I consequently seek to work into analysis of surfboards as a cultural industry, insights into the experiences of surfboard-makers as precarious cultural workers, and their emotions, values and experiences.

## **2.5 Surfing, surfboards, gender and embodiment**

As a surfer, I experience and participate with countless rituals, myths, legends, laws, body modifications, feelings and ideas. Riding a wave is more than an act.

To 'become-surfer' is to undergo a complex lived experience of surging relations. (Evers 2004 p 28)

The final part of the conceptual framework required for this thesis is a discussion of the embodied and gendered nature of the surfing subculture more generally – for this deeply infuses surfboard-making too. Surfing must be recognised as a deeply embodied and emotional performance (Evers 2009). It is a human-environment interaction, where variations in a surfer's relationship to the ocean are influenced by gender, ethnicity, cultural background and surfing style (Booth 2001; Waite and Warren 2008; Evers 2009). The popular surfing breaks in southern California, Gold Coast, Illawarra and competitive *po'ina nalu* in Hawai'i, operate under strict social hierarchies with a constant 'power play' negotiated between locals, non-locals, bathers, surf life savers and other beach users (Evers 2009). On crowded, prized surf breaks such as Pipeline, Trestles, Snapper Rocks or Sandon Point, groups of local surfers congregate in 'surfing fraternities', brought together by their shared passion for surfing, competitive ambitions, gender, friendships and close proximity to a break (Stern and Cleary 1963; Booth 2001; Preston-Whyte 2002; Evers 2004; Waite and Warren 2008). These groups are also the chief consumers of custom-made surfboards and demand high quality from local board-makers.

According to sociologist Douglas Booth these mostly male groups have a sense of ownership towards particular 'local' breaks, often regulating and restricting the wave access of non-local surfers; occasionally resorting to intimidation and violence to control such access (Booth 2001). Members within these groups often share similar dress and hair styles, tattoos, common social hangouts, board-makers and their own



distinctive language (Waite and Warren 2008). Examples include the Bra Boys, in the southern Sydney suburb of Maroubra and the *Hui O He'e Nalu* group of *Kānaka Maoli* surfers who police the surfing space of the North Shore of O`ahu (Walker 2008; 2011). Such groups enforce local regimes of surfing respect and a strict chain of command at 'their' local breaks. Prized surf zones become oceanic territories, which also extend spatially onto nearby land. In these territories surfing ability becomes particularly crucial for determining a place in the local pecking order (Evers 2004; Waite and Warren 2008). The best local surfers get the most waves, while talented non-locals can also display their ability to gain increased respect and thus access to more waves. Ability and admiration in surfing culture revolves around subjective notions of style, which is an embodied and emotional performance influenced by strongly by geography (Evers 2009). The dominant style and wave types of a location are therefore reflected in the specialised surfboard designs created by workshops for local surfers.

Over the recent history of competitive surfing, a prized style has come to emphasise fast, powerful and aggressive direction changes, combined with skilfully riding hollow barrelling waves. The most skilled surfers perform radical turns, launch high aerial manoeuvres and can surf deep inside the wave's tube. These styles have only developed alongside advances in surfboard design and discovery of lighter materials for construction: composite foams and epoxy resins for example (Chapter 4). Yet surfing style has also been a contested performance, which 'reflects regional variations...based on mankind's [sic] relationship with nature' (Booth 2001 p 100). Surfing ideology and performance become constituted via a three-way exchange between the surfer's embodied relationship to the ocean, the surfboards they ride and locations where they surf.

The prestige given to aggressive surfing styles from the late 1960s paralleled changes in surfboard design (Chapter 4). Surfing on long, heavy, cumbersome timber boards did not allow surfers to perform sharp turns or ride the barrelling part of a wave. As more people took to surfing, makers began experimenting with different materials in production and re-designed board shapes. These factors led to a shift in the dominant style of surfing. Using modern boards, surfers could more readily access the high energy sections of a wave. The new emphasis in western surfing cultures was placed on a 'performance' style which involved the surfer initiating an aggressive attack on the wave face.

But for *Kānaka Maoli* a prestigious surfing style had long involved moving in rhythm with the wave's shifting energy, rather than aggressively attacking. This meant surfing performance was smooth and flowing, regardless of the board being ridden. In Hawaiian surfing culture emphasis was placed on the surfer becoming the water, through the wave, which blurred the boundaries between binaristic western notions of surfer and ocean – or humans and nature (Waitt and Warren 2008). Booth (2001 p 100) explained how 'Hawaiian style thus emphasised the wave and the performer as a co-ordinated unit; the surfer dances with the wave, letting it lead him along its natural direction'. This style was sharply contrasted to Californian and Australian surfing cultures, where prominence relied on control and aggression, cutting and shredding waves. Californian surfers focused on speed, which also enabled them to perform sharp cutback<sup>10</sup> manoeuvres, while Australians in the 1970s and 1980s took the approach

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<sup>10</sup> A 'cutback' is where the rider surfing across the face of a wave in one direction, moves out in front of the breaking curl and then performs a direction change using their body and moves, momentarily, back towards the breaking face. Just as they reach the white water they turn again towards the original direction of the wave. The 'move' is designed to connect the surfer with the high energy point of the wave.

further and used terms such as ‘ripping’, ‘shredding’, ‘cutting’ and ‘killing’ to describe their surfing styles in magazines and film (see Hull 1976). When the shortboard revolution and a sanctioned professional surfing tour began – side-by-side in the early 1970s – a dominant riding style was established (Chapter 4). This dramatically shifted the relationship between surfers and the ocean.

But this new prioritised style of surfing was full of paradox. While the style pushed surfers to ‘dominate’ and ‘carve’ waves the ability to perform to such an aggressive style relied on a high level of connection and understanding of the ocean by a surfing body. Experienced surfers have a developed embodied knowledge of ocean processes (waves, swells, tides, and winds), able to ‘read’ waves in terms of breaking patterns, trajectory and velocity. This understanding facilitates skilled performance and aggressive forms of surfing. The daily experiences and interactions in the surf also produce unique language, where waves are discussed by their potential to be surfed to a particular style. They become ‘hollow’, ‘sucky’, ‘walls’, ‘bowls’, ‘full’ or ‘fat’. These terms are quite different to the scientific language that describes waves as spilling, plunging or surging.

Despite the embodied knowledge experienced surfers possess, many only acknowledge the corporeal experiences of surfing as an adrenalin rush (Waitt and Warren 2008). Younger surfers in particular tend to disassociate their surfing identities from their embodied relationship and knowledge of the ocean. They do this to maintain the artifice of a surfing masculinity, which requires the demonstration of authority and control (Waitt and Warren 2008). In western cultures sporting and competitive activities (which surfing has become) are one way for men to express a hegemonic masculinity, as Raewyn Connell (1995 p 54) explains:

Historically sport as a physical practice has been so closely identified with men that it has become one of the key signifiers of masculinity in many Western societies. The institutional organisation of sport embeds definite social relations: competition and hierarchy among men, exclusion or domination of women. These social relations of gender are both realised and symbolised in the bodily performance.

Young male surfers thus rarely acknowledge a spiritual or emotional link with the ocean, compared with older surfers, those who surfed in decades before them. This is largely due to the increasingly aggressive nature of surfing on the wave, which in turn arguably amplifies western norms that posit humans as separate from nature and that permeate embodied connections with feminine attributes (Waitt and Warren 2008). So on the one hand, male surfers have an embodied understanding of the ocean, its rhythms and complexities, while on the other their surfing style and performance seeks to aggressively attack it through the surfboard and body. In this way male surfers perform their gender in the waves; to be a skilful surfer requires the display of strength, aggression, control and fearlessness – all conventionally male attributes (Connell 2000; Evers 2004). On the flip side, surfing performances associated with feminine displays – slower movements, grace and elegance – are devalued and relegated in the surfing hierarchy (cf. Connell 2000). To surf with this style is to shamefully ‘surf like a chick’ (Waitt and Warren 2008).

When greater numbers of female surfers began taking to the line-ups in Hawai`i, California and Australia from the 1960s, their surfing did not conform to the powerful masculine style which had become dominant. Amateur and professional female surfers were considered weak by their male counterparts because they lacked the strength and

ability to surf aggressively (Ford and Brown 2005). Since the 1990s this perception has changed alongside the development of a lucrative women's world surfing tour, which showcases female surfing talents in challenging conditions around the world. Today, in Australia at least, three out of every ten surfers are female, a statistic highlighting the growth of surfing among both men and women (Surfing Australia 2010). Yet ubiquitously, surfboard-makers have been, and continue to be, men (Chapter 7).

Surfboard-makers are keen surfers themselves. Sharing a surfing identity they acquire a level of embodied surfing knowledge, but they also have an added embodied and emotional dimension as cultural workers responsible for personalised surfboard design and production. It is their labour which must create a board that delicately responds to the ocean and customer's surfing body. Their work is physical but also artistic and social, where sense of touch, feel and emotional responses operate to encourage, inform and motivate. Engaging with and reflecting on the gendered, embodied and emotional dimensions of surfboard-making (Chapter 7) helps unlock the sensory content of the work and in doing so demonstrate how emotions play a key role in surfboard-making beyond the generation of economic capital. By focusing on contexts and spatiality of emotions, insights are gained into the way emotions coalesce around and within the body, in relation to creative practices, professional and personal networks, attachments to the job, relationships with suppliers, tools, customers, spaces of work and leisure.

## **2.6 Conclusions**

This chapter has outlined the conceptual tools that ground and inform subsequent empirical analysis of the surfboard industry and experiences of surfboard-makers in

O`ahu, southern California, the Gold Coast and Illawarra. In describing ‘the economic’ changes occurring under advanced capitalism literatures have most often presumed a rapid rupture from an ‘old’ Fordist, industrial economy premised on mass production and price competition, to a ‘new’ post Fordist, post industrial, flexible, knowledge based economy based on innovation competition and intellectual and symbolic content (Scott; 1988; Lash and Urry 1994; Scott 2000). Yet, there is arguably nothing ‘new’ about the ‘new economy’ (Pratt 2004b), and what much of the research theorising the changes, movements and economisation of culture and creativity misses is the continued significance of making material products. In this thesis surfboards are that material product, and through them I explore the geography of a cultural industry, a form of precarious cultural work, and an emotional terrain of production spanning the Pacific Ocean, amidst dynamic global change.

In this manner I seek to contribute a fresh approach to understanding the role of emotions and embodied processes in cultural forms of production. However, without appropriate research tools and trusting relationship with research participants, such a goal would have been impossible. Accordingly, Chapter 3 addresses questions of research methodologies and the nature of my research engagement with surfboard-makers and their work spaces.

# 3

## **Methodologies and analysis**

### **3.1 Introduction**

This chapter discusses the research methodologies used in the thesis and documents how rigour was sought. In the context of an in-depth, ethnographic study it was determined that rather than working with prescribed methods, research tools should be responsive to participants themselves. This chapter therefore outlines how the researcher, participants, their workshops, tools and products influenced the research methodologies used in the thesis. When making surfboards is considered as a form of cultural production occurring in dynamic spaces of popular surfing regions across different parts of the world it becomes unfeasible to ‘dump’ set methods onto respondents. In attempting to uncover how each participant had come to be working in the surfboard industry, how they had developed specialised skills and knowledge, how they competed against corporate players and valued social links between local surfers, breaks and their work, it was important to build up trusting research relationships. It was crucial for the thesis that social bonds of trust were fostered with participants. This could only occur over extended time, through regular, sustained meetings, catch ups and

conversations. In this way the field determined the methodologies implemented, through a process of ongoing evaluation and negotiation. I describe that process in this chapter.

The chapter is divided into three main sections. The first concerns the researcher's positionality in the thesis, outlining the motivations for pursuing the research, how recruitment occurred and how rigour and an ethical approach to the study were sought. Next the chapter turns to the specific research methods used in the thesis. As an ethnographic study into the surfboard industry methodologies were largely qualitative. Methods included participant observation, semi-structured interviews, guided workplace tours and archival research in all four regions. This ethnographic approach was also supported by a quantitative documentation of the size and extent of the United States surf industry – in broad terms – to give added contextual information. However in the case of the surfboard industry there was no detailed economic data available for any of the four case study regions. Hence broad quantitative sketching could only be carried out in consultation with the Surf Industry Manufacturers Association, adapting data captured from a national bi-annual survey of surf retailers and manufacturers in the United States. The third and final section of the chapter outlines the method of narrative analysis used to interpret and make sense of the research. This method of analysis helped unpack the different stories collected from surfboard-makers across eighteen workshops in four different parts of the world. Overall, across the four regions there is a remarkably similar and coherent story about production practices, worker skills, knowledge, conditions, relationships and exchanges.



### **3.2 Seeking rigour in research**

The ultimate test of a study's worth is that the findings ring true to people and let them see things in new ways. (Karp 1996 p 202)

According to Hay (2005), rigour attests to the trustworthiness and reliability of research. For a thesis examining the cultural production of surfboards in four different coastal regions, rigour becomes crucial to assure the research process is ethical and remains an accurate representation of surfboard-makers' work. Understanding that work is a deeply personal, embodied and emotional experience also makes a consistent approach towards collecting material important, particularly as the research gathers momentum.

Following a framework set out by Lincoln and Guba (1985), I aimed to achieve and maintain rigour by utilising four inter-related strategies: research credibility, transferability; dependability and confirmability (see Table 3.1). Drawing from an in-depth ethnography, the thesis sought to maintain a consistent methodological approach in each case study region. This sort of research required constant reflection, assessment and negotiation, allowing respondents, their spaces of work and cultural interaction to shape certain research activities. In this thesis methodological rigour was achieved by combining reflexivity (in the form a regular positionality statements), building of trusting participant/researcher relationships via regular repeat visits and use of flexible research tools such as participant observation, interviewing and guided participant tours. Throughout the doing of the research a sample of workshops and their workers were also given access to draft writing and asked to read over transcripts to ensure an accurate representation of their stories, in appropriate context, was captured.

Table 3.1: The processes followed in attempting to achieve rigour in the thesis (source: adapted from Lincoln and Guba 1985)

<b>Elements of Rigour</b>	<b>Definition</b>	<b>Strategies to achieve rigour in this thesis</b>
<b>Credibility</b>	An accurate account of the experiences, stories, behaviours, beliefs, opinions and actions of participants. Theoretical frameworks are understandable by non-academic community.	Involvement and feedback from supervisors and peers Conference and seminar presentations Focused sampling Appropriate research tools utilised Ethical considerations Ethical approval from University research ethics committee
<b>Transferability</b>	The degree to which the study is significant and original.	Literature review and positioning of the thesis in relation to other work. Theoretical grounding of the research.
<b>Dependability</b>	Stability of the data, the ability of the data to withstand changes in design.	Semi-structured interviews Participant observation Guided work tours Keeping a research diary Photographs and membership in online surfboard design forums Narrative analysis Ethics approval Transcription of interviews
<b>Confirmability</b>	Degree to which the analysis and interpretation reflect the concepts of the research respondents, and not the researcher.	Positionality statement and reflection on preliminary writing and results Narrative analysis Interview transcripts shown and discussed with some participants for authentication, further comment and suggestions. This assists in results accurately reflecting the interview conducted.

### **3.2.1 Positionality and doing research on the surfboard industry**

Assisting rigour when conducting qualitative, ethnographic work is recognition of researcher positionality (Rose 1997). Even the most seemingly ‘objective’ positivistic research is inherently personal and political at some level, and must be weighed in these terms (Rice and Ezzy 1999). Positionality can be, for instance, the intimate influence,

feelings and beliefs of a researcher (Baxter and Eyles 1997). These appear, shift and entangle constantly throughout the doing of a research project. Given the extended time spent with participants throughout the course of a three year doctoral thesis, these personal reactions can impose on research practice at different times and in different ways. Thus positionality requires careful contemplation when making sense of the study, its findings and wider significance (Rose 1997). Following is an in-depth discussion of the personal subjectivities which have underpinned this thesis, including recognition for the way personal thoughts and passions sometimes shaped and motivated the pathways of investigation.

### **3.2.2 Why a thesis on surfboard production?**

The motivations for pursuing a project on the surfboard industry tie intrinsically to my personal interests in surfing. I was born in Wollongong, the main city of the Illawarra region on the south-eastern coast of Australia, which almost meant by default that I was exposed to the beach, from an early age. My earliest memories of surfing are from annual family holidays taken down the south coast of NSW. While I lived close to the ocean I vividly remember getting a body-board as a Christmas present when I was nine or ten. I took the board on holidays the next week and remember going surfing with my father every morning and afternoon for the next two weeks. Once I went to high school I quickly connected with a group of surfers and we all became close mates. Throughout our school years we went surfing most afternoons; riding our bikes, nagging parents until they gave us a lift or catching the train further down the coast to spots that were not so crowded.

During these first years of surfing I rode a body-board and lay down in a prone position to catch waves. I didn't take much notice of the heckling from stand-up surfers when out in the local line-ups (the assumption within surfing subculture is that stand-up surfers are innately 'superior' or more skilful than body-boarders), and because I surfed in large groups we were never hassled. I got to a decent standard of surfing on the body-board; competent enough to ride hollow waves and large swells. But in my teenage years my surfing ideology changed. I became increasingly aware of a surfing hierarchy that operated at my local breaks and the way that body-boarders were positioned at the bottom of this pecking order. Perhaps typical for teenagers, I quickly became most interested in gaining greater legitimacy in the ocean. At some point I decided – along with a group of six or seven close mates – that body-boarding was no longer for me. I turned to stand-up surfing instead.

This wasn't a transition that came easily. I had ridden a skateboard before and my body-boarding meant I understood how to 'read' waves: how they broke, where best to take off from and under what conditions my different local breaks worked best. This environmental knowledge is crucial to all forms of wave-riding and is often what defines the best surfers. Different swell directions mean that waves respond differently to bathymetry. This must be combined with the right wind direction and tide height so as to make for the 'best' surfing conditions. In this way the best surfing breaks become the amalgamation of many different environmental elements. Surfing teaches you this knowledge. It becomes part of your identity: you talk incessantly about weather, swells and tides in surfing slang: 'sucky', 'fat', 'hollow', 'sectiony', 'messy' are all different terms we used to describe waves. While I was already conversant with this environmental knowledge when I switched to stand-up surfing, it was a very different

engagement with the wave. For me, stand-up surfing required heightened levels of patience, greater balance, perseverance and commitment. As no two waves ever break in the same way it becomes impossible to ever ride a wave in the same way; this applies to all forms of wave-riding. But this is also what makes surfing so much fun; the ocean is unpredictable and its movements shape your body.

Around the time I set off on this new surfing approach I also got drawn into the surf image scene. Perpetuated by my reading of *Tracks* magazine ('the surfer's bible'), I went through a stage where I only purchased clothes from surf shops and felt compelled to wear surf-branded clothing. I adorned surf stickers on my car's windows and mirrors as well as one from my local surfboard shaper. I grew my hair long and was happy when it went blonde. Doing this made me feel like a surfer. If the waves were small my mates and I would watch surf films all weekend, taking it in turns to purchase the latest release. For a while we had the full 'surf bum' thing going on. Surf sessions in the morning and afternoon were periodically broken up by school and later work. If the waves were good then work took a back seat altogether. By my early twenties surfing had become a lifestyle. This wasn't unusual where I grew up.

Reflecting on this later I have come to realise that growing up in a popular surf region like Wollongong, allows certain freedoms. Surfing is not stigmatised but accepted as a lifestyle – something that is even passed on along generations. My Dad (who grew up in the nearby small coastal town of Kiama) surfed and passed it onto me and my brother. Many of my closest mates continue to surf regularly and structure their lives so that time is available once the waves are right. It is these surfing networks that have largely informed my interest in exploring the commodification of surfing. I recognised that surfing had become a large industry and in Wollongong I could see that

there were many people involved in making a living from the selling of the surf. My surfboard-makers in particular would often discuss their work and the wider surf industry when I would meet them for a new order.

As I travelled to different parts of the world for surfing and for academic work (Indonesia, Islands around the South Pacific, California, Hawai`i), I became increasingly aware of surfing's profit-making side. It was not difficult to realise that surfing in such places was a central part of their identity, not only culturally and socially but also in terms of local economies. Then one day about four years ago, shortly before I began this PhD, I met up with my local surfboard-maker in his shop in Wollongong. The owner, Mick, had started the shop in the early 1960s and with the labour of a few other workers made custom surfboards for local surfers. Over his forty years, Mick had made more than 30,000 boards and had witnessed the rise in surfing popularity in the region. He is considered a national treasure in Australian surfing, as one of the pioneer board-makers from the 'boom-period' in Australian surfing. I listened in fascination at his stories and tales: discoveries of new breaks, arguments with coastal developers, competitive surfing career, how he learnt skills in the industry, relationships he formed with other surfers. At the end of a three hour conversation Mick let slip to me that his retirement was imminent. He became visibly emotional when telling me this, and I was also affected. Things had become increasingly difficult for local surfboard workshops, Mick explained, and so he was going to close up and retire to a house he had bought many years ago 'down the coast'. What about the shop, I asked? What about all these great stories? What about all that knowledge? Most selfishly I even asked about my surfboards.

From my own retail spending habits some years before, I recognised how surfing had become a billion-dollar global industry. But what Mick told me that afternoon had stuck in my mind: the tales of mass production, corporate greed, shrinking profitability for local workshops...it was at this point that a PhD thesis examining the surfboard industry was hatched. Mick had inspired me and alongside the commercial intensification of surfing culture over the past decade I also knew from undergraduate subjects in geography about a lack of scholarly engagement with the selling of the surf. Sure, a few including cultural researcher Cliff Evers had explored issues of masculinity and identity – but what about the industry, and its texture, structure, and politics? If Wollongong’s surfboards makers were experiencing these issues then I thought it logical that other popular surfing regions, where surfboards were produced for local surfing communities, would also have distinctive stories to tell about the selling of surfing’s only essential piece of equipment. This is how the thesis began.

### **3.3 Research recruitment: pursuing ethnographic research**

Recruitment of participants can be challenging for a project interested in the personal stories of workers involved in a form of cultural production. Asking for a large amount of time to conduct an interview takes surfboard-makers away from performing work, costing them money, and posing questions about professional lives can be confronting. Moreover it is not possible to gain in-depth insights into the workings of the surfboard industry and experiences of surfboard-makers from a single interview or one off meeting. Instead, extended engagement with the research participant community was needed.

### **3.3.1 Recruitment problems: time and trust**

Initially I approached relevant individuals unfamiliar with the researcher and invited them to participate in the research. Invitations to contribute to the thesis were extended verbally after introductions at a surfboard workshop, phone call or email communication. However, while potential respondents showed interest in the research, they did complain about the ‘hassle and time’ their involvement would require of them. The significant input of time needed of participants for observing work and conducting interviews meant that some workshops, while supportive of the research, could not afford to allocate time for the research. At two workshops approached in southern California business operators explained that they felt the research was ‘going to take too much time’ and would ‘interrupt their work’ (Research Diary (RD) entry, October 2008). The potential infringement on their production was too great a risk for these workshops, despite expressing initial interests in the research via email correspondence. With surfboard-makers on a tight schedule to complete boards or take new orders, time spent talking to a researcher was potentially less time being invested on the operation of the business.

In addition, potential respondents also noted how they were uncomfortable taking someone unfamiliar to them through production spaces, which were potentially dangerous and often home to valuable materials, tools and equipment. These issues related to researcher/participant trust. Some workshops explained that while the research ‘sounds really interesting’ they were not ‘able to help’ (RD entry, November 2008). Questions were often asked by potential respondents about how the thesis would provide them with benefits that would justify their time and effort (RD entry November 2008). Further, I also hoped to gain access to workshops where production was taking



place, so that work could be observed, rather than only relying on surfboard-makers being interviewed out of context. Those workers who were interviewed after they had completed work for the day helped me document the amount of time, effort and money spent on crafting a surfboard, but could only provide limited assistance with understanding how individuals performed their work, how they interacted with other workers, tools and customers. A research diary entry from an experience with a Wollongong surfboard-maker, illustrates these barriers to research participation (Box 3.1):

**Box 3.1: Research Diary Entry 9, 15<sup>th</sup> November, 2008**

***The recruitment problem!***

Today I finally got into contact with Chad, a local surfboard-maker, who I have been calling for the past 2 weeks. I got the opportunity to speak with him this afternoon and I started our conversation by telling him about my own surfing interests and background, before I explained the focus of my research. It was interesting because just like some of the Californian workshops I talked with, Chad was noticeably interested in the project and told me over the phone; ‘cool, that sounds like a really good project’. So while I was pretty confident I could get Chad involved, we had some problems again with the design of the research overall.

When I told Chad that I would like him to take me on a guided tour through his workshop or the spaces where he shaped his boards and allow me to interview him every couple of months, he paused over the phone. After a second or two – I kind of knew now what was coming – he told me that it would be hard for him to allow me to come into his work and do that. Chad was not the boss of the business and if I wanted to watch him work, there was a good chance the boss ‘might get upset and think that I was distracting him’. He told me how focused you should be when in the shaping bay and that he could probably only give me an interview or at the most a quick show through after work. The catch being that if I paid for a board, then I would be able to come in and watch how things happened. The problem was I couldn’t dish out \$600 every time I wanted to do an interview and tour with a shaper. I would go broke pretty quickly!

So after this knock back I asked myself what could I do to fix this? I could sense the hesitation and tried to manoeuvre around it but felt like I hit a road block... what I have realised today is it is time to sit down and have a re-plan of how exactly I will get in touch with the right people who can work and allow me to watch. Maybe I go straight to the owner of a business, that might be a solution; engage them more. Clearly I need to gain trust but I also need to find a way to make it seem as though I am there to observe, not get in the way, distract or be a pain in the arse. The easier I make it the more people are likely to part with their time to participate. Therein lays what I now think is the key problem.

**3.3.2 Recruitment success: utilising social networks**

After unsuccessful attempts at recruitment the design of the thesis was adapted to make use of and engage more with existing social networks and friendships. These connections became crucial for the research, not only within Australia but extending to

Hawai`i and southern California. Because of the unique social interactions that surfing promotes, many surfers develop friendships and social networks across different surfing locations around the world. Travel to different places can enrol surfers in tight social bonds (Waite and Warren 2008). In previous work on the masculine performances of ‘men who surf’, Evers (2005) highlighted the importance of utilising personal friendships and acquaintances when doing qualitative research. Given the barriers to successful recruitment faced in the early stages of the thesis, a similar approach was adopted.

Indeed the use of existing social contacts had a number of important benefits to the ethnographic quality of the research. First, as I had built on already-existing social networks, I was better able to more precisely read and make sense of the different interactions, exchanges and discussions that took place in a workshop, including the embodied sensory entanglements and displays emotion by participants, identified through their tone of voice, expression, movements or body language (Wood and Smith 2004). The trusting participant/researcher relationship was already there because of social networks, vital in helping to identify the emotional dimensions of the creative work (Wood and Smith 2004).

Second, the closeness of the researcher/participant relationship was important for determining how likely an individual was to give up their time and access in participating in the research. If the relationship was distant and impersonal, then an individual was unlikely to allow me into their personal spaces of work, nor give them any of their valuable spare time. In contrast, a close, trusting relationship became essential, often allowing ready access to participants and their sites of interaction. Finally, the other significant advantage of drawing on existing social networks related to

the flexibility it provided research design. Regular, sustained conversations and catch ups between respondents and researcher allowed the research process to be adapted individually, with problems more easily resolved. The repeated failure to recruit participants unknown to me resulted in acknowledgement that the thesis needed to make greater use of these personal relationships. In this way the complications in recruitment helped shape the broader research, including specific tools utilised in the study of the surfboard industry.

By engaging personal friends directly during surf sessions, at a local social club or workshop, it became possible to further extend these networks. After contacting a number of surfboard workshops already known by the researcher, snowballing and word of mouth then provided access to a greater number of respondents. While some workers were not personally known before commencing the research, many of these acquaintances became friends as the research evolved and traversed across the three year period. Adding to the recruitment of individual surfboard workshops was access to online forums and business websites, where an even wider number of surfing enthusiasts interacted over relevant topics. These online forum discussions allowed broader recruitment to occur, also assisting with organising suitable places to meet and conduct interviews, participant observation and guided work tours. They also helped gain access to other industry figures, including within surfing mega-brands, some of whom were additionally interviewed. Indeed, notwithstanding the speed and reach of online communications in the surfing world, face to face meetings remained crucial to the overall success of the research.

Finally, the thesis also had the advantage of being nested within a broad Australian Research Council (ARC) linkage project, held by my supervisor, Chris

Gibson, called Cultural Asset Mapping in Regional Australia (CAMRA). This involvement facilitated access to a wide variety of creative practitioners, cultural planners, government representatives and cultural organisations. These voices were valuable in building up understandings for how cultural production has been more broadly defined in planning and policy circles in both Australia and the United States. But crucially, the CAMRA project had financed an interactive website, which also enabled the researcher to post regular updates and planned meetings/shows to subscribed members, allowing interested followers to participate in forums, blogs and ‘webinars’ (see <http://culturemap.org.au>). These sessions were held around different cultural arts and creative topics, helpful in providing key contacts for the thesis.

Through these means, and over a three year period, from August 2008 until August 2011, the thesis recruited a total of eighty-seven professional surfboard industry workers (Table 3.2). It is their stories and experiences that form the empirical spine of the thesis.

Table 3.2: Workshops participating in the thesis.<sup>11</sup> (source: Author)

<b>Workshop</b>	<b>Location</b>	<b>Number of Workers</b>	<b>System of Production</b>	<b>Size</b>	<b>Markets</b>
Aipa	O`ahu	3 (2 full-time, 1 casual)	Custom hand-shaping and computerised	M	LD, LR, NI, EI and ER
Arakawa	O`ahu	15 (7 full time, 8 casual)	Custom hand-shaping and computerised	L	LR, NR, NI, EI and ER
Bushman	O`ahu	3 (1 full time, 2 casual)	Custom hand-shaping and computerised	M	LD, NR, ER
Cheater 5	O`ahu	2 (1 full time, 1 casual)	Custom hand-shaping and computerised	S	LD, NI
Kimo Greene	O`ahu	3 (1 full time, 2)	Computerised shaping	S	LD, NI, EI
Tore	O`ahu	2 (1 full time, 1 casual)	Computerised shaping	S	LD, NI, EI
Barker	S. California	3 (1 full time, 2 casual)	Custom hand-shaping and computerised	M	LD, LR, NR, ER
Bessell	S. California	4 (2 full time, 2 casual)	Custom hand-shaping and computerised	M	LD, LR, NI, NR, EI, ER
Senate	S. California	6 (3 full time, 3 casual)	Custom hand-shaping and computerised	M	LD, LR
Sauritch	S. California	2 (2 full time)	Custom hand-shaping	S	LD
D`Arcy	Gold Coast	7 (3 full time, 4 casual)	Custom hand-shaping and computerised	L	LD, LR, NI, EI
Diverse	Gold coast	10 (5 full time, 5 casual)	Custom hand-shaping and computerised	M	LD, NI, EI
Intruder	Gold Coast	4 (1 full time, 3 casual/contractors)	Computerised shaping	S	LD, LR, NR
Mt. Woodgee	Gold Coast	7 (4 full time, 3 casual contractors)	Custom hand-shaping and computerised	M	LD, LR, NI, EI
Byrne	Illawarra	6 (4 full time, 2 casual)	Custom hand-shaping and computerised	L	LD, LR, NR, ER
CHC	Illawarra	2 (1 full time, 1 casual)	Custom hand-shaping and computerised	S	LD, LR
CSD	Illawarra	3 (2 full time, 1 casual)	Custom hand-shaping	S	LD
Skipp	Illawarra	5 (3 full time, 2 casual contractors)	Custom hand-shaping	M	LD, LR, NI

**Key to Table 3.1:**  
**Size of the business:**  
S= Workshop produces less than 500 surfboards annually  
M= Workshop produces between 500 and 1,000 surfboards annually  
L= Workshop produces more than 1,000 surfboards annually  
**Surfboard markets:**  
LD= Localised sales occurring direct from the workshop  
LR= Localised sales occurring from retail outlets within the region  
N= National markets accessed through NI= internet orders, NR= retail outlets

<sup>11</sup> To ensure confidentiality the names of individual participants in this thesis are represented using pseudonyms. Also where sensitive material is discussed (worker conditions, wages, feelings towards an employer etc.) the name of a workshop has been removed. This is to ensure that both workshops and workers can not be identified. While workshops could have been given pseudonyms throughout the thesis, businesses wanted their participation formally recognised where possible.

### **3.4 Maintaining ethical research**

Ethics have become an increasingly important consideration for human research.

According to Cloke et al. (2004) this importance relates to the uneven distribution of social power that surrounds a researcher gathering in-depth, highly personal material. Using entries from the research diary, this section demonstrates a number of ethical dilemmas which the thesis needed to consider and overcome. Following Hammersley and Atkinson (1995) the specific requirements for ethical research can be grouped into five categories, including: i) informed consent, ii) privacy, iii) harm minimisation, iv) exploitation, and v) sensitivity to cultural difference and gender. Informed consent is concerned with participant's well-being and welfare during the process of conducting research and is achieved through the distribution of a research information sheet and consent form to all workshop owners and individual surfboard-makers that became involved in the thesis. This information was afforded to all potential respondents before any participation commenced. Forms clearly positioned the rights of individuals during interviews and data collection, providing consent for the use of their oral, written, photographic or visual material. The consent form also allowed for participants' identities to remain confidential.

There was however an ethical dilemma around privacy because increasingly intimate knowledge and criticisms were articulated by participants towards competitors and other businesses. In attempting to maintain privacy, I have at times used pseudonyms for individuals, customers and competitors. Participants provided in-depth information which assembled clear narratives of their life: work, personal interests, family backgrounds, emotions, attachments, wages, working conditions and memories. On several occasions respondents voiced opinions and thoughts about opposing

surfboard workshops, bosses and fellow workers. This information and opinion was deemed important for the wider thesis and its aims, and therefore needed to be captured. So as a way to retain privacy it became necessary to use pseudonyms in some instances – though where not preferable or simply impossible (such as when citing iconic board-makers, or where including photos of them and their boards) real names have been retained. The following RD entry from a meeting with a local surfboard-maker, demonstrated this ethical predicament and a moment when pseudonyms became necessary (Box 3.2):



**Box 3.2: Research Diary Entry 17, 21st January, 2009**

This afternoon I met with Mick in his surfboard workshop and like usual we began having a chat about how his business was going and what work was like for him and Snake...I have known Mick for a number of years now and he shapes my own surfboards. In his 60s, Mick is adamant he is retiring at the end of next year, just going to walk away, live down the coast and shape old school classic boards for close mates. I tell him he will be sadly missed and so will his skills, but he tells me 'ah, fuck, it's Mick time now you know? Working 6 days a week for forty years, I've earned some time off'. I certainly can't argue with that...

Mick and I got chatting about the new surfboard shop which had just opened up down the street...This now means that there are four surfboard shops located within a two km stretch in the city. Mick was lamenting some of the problems and changes enveloping the surfboard-making industry, and began explaining to me the tensions in production techniques etc, and how he felt this was negatively impacting on the art of making surfboards. Anyway, Mick is very passionate about this and he was openly critical of shifts occurring within the surfboard-making business...As he is telling me about all the things wrong with this new shop opening up just a few hundred metres down the road from him, it occurs to me that I have a problem of privacy and confidentiality boiling up here.

I realise Mick has a right to his opinion, and with his knowledge and experience in the industry I think its worth documenting. I need to include this, I feel. But the problem is I also need to remain removed from these opinions and make sure that this business, which Mick – a respected and well known local surfboard-maker – is critical of, cannot be identified. If I was to refer to the shop I could potentially cause all sorts of hassles, and this is something I want to definitely avoid... I keep taping our interview, and I realise in my mind that the best way to negate this is by using pseudonyms for the project. It just hits me actually; otherwise I can not maintain privacy and confidentiality, not to mention trust with these people. I hadn't planned to use them at first, mainly because I thought they take away something instantaneous and real in the research process, but today, combined with some other interviews I have done over Christmas, left me in no doubt that pseudonyms are a must for maintaining an ethical research project... Wollongong is not a big city and I would hate for anyone to be hurt or damaged by anything presented in the thesis or published work that might come from it. I am convinced this is the best option.

To further ensure participants felt relaxed and comfortable throughout the research process, all interviews and catch-ups were held in familiar locations, suggested by those interviewed including workshops, home garages, public car parks and beaches. Here, trusting research relationships became an important benefit for the thesis, allowing for

open, honest discussion and rare insights into personal thoughts and feelings. Participants were always given the opportunity to review interview transcripts and photographs and could withdraw anything they felt was inappropriate or taken out of context. Occasionally participants would reveal to me a snippet of ‘hot’ gossip (often involving drugs, bankruptcies and ‘broken promises’ between shapers), a rumour or overly frank opinion – and then quickly remind me not to quote them on this in the final thesis. I have sought throughout to remain true to these requests.

With the formation of close friendships an important part of this thesis, consideration also needed to be given to the possibilities for exploitation. To minimise this, a number of strategies were adopted. Over the three year period of research gathering, contact with individual participants involved in surfboard-making occurred on a regular and sustained basis. On occasions meetings and catch-ups were arranged at a local pub or club, where participants and researcher shared a meal or drink. At other times, help was given unloading surfboard materials from a supplier. This ‘everyday’ level of interaction and communication made sure research participants did not feel as though the researcher was exploiting their time, knowledge or feelings (cf. Kusenbach 2003). I now feel confident that participating surfboard-makers enjoyed the catch-ups and opportunities to discuss their latest work, designs and experiences.

Finally, sensitivity to difference became an ethical consideration because participating individuals were from diverse cultural and socio-economic backgrounds. From a white, Anglo-Australian background, I needed to be aware of the different cultural customs and values amongst participants, which included Native Hawaiians. On occasions participants used offensive or sexist language when discussing their experiences and activity, deciding how to re-represent this became sensitive, as it was a

goal to provide an accurate representation of individual thoughts and feelings. Hence, use of offensive, sexist and prejudiced language in surfboard shops is documented with the protection of pseudonyms to reveal structures and hierarchies of cultural participation, further unlock an understanding of the different creative activities practiced and performed, the operation of power within cultural work, and what work means in the context of people's everyday lives.

### **3.5 The research methods**

Careful consideration was given to the research approach, selection and use of different research methods. The work of surfboard-makers is artistic, time-consuming and physically intensive, meaning that methodologies needed to be appropriate to the theoretical context and research aims of the thesis, while also not getting in the way of workers going about their daily duties. Human geographers have discussed the use of appropriate methodologies that can capture respondent's important emotional responses and use of embodied knowledge for doing artistic work (see for example Latham 2003; Crang 2005). Given the design intensive nature of the industry respondents could also become wary of unfamiliar researchers asking questions about personal aspects of working lives. To overcome these potential problems, workshops, their individual workers and spaces of interaction shaped the research tools implemented (cf. Ettlinger 2010).

#### **3.5.1 Participant Observation**

The production of field notes is the observer's *raison d'être*: if you do not record what happens you might as well not be in the setting. (Fielding 1993 p 161)

For Bryman (2004 p 291) participant observation involves the ‘extended involvement of the researcher in the social life of those he or she studies’. In this thesis the degree of participant observation implemented varied between workshops. In some workshops significant time had to be spent getting to know business owners and individual workers before further data collection could begin. On other occasions where workers or workshops were known to the researcher and there were existing friendships in place participant observation was used to confirm respondent stories. Implemented in different ways depending on the research context, it became necessary to distinguish between participation and observation (Dewalt and Dewalt 2002).

In cases where close trusting relationships were established early on in the thesis or participants were existing personal friends, the methodology involved assisting with specific jobs, including handing over different tools or materials, holding a piece of equipment or giving an opinion on how a new board looked. For others, less well known as the research commenced, trust needed time to develop and so initial participant observation involved watching, listening and asking questions about what a respondent was doing (Bryman 2004). Differences were apparent in the ways participant observation was implemented. Participation involved actively engaging in the selected activity similar to any other member. Observation involved looking over the activity from the ‘sideline’, not actually becoming involved in the practice or performance of the work. I employed a form of participant observation where I could participate, even assist with work and activity, but remain in a position which marked some point of difference.

### **3.5.2 Semi-structured interviews**

Semi-structured interviews were regularly used throughout the duration of the study to document the various experiences, motivations and thoughts of participants. Interviews became a way of introducing the research, allowing respondents the chance to familiarise themselves with me, and better understand the dynamics of their cultural work. Interviews were most often held inside a workshop, at a popular local beach or break. As a conventional research tool, semi-structured interviews enabled insights into the thoughts and reflections of work and activity and provided reams of quotable narrative material; however they were also limited in their ability to uncover the more immediate and embodied participant knowledges (Crang 2005).

For Crang (2005) this limitation relates to the fact that semi-structured interviews are often directed out of context, divorced from ‘in the moment’ performances or acts. This constrains an interviewer’s ability to capture how people move through space, make sense of their work/play, interact and form bonds with others and how respondents use their senses and emotions in their day-by-day interactions in the world. Therefore, rather than relying on semi-structured interviews alone, it was necessary for the thesis to consider other techniques and methodologies which could explore and reveal the embodied trajectories of surfboard-making.

Consequently I made additional use of participant observation, guided participant tours, online group discussions and archival research. Most of these tools were used in situ rather than out of context, allowing for the more immediate ‘in the moment’ thoughts, expressions and responses to be documented and analysed.

### **3.5.3 Guided participant work tours**

For this study, participant observation was structured around guided participant work tours. Following the autobiographical methods of Gorman-Murray (2006; 2008) each of the eighteen workshop owners were invited to provide a guided tour through their surfboard-making business. The tours involved respondents ‘showing off’ their workshop spaces, production tools, technologies and workers, taking the researcher on a ‘ride’ through individual processes of designing a new custom board, shaping a blank, detailing some artwork or glassing the surfboard to ensure it was waterproof (Figure 3.1). These tours took place in the different work places – the material spaces of creativity for surfboard-makers in Hawai`i, southern California, the Gold Coast and Illawarra regions. Larger businesses tended to have workshops fitted out in an industrial style warehouse, while several of the smaller operators had re-configured a home garage or surf-shop, turning it into a space for cultural production.

In starting their tour, participants were prompted to ‘go over’ how they went about making a new board for a customer – outlining creative inspirations, how work was performed, how much time was taken for different jobs, how much money was invested in the different stages of production, how much boards sold for, how many were produced annually, and what personal and professional networks were drawn upon for assistance or direction in the running of the business.



Figure 3.1: Dino, a shaper and surfboard repairer from Intruder Surfboards on the Gold Coast taking me on a guided work tour through his workplace. (source: Author)

Within workshops different workers and owners were observed going about their jobs so that the process of completing a surfboard could be closely studied. In this way each narrative outlined on a guided tour was an individual, oral, and spatial autobiography, focused on networks and systems of production within the material space of the workshop. Tours were captured using an audio recorder and digital camera, while notes were also taken down in a research diary. Questions were posed to each participant throughout their tours, which varied in length from two to nine hours. Once transcribed, tour and diary notes provided context for further questions during follow-up meetings and conversations. Each participant spent many hours discussing their surfboard-making once a close, trusting relationship was established. This included not

only observing and understanding the performances of their everyday work, but often involved meeting family and friends, attending surfing competitions, going surfing together or generally ‘hanging out’ in particular spaces of the region (cf. Kusenbach 2003). This ensured reflections, emotions and experiences were still ‘fresh’ in their minds and bodies. Each workshop provided an in-depth guided work tour between August 2008 and August 2011.

Throughout the thesis guided participant tours – coming under the umbrella of participant observation – became arguably the most important research tool utilised. Not only were workshop owners able to articulate the finer details about how a business operated and traded but individual workers could also be observed going about their duties, where conversations often opened up into deeper discussions about personal work histories, experiences and general feelings and attachments to work. The forms of knowledge and awareness that developed between researcher and participants enabled the ‘reading’ of facial and bodily expressions and display of emotion. Observing respondents performing their creative work brought into focus the messy mixture of feelings that were induced in the production of surfboards.

### **3.5.4 Archival research on the surfboard industry**

Surfboards have been crafted in various parts of the Pacific Islands for at least 1,500 years. This meant that an important element to the thesis became understanding the historical legacies of surfboard-making, especially in Hawai`i, which was a case study region of the thesis. To chart the ritualistic processes and techniques of surfboard production from pre-contact Hawai`i, archival research was undertaken at the Bernice Pauahi Bishop Museum of Cultural and Natural History in Honolulu, O`ahu. In total



three days (6<sup>th</sup> to 8<sup>th</sup> April 2011) were spent in the Bishop Museum's archives, where analysis of historical records, film, photographs and collected surfboards was undertaken. Several early observational accounts (most from early colonial migrants) were found that described early forms of Hawaiian surfing (some of these were included in Chapter 1 of this thesis), along with records from the work of nineteenth-century anthropologists such as Nathan Emerson, which described the process of traditional surfboard production in Hawai`i.

Using the museum's archives, field diary notes were taken to highlight the particular rituals, beliefs, ceremonies and techniques that governed Hawaiian surfboard-making. Conversations were also held with Bishop Museum archival staff that helped greatly in accessing relevant books, recordings, collections and photographs. In addition, Hawaiian surf historian Isaiah Helekunihi Walker (see Walker 2011) assisted with translating Hawaiian language and clarifying terms.

While Hawaiian historical legacies of surfing and surfboard-making were crucial for tracing out the ritualised processes and forms of knowledge drawn on in early surfboard-making, the development of surfing culture in California and Australia was also important for research context. As surfing became popularised over the early twentieth-century surfboard-making in each case study region developed into a commercial industry. To assist with detailing the central figures, workers and inventors in the early stages of this surfboard industry similar archival research was undertaken at the Surf World Heritage Museum in Currumbin (Gold Coast) and at the Surfing Heritage Museum in San Clemente and the California Surf Museum in Oceanside. The collection of surfboards, stories and records at these museums were used to map out the important moments of design and technological change, shifts in the use of materials,

scales of production and the central figures behind the important moments in surf industry development. While not the central focus of the thesis this historical background provided useful perspective for conceptualising the wider surf industry, the role of surfboard production and in particular the prominence of key surfing individuals, as pioneers of innovation and creativity.

### **3.5.5 Online forums and discussion boards**

In addition to archival research on the heritage of surfboard-making, participation in online forums and discussion boards provided important information and insights into the surfboard industry. Here two website forums devoted to surfboard-making and surf culture were monitored over the three year duration of the thesis: *Swaylocks*, and *Swellnet*. As a member of each forum, I was able to raise questions and issues to a broader community of surfboard-makers, while I also gauged responses and thoughts from surfers that regularly purchase boards.

The first website monitored – *Swaylocks* – is a specialised surfboard design forum, with over 5,000 active international members. On the website hobbyist and professional makers discuss issues of board design, construction, the state of the industry and local markets, surfboard art and history ([www.swaylocks.com](http://www.swaylocks.com)). As a member of Swaylocks the thesis had open access to discussions that took place on the website, which was monitored weekly for updates and relevant information. This became a valuable source of information on the use of the latest materials, design ideas, upcoming events or issues affecting makers. Questions could then be posed to individual workshops participating in the thesis to collect their insights. At times throughout the thesis questions were also posed to other makers on Swaylocks to clarify

production processes, costs for materials or to broaden insight into the wider surfboard industry.

The second website forum utilised by the thesis was *Swellnet*, particularly its surf politics forum ([www.swellnet.com.au/news/surfpolitik](http://www.swellnet.com.au/news/surfpolitik)). With a much larger group of online users – Swellnet has more than 50,000 members in Australia and the United States – discussion here was much broader than that monitored on Swaylocks. Nonetheless conversations about surfboards were common on the Surf Politics forum, especially during the duration of the thesis, which coincided with a number of heated debates about the state of the surfboard industry, differences in quality between locations where boards were made, preferences for different types of boards and the future of smaller, localised workshops. Also monitored on a weekly basis, the benefits of the Surf Politics forum was that insights from consumers, as well as makers could be collected. Again, questions were posed to surfing communities on different issues and themes relating to surfboard-making, which often triggered snowballing conversations and provided a diversity of opinion. Relevant exchanges taken from both websites were transcribed and form an important data source for the thesis.

### **3.5.6 Quantitative sketches**

In-depth ethnographic methods were supported by a quantitative analysis of the size and extent of the wider surf industry. This included examining the two largest corporate surf firms (Billabong and Quiksilver, Inc, which in both cases maintain surfboard production arms), analysing annual financial reports, sales figures, share volumes and geography of key markets. In addition I sought the assistance of the U.S. Surf Industry Manufacturers Association (SIMA), which biannually measures the size and extent of surfing industry

in the United States (similar data was unavailable in Australia because no representative industry body yet exists for surfing). A custom data request was submitted to SIMA, and the resulting information provided valuable context on the dynamics of the surf industry. Quantitative data on the economics of small surfboard-making workshops was also provided by workshops themselves in interviews, guided work tours or subsequent email conversations, and is presented at various points, especially through Chapters 4 and 5.

### **3.6 Narrative analysis: making sense of the research**

The final methodological dimension of the thesis pertained to analysing the large volume of qualitative research material. Across the three-year duration of the research, with eighteen different workshops in four case study regions, close to 300 hours of audio was recorded from interviews, guided participant work tours and participant observation sessions. There were also written research diary notes, and thousands of photographs, email conversations and online forum discussions that required analysis. With such a large amount of material, a problem thus concerned an appropriate method to accurately present the data – making sure not to exclude or overlook important voices and their stories, which would reduce the validity of the research. For participants from the Gold Coast, Illawarra, O`ahu and southern California making surfboards constituted their livelihood, and given the in-depth nature of the data collected, narrative analysis became the most appropriate method to interpret their stories.

As a form of discourse analysis, narrative analysis is argued to be a more sensitive way of writing fieldwork into research, particularly relevant for geographic research as it ‘focuses on how people talk about and evaluate places, experiences and

situations, as well as what they say' (Wiles et al. 2005 p 89). In geography, narrative analysis has been implemented differently, based upon contested understandings (see Skelton and Valentine 2005; Gorman-Murray 2006). Both Moss (1997: 2001) and Skelton and Valentine (2005) used three narratives to exemplify different themes, approaches or conceptual outcomes from a research project. Each narrative represented a distinct, separate strand of argument emerging from the research, and became conceptualised as a discrete outcome of the study process. A further approach (see Kuntsman 2003; Gorman-Murray 2006) is where three or more narratives are used as 'case studies' to demonstrate different aspects of the same conceptual outcome. In these cases, differences are brought out across the narratives to build up a range of emergent 'themes' that reinforce the same point but from different perspectives.

For this thesis, narrative analysis was deployed following this latter approach: analysis needed to be sensitive to the individual narratives, providing the opportunity to acknowledge how each respondent built up their own knowledge, skills, networks, markets, experiences, opinions, feelings and beliefs. Narrative analysis enabled the identification of common themes amongst participants from different geographic locations, expressed through their interviews and guided workplace tours.

What distinguishes narrative analysis from other forms of qualitative assessment is the attention it places on the structure of an individual's narrative as a whole (Rice and Ezzy 1999). While other qualitative methodologies can fragment texts or people, via the process of observation and interpretation, a narrative analysis works with broader units of investigation, such as whole interviews or participant tours (Rice and Ezzy 1999). Narrative researchers generally work within the interpretive paradigm, an approach to study that promotes people as active subjects (rather than objects) in a

social world where reality is constructed through the everyday practices of work, social interactions and experience. Thus understanding the social world requires researchers to explore the meanings and motives people bring to their everyday experiences, to develop an understanding or explanation of where those meanings and motivations come from and how they may shape an individual's life.

According to Riessman (1994), narrative interpretation takes as its focus the individual's story. This quality made it most responsive to the type of ethnographic research undertaken in this thesis. Here narrative thinking becomes very different to scientific rationality, which attempts to reach achieve its findings from logical, well informed arguments, 'designed to convince truth through reference to repeatable scientifically constructed empirical tests' (Rice and Ezzy 1999 p 119). The aim for scientific rationalists is to produce general laws, applicable to particular events, which will explain why things occur (see Rice and Ezzy 1999). However, many human geographers argue that everyday life is more complex and messy than over arching scientific rationalities, limited in their understanding of individual human action, motivations, attachments, interactions and behaviours (see Chapter 2). Thus a narrative analysis attempts to understand and acknowledge how daily or normal processes are interpreted by individuals through their place in the narrative.

In this thesis it was crucial to pay attention to *how* participants talked about their work, skills, social networks, conditions and memories, as well as *what* they said. It became possible to read nuanced body language, gestures and felt responses given the close trusting relationships that crystallised between the researcher and research participants. I became friends with several participants through shared passions for surfing. The use of a narrative analysis therefore allowed the researcher to shift from

forms of analysis and interpretation that down-play the ambiguities of interview talk and discussion, to a thesis which could use such conversations in representing participants' stories (Hoggart et al. 2001). Making surfboards is conceptualised as vibrant, dynamic and artistic activity which invoked not only shared discourses but also very personal creative attitudes, views, opinions, experiences, interactions and beliefs. The implementation of a narrative research analysis for interviews, guided work tours, RD notes, online forum discussions and other research talk revealed stories about the qualities, values and dimensions of a unique form of cultural production, including deep reflection on involvement in the surfboard industry.

### **3.7 Conclusions**

In the context of this thesis the most intricate feature of undertaking in-depth, qualitative research was gaining entry and acceptance within a group of cultural workers whose personal lives would become the subject of scrutiny and interpretation. Rather than a problem, researcher positionality was negotiated and eventually presented an advantage for doing ethnographic work. At stages existing knowledge about surfing and the dynamics of the surf industry assisted in successfully recruiting participants. At other times existing surf contacts and social networks were drawn upon to help build trusting relationships with surfboard-makers across different locations. Acknowledging that ethnographic work involves researchers spending a considerable amount of time in the field, talking and participating in the lives of subjects, I argue that close relationships between researcher and participants allowed the reading and understanding of individual expressions, attachments, movements and body language.

Having outlined the methodologies used in the thesis, I now turn to examine the results of the ethnographic work, presented through four inter-related chapters. These in turn discuss hand-making and automated systems of surfboard production; the shifting fortunes of making surfboards by hand for a living; and the emotional, gendered and embodied dimensions of this distinctive form of cultural work.



# 4

## **‘Made by hand’: a system of custom production**

### **4.1 The surfboard: crafting, developments and designs**

Whenever from stormy weather or any extraordinary swell at sea, the impetuosity of the surf is increased to its utmost heights, they choose that time for their amusement... As soon as they have gained...the smooth water beyond the surf, they lay themselves at length on their board, and prepare for their return. (Lieutenant James King, March 1779, Kealakekua Bay, Hawai`i, on board *Discovery*)

In the four case study regions profiled in this thesis, important moments of surfboard design, material development and commercial growth took place around groups of creative surfing innovators and entrepreneurs. In a traditional artisanal approach to surfboard-making, the hands and hand-based skills, craft tools and knowledge are the

basis for creating personal, customised surfboards. These are made from locally-based production centres where the craftsman and customer meet and come to know each other. Yet modern computerised production methods have prevailed, and have brought about a number of important changes in the way surfboards are designed, made and purchased. An emerging automated or mechanised system of production (discussed in Chapter 5) now operates within the surfboard industry on a very different scale of economy to traditional manual approaches that are the focus of this chapter.

Why hand-based and automated production have been separated in this empirical analysis relates to significant differences in terms of production focus, market scales and the relationships and interactions between workshops, makers, customers and tools. In parts of my analysis I re-visit Theodor Adorno and Max Horkheimer's (1977) much critiqued culture industry concept to help think through changes in the surfboard industry (see also Adorno 1980; 2004). Crucial to my analysis is not so much the degree or level of technological integration within a 'system' of production (the conscious and systematic way people make things), as Adorno and Horkheimer emphasised, but *how* technological change involves shifting relationships between surfboard-makers, customers and workshops (cf. Pratt 2004a). In this way technology represents a flashpoint for conflicts between labour and capital in the cultural industries, in much the same manner as radio and studio recording technology massively shifted the role and economics of live music performance in the 1920s and 1930s (Kraft 1996). This approach, I argue, is sensitive to key differences in the systems and scales of production for surfboards. In Hawai'i, southern California, Gold Coast and Illawarra a system of custom production continues to be followed by surfboard-makers using similar tools, knowledge sets and work practices to those that emerged from the 1950s and 1960s,

surfing's era of global ontogeny. This is contrasted against the computerised system in Chapter 5.

#### **4.1.1 Heritage: Hawaiian surfboard-making**

The ritualistic approach to surfboard-making has its historical roots in Hawai`i and involved the use of hand-based skills, specialised knowledge of the natural environment and suitable types of materials, along with unique crafting skills and creative abilities. Early surfboard shaping techniques were determined by the availability of materials and prevailing Indigenous societal norms. Hawaiian *Kāhunas* were often responsible for hand-shaping surfboards, which were called *papa he'e nalu* from *Wiliwili*, *ulu* and *koa* trees (Finney 1959). The work of surfboard-makers was strictly defined by *kapu* and began with the ceremonial blessing of a suitable tree – one which did not have any structural faults, and was the correct length and width. The ritualistic and pre-contact process for surfboard-making in Hawai`i has been described by surfing journalist Drew Kampion:

...a red fish called kumu was first procured...placed at its trunk. The tree was then cut down, after which a hole was dug at its root and the fish placed therein, with a prayer, as an offering in payment thereof. After this ceremony was performed, then the tree trunk was chipped away from each side until reduced to a board approximately of the dimensions desired. (Kampion 2007 p 43)

Once detached from the trunk using stone-fashioned axes, the semi-shaped length of timber was transported closer to the ocean. Here the more delicate crafting work took place in the *hale wa'a* – a sheltered shed-like structure where outrigger canoes and

surfboards were both completed. Each *hale wa'a* was built within the village *heiau*, an important ceremonial space for Hawaiians.

The finer shaping work on the timber board was performed using jagged coral limbs (*pohaku puna*), which often washed up along the Island's beaches after a storm or large swell. The *pohaku puna* was sharp and durable, suited to reducing the length and width of each surfboard. An *oahi* – rough and textured igneous stone – was then used as a sandpaper to remove the *adze* marks left by the jagged edges of the coral. This work achieved an even, smooth finish on each of the board's surfaces. Several weeks of physical labour could be needed in these early forms of surfboard-making, as scraping, cutting and sanding was needed to obtain the desired shape, length, depth and width for each board. During an interview in the early 1960s with *Endless Summer* film director Bruce Brown, Duke Paoa Kahanamoku explained the magnitude of the surfboard-making process for Hawaiian culture:

The stages involved in selecting a proper tree, cutting it down, preparing... treating it and finally launching it as a finished surfboard added up to a process that was fraught with labour, complexities and ceremonies... they strove for perfect balance, and sought to make the board fit the individual [for] whom it was intended. (Duke Paoa Kahanamoku, quoted in Marcus 2007 p 20)

This narrative not only articulates the Hawaiian system of surfboard-making but also touches on the way early forms of surfboard-making foreshadowed many of the same principles used in contemporary forms of custom production. While different types of timber have been replaced with foam, coral *adzes* and *oahi* stone with planers, surface form tools and sandpaper, there are many similarities in techniques, design and working process (see Table 4.1).

Table 4.1: Key design and material changes in the surfboard industry. (source: Author)

Surfboard design feature	Key figures	Characteristics	Location	Timeline
Solid timber boards- Koa, Ulu, Wiliwili, Balsa, Redwood, Cedar, Mahogany etc	Hawaiian <i>Kāhunas</i>	The first surfboards for stand-up surfing, able to ride across the breaking waves	Hawai`i, Tahiti, Samoa, Tonga and possibly other Pacific Islands	500BC-1930
Hollow design and single skegs	Tom Blake	Created lighter surfboards, while the fin provided extra turning ability	California but influenced by Hawaiian <i>olo</i> surfboards	1930-31
Fibreglass, twin fins, spoon noses	Bob Simmons, Joe Quigg, Dale Velzy	Move to even lighter, faster surfboards; extra turning ability	California; Simmons boards struggled in waves	1940s to early 1950s
Foam cores	Dave Sweet, Hobie Alter, Grubby Clark	The first foam surfboards were much lighter and easier to turn	California	1956
Shortboard Revolution	Bob McTavish, Dick Brewer	Foam cores allowed boards to be reduced in size while retaining their buoyancy. Emergence of modern surfing styles and tube riding.	Australia and Hawai`i	Early 1960s
The 3 fin ‘Thruster’	Simon Anderson	Introduces a three fin design, which provides extra speed of the bottom turn; power surfing in all wave types	Australia	1980-81
Epoxy resins, Surf Tech ‘sandwich’ blanks and carbon fibre	Randy French, Hayden Cox	Increasingly lighter, ‘flex’ boards, stronger than polyester resins and PU foam cores	California and Australia	Late 1990s to early 2000s

In addition to shaping, early Hawaiian craftsman also pioneered the sealing of surfboards, specialist work now referred to in the industry as glassing or laminating. The traditional timbers used in surfboard-making (such as modern foams) were porous, which meant they were lighter than dense materials, but it gave them the ability to absorb large volumes of water. A swollen waterlogged surfboard is undesirable for a surfer because it gains additional weight and thus stalls momentum on the wave (Marcus 2007). Sealing therefore became the best way to make sure each surfboard performed well on the wave and had a long life span.

The Hawaiian cultural practice of sealing involved both hand tools and the use of local flora to create viscous water-repellent pastes. While the different Hawaiian Islands and their surfers used a variety of different plant species for lacquering their surfboards, the process followed was quite similar. In observing the method, Nathan Emerson wrote that the sealing typically started with the burning of nuts from the Kukui tree (*Aleurites Moluccana*) to create an ash or soot (Emerson 1892). Leaves from the *Kukui* (now referred to as candlenut trees, which are the state tree of Hawai`i) or banana plants (*Musa* sp.) were then ground to create a liquid, which when mixed with the ash produced a dark coloured, thickened paste. This was carefully layered over the timber in the same way as a modern liquid resin is covered over foam surfboards. This practice brought out the fine grain of the timber and also produced a protective finish, which Emerson (1892 p 59) described as a ‘shining beauty’ (see also Finney 1959).

Other materials were also used to stain and seal surfboards including the root of the Ti plant (*Cordyline terminalis*), which Hawaiians call *moke ki*; juice from Banana buds; and charcoal of scorched Pandanus leaves, which are commonly found throughout Hawai`i. The buds, leaves and nuts were crushed and ground to a paste or burned and dried to make a thick lacquer-like substance. When the stain was applied to the board and dried, village *Kāhuna* then rubbed oil extracted from the nut of the Kukui tree, which according to Duke Kahanamoku gave ‘the surface an even glossier finish’ (Marcus 2007 p 21).

Other early techniques to seal surfboards made from *wiliwili* timber included the use of mud springs (Blake 1935). Completed shapes were often left in a mud pool for several days, so the absorbent surface of the timber was filled. When the board was left to dry the mud expanded and closely sealed the timber. Polishing and oiling the surface

resulted in the same shiny, gloss finish as using plant based materials (Finney 1959). These customary Hawaiian methods were protective, successful and efficient, with most surfboards subsequently re-sealed only as they began to absorb water. According to Ben Finney (1959) surfboards attained such a significant place in early Hawaiian culture they were often prominently displayed in the family *hale* (house) and wrapped in *kapa* cloth (similar to *tapa* cloth found elsewhere in Polynesia but made uniquely by Hawaiians) to preserve the timber.

Hawaiian craftsmen recognised that while the surfboard needed to be tightly waterproofed so it could ride waves without soaking up water, the work also had to be performed in such a way that the final product was aesthetically pleasing. This meant sealing a board to illuminate the natural grain of the timber, or sanding the rails to ensure they were smooth and gave the surfboard its distinctive shape. If a surfboard was damaged the owner would work to re-shape or seal the surfboard, to return it back to an original condition. So, not only did the surfboard need to perform well on the wave but it also needed to look good.

As surfing participation dispersed geographically from the turn of the twentieth century, so too did the production of surfboards. The post-1900s era of surfing has been characterised by rapid changes in techniques and tools for surfboard production, alongside the introduction of foam, fibreglass and more revolutionary surfboard designs, including the short, streamlined, three-finned ‘thruster’. This has been the surfboard’s key era of technical innovation.

#### **4.1.2 Contemporary innovations: foaming, glassing and thrusting**

In the early twentieth century surfboards were being made by enthusiastic surfers along Waikīkī beach in Hawai`i – the then surfing hub of the world – and in coastal garages and beachside storehouses around California’s Malibu, Santa Monica and San Clemente. In Australia, surfing in the early twentieth century was still not widely practiced (Booth 2001) and very little is known about early forms of surfboard-making until after the 1950s. Despite surfing being revived in Hawai`i in the early twentieth-century and becoming especially popular with groups of western tourists, the early scenes observed along the Hawai`i, Californian and Australian coastlines did not resemble the crowded and busy surfing beaches and line-ups of today, as Californian surfer and photographer Doc Ball explained:

When I started [in 1929], there were probably 15 or 20 [surfers] around the whole [California] coast. But, they were mostly all in southern California where the water was warm. (Ball 1946 p 8)

Even by the mid-1920s there were only a few dedicated regular surfers in California compared with the two million spread across the state today (Marcus 2007).

In its infancy, the pre-World War Two surfboard industry continued to use different types of buoyant hardwoods in production. In Hawai`i, shapers used remaining sources of *koa*, *ulu* and *wiliwili* trees. However, these were in such diminishing supply (especially *wiliwili* and *ulu* trees) that types of balsa (*Ochroma pyramidale*), and redwood (*Sequoia sempervirens*) timbers were being sourced from the mainland US or imported from South America (Kampion 2007). Californian and early hobbyist Australian shapers also used different types of mahogany, cedar and other hardwoods in their board-making. Surfboards of this era were constructed from whole cuts of solid



timber, shaped using sanding blocks and chisels to suit the rider's needs. As a solid timber 'plank' each surfboard weighed more than 120 pounds. Their size, volume and weight made them difficult to transport and they were only suited to riding 'slower', 'gently' breaking waves found around Malibu, Waikīkī and Sydney's Manly beach (Finney 1959).

An important development then occurred in 1931, when enthusiastic American surfer Tom Blake patented a revolutionary hollow timber surfboard design. The influence and story of Tom Blake is particularly important for the emergence of commercial surfboard production. Blake was born in Wisconsin and after a chance meeting with Duke Paoa Kahanamoku he became interested in water sports. After moving to the West Coast, Blake 'first rode California surf in 1921' at the age of 19 (Blake 1935 p 10). As he refined skills in the water and became a competent paddle boarder and open water swimmer (he held the open water 10 mile swimming world record) Blake's interest increasingly turned to surfing (Gault-Williams 2005; Marcus 2007). He developed his wave riding skills working as a lifeguard, swim instructor and film stunt man at Santa Monica beach. After returning from a trip to O`ahu where he again met up with Kahanamoku, by 1926 Blake was working on a surfboard designed with a hollowed-out inner core (Blake 1935). The board was supported by individually shaped transverse ribs, positioned along the length of a timber frame. Thin Balsa wood veneers were then placed over the skeleton frame and sealed using brass screws placed every inch along the deck (Figure 4.1).

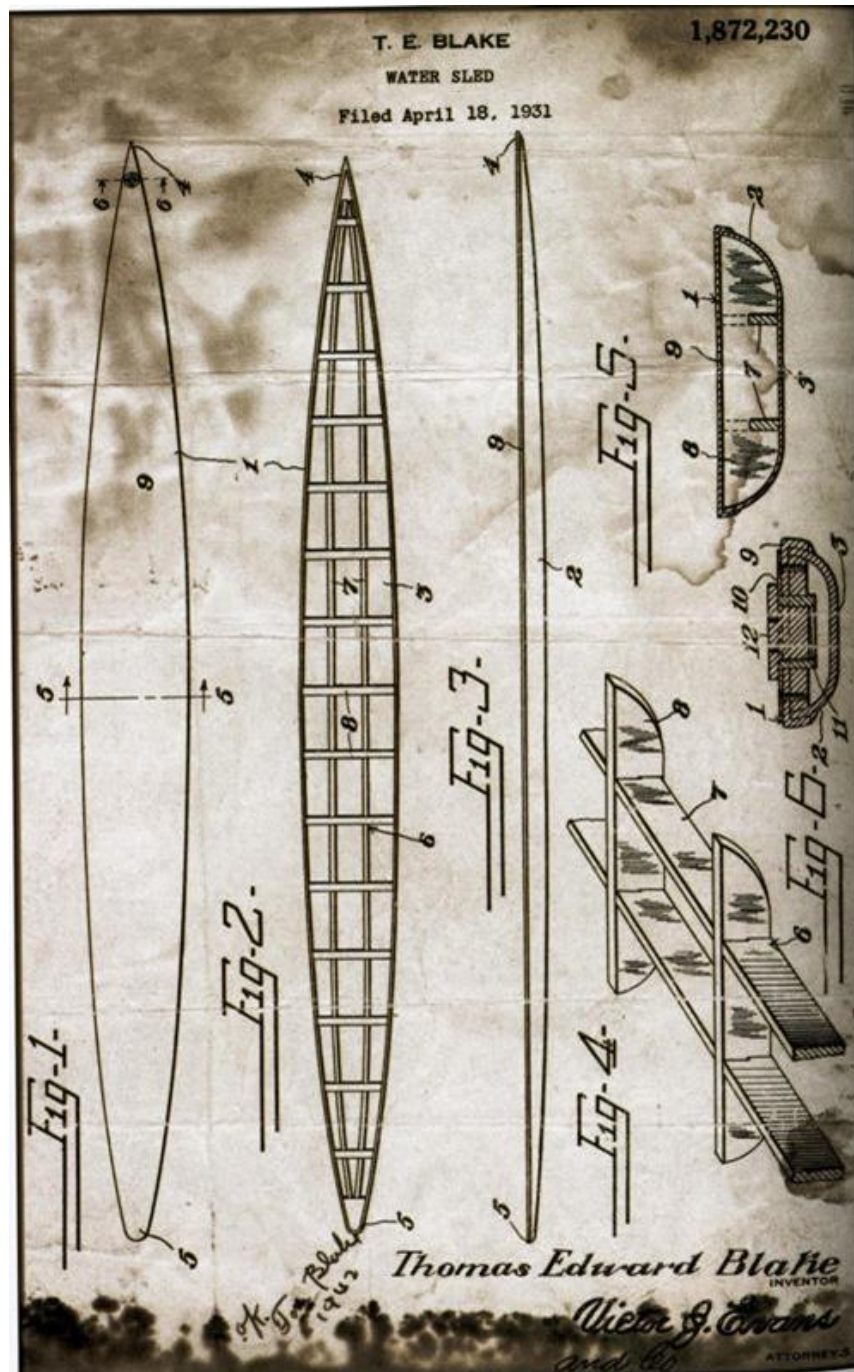


Figure 4.1: Tom Blake's revolutionary 1931 patent for the hollow surfboard design.

(source: Surfing Heritage Foundation, San Clemente)

Blake's design created a lighter (around sixty pounds), faster and more responsive surfboard. As he explained, the design idea for this hollow board was

directly influenced by the long, slender Hawaiian *olo* Blake observed on display during a visit to the Bishop Museum on O`ahu in the mid-1920s:

I went to the Bishop Museum in Honolulu and there began to study the enormous old boards preserved from the days of the ancient Hawaiians, who had been master surf riders long before the influence of foreign nations took over life on the Islands. Among these were the long, narrow, giants of the kind called *olo* by the natives. (Blake 1935 p 48)

Although the boards tended to slide out on the face of steeper Hawaiian waves – and were given the nickname ‘kook boxes’ because of this habit – Blake licensed his designs with three mainland production firms. Under contracted licensing agreements Thomas Rogers Company, Robert Mitchell Manufacturing Company and the Los Angeles Ladder Company each made and distributed Blake’s boards following seven design styles, which had straight rails and semi-pointed tails (Warshaw 2005; Marcus 2007). Selling more than a thousand boards, this was the first known example of large scale surfboard production (Blake 1935; Warshaw 2005).

As surfboard-making became increasingly commercial in the early 1930s, manufacturing company Pacific Home Systems, also located in southern California, began making surfboards from multiple types of laminated timbers. Balsa wood became particularly popular due to its lighter weight in comparison to redwood logs, and was sealed using new types of waterproof glue and lacquer (Kampion 2007). As Finney and Houston (1996) pointed out, surfboard builders around this time based their work on Tom Blake’s innovations, experimenting with alternating strips of pine and redwood instead of making boards from a single plank or using several strips of the same timber.

A pioneer in surfboard design and production, Tom Blake also invented other important features, the most significant being the introduction of the first surfboard fin in 1935 – called a skeg at the time – which provided surfers with greater turning control and momentum on the wave face. This was a design concept Blake based on the sternward extension of a sailing boat’s keel. He was responding to a design limitation with the dominant surfboard of the period. surfboard-making had, according to Duke Kahanamoku, been:

Predicated on the belief that faster rides would be generated by heavier boards. But the turning problem became bigger with the size of the board; a prone surfer was compelled to drag one foot in the water on the inside of the turn, and this only contributed to loss of forward speed. If standing, he had to drag an arm over the side and with the same result of diminishing momentum. (Kahanamoku and Brennan 1972 p 15)

Yet despite such innovations, surfers in the 1930s and 1940s were evenly divided in their use of new surfboard materials and designs (shapes, fins and laminated timbers) (Kampion 2007). Half preferred to continue riding solid, heavy hardwood planks, the other half took to riding new designs with fins attached – so called ‘cigar’ boards because of their unique shape.

Over the next two decades, following Blake’s surfboard patent, iconic Californian surfers including Bob Simmons, Gard Chapin, Joe Quigg, Matt Kivlin and Dale Velzy began to seasonally migrate between California and O’ahu. Hawai’i was a surfing paradise in the winter – with consistently good waves, yet warm temperatures – while California was a place to earn extra money selling surfboards, working as a lifeguard or swim instructor over the summer. In visits to O’ahu, and Waikīkī beach in

particular, Californian surfers became inspired by the riding style of Hawaiian surfers including Albert 'Rabbit' Kekai, who was gracefully balanced and rode closer to the breaking curl (tube or barrel) of the wave than they had previously seen (Warshaw 2005). Attempting to shape surfboards that would allow the rider to surf inside the wave's tube, these early semi-professional surfboard builders were responsible for projecting the next phase of surfboard development in terms of design shapes and use of materials.

The best recognised of these surfboard designers was Bob Simmons. A Californian local who had a background in engineering and machining, Simmons began working for Douglas Aircraft as a mathematician immediately following World War Two (Warshaw 2005). His job in the aircraft industry introduced Simmons to fibreglass, a material which appeared as well suited to making surfboards as it was for aeronautical construction. Simmons experimented with the material over several months from his garage in Pasadena and discovered that when fibreglass sheeting was covered with molten resin, it set hard and had the properties of a light weight, but solid material – perfect for surfboard-making. The problem for Simmons in terms of selling fibreglassed balsa wood boards was that, aesthetically, the resin covering the fibreglass sheets gave a messy finish. Compared to the clear and shiny varnishes used to seal other boards, fibreglass was quite ugly. Still, as Marcus (2007 p 83) explains, such was the sealing ability of fibreglass that the shift towards its use in the wider industry was now 'inevitable'.

The introduction of other important design features can also be credited to the creative Simmons – including 'broad spoon like noses', twin fin and dynamic rail designs (where the top and bottom surfaces meet) and shaping balsa boards with a

concave bottom surface (Warshaw 2005). These features meant his boards were extremely fast and controllable for the time (Figure 4.2). But as he also discovered during his first trip to Hawai`i in 1953, the wide shapes he had worked on did not ride very well in the bigger, heavier waves on Oahu's north shore. In California, however, the boards worked perfectly. His designs were so popular that by the summer of 1949 Simmons and his two surfing/business partners Matt Kivlin and Joe Quigg had sold more than a hundred boards, a large number for the time. Working from a small workshop between Santa Monica and Venice Beach, the surfboard workshop could not keep pace with customer demand (Marcus 2007). Such was the demand for a Simmons surfboard that customers had to pay for the board up front, with collection sometimes taking up to a year. In 2002, more than forty years after he drowned surfing the break at Windansea near San Diego, a Bob Simmons surfboard fetched a then record US\$18,500 at auction (Warshaw 2005).



Figure 4.2: Bob Simmons - a pioneer surfboard designer - surfing on one of his unique spoon designs with business partner Joe Quigg at Malibu in 1947 (source: Malcolm Gault-Williams 1976)

As the early southern Californian shapers continued to experiment with different designs and materials (composite constructions, foam cores, dual keels, concave planing hulls), surfboard-making began to turn away from the use timber altogether. There were a number of reasons for this: not only had the supplies of balsa wood become critically short, but the rise in the popularity of surfing and the labour-intensive nature of shaping wooden surfboards meant it was difficult for board-builders to keep pace with demand.

Between the late 1940s and mid-1950s a new foam material was being increasingly used in experimental surfboard design – this would become popularly known as the Malibu surfboard era, reflecting the increasing popularity of surfing at Malibu point, just north of Los Angeles (Warshaw 2005; Marcus 2007). Polystyrene or Styrofoam (a soft, open-celled material) was the first type of foam trialled in surfboard

construction, around 1947, again by Bob Simmons, who had seen the foam moulded onto the fuselage of radar domes. However, there were major limitations with its use. When Styrofoam came in contact with polyester resin – used to seal the foam – it began to dissolve. In attempts to fix the problem shapers placed glued timber veneers over the top of the foam. Yet when these ‘sandwich boards’ were left in the sun the glue bonding the Styrofoam to the wood veneer began to release and many surfboards simply fell apart on the beach.

While Styrofoam was considered unsuitable for surfboard-making, a new type of Polyurethane (PU) foam provided a solution to problems of dissolving cores, timber veneers and glue. The PU foam had a dense structure and when combined with fibreglass and resin the foam remained intact. Because the foam was liquefied it required a method for casting it into solid moulds. The first shaper credited with casting the liquefied foam into moulds long and wide enough for surfboard-making was Laguna Beach local, Hobart ‘Hobie’ Alter. While successful in casting the foam, Alter could not find the correct chemical ratio for the liquid and the expansion properties of the Polyurethane kept blowing his moulds apart. Soon after these early experiments Alter was joined by Gordon ‘Grubby’ Clark, who had studied chemical engineering at Claremont McKenna College in California. The two started a business partnership that gradually developed a system to cast the PU foam into a variety of lengths and thicknesses (Warshaw 2005; Kampion 2007). As surf culture writer Ben Marcus explains, this partnership became commercially successful and represented the beginnings of a global surf industry:

Contrary to the stereotype of surfers as beach bums, Hobie and Grubby were the Henry Ford of surfing – great businessmen, innovative thinkers, efficient



producers and decidedly unflaky entrepreneurs who sensed the wave that was about to break. (Marcus 2007 p 113)

Despite their early creative work with foam casts, Alter and Clark were not the first shapers to commercially sell foam and fibreglass surfboards. Instead Santa Monica shaper Dave Sweet beat them to it and sold the first PU/fibreglass board in 1956.

Whereas previously shapers working with balsa and hard woods needed to keep weight in the board to provide buoyancy and stability, PU foam suddenly provided a solution to these limitations. As a well-recognised professional surfer, Sweet gained a local reputation in southern California for making surfboards that were extremely fast and light (weighing merely twelve pounds) but which also remained balanced for smooth surfing. With an increasing number of surfers hitting the waves of Hawai`i, California and Australia, local surfboard-makers continued experimentation with different designs and materials.

In Australia, prior to 1956 surfers were riding hollow plywood surfboards, similar to those Tom Blake had patented in the early 1930s, that measured fourteen feet or more in length (Figure 4.3). When the American Lifeguard team visited Australia following the 1956 Melbourne Olympics several Californian surfers brought shorter, fibre-glassed balsa wood 'Malibu' surfboards that rode smoothly and turned sharply on the wave face. This introduced Australian surfboard-makers, including Barry Bennett (Sydney), Scott Dillion (Sydney), Gordon Woods (Sydney), Bill Wallace (Sydney), Joe Larkin (Gold Coast) and Ron Cansdell (Illawarra) to new materials and techniques for making superior planing shapes (Figure 4.4). By early 1962, Australian Bob McTavish, then shaping in Brookvale, Sydney at the Scott Dillion Factory, and Hawai`i-based Dick Brewer, were pioneering the use of PU foam to create shorter, more dynamic surfboards

(with concave and v-shaped bottoms) that were fast and highly manoeuvrable on the wave face. Replacing the Malibu era, this historical period of design has become known as the 'shortboard revolution' and also happens to coincide with the emergence of a professional surfing tour (Young 2008). When Australian Nat Young won his World Surfing title in 1966 on a nine foot Bob McTavish foam design (considered a short board for the period) it triggered a period where longboards were abruptly abandoned for shorter, more manoeuvrable surfboards (Young 2008).

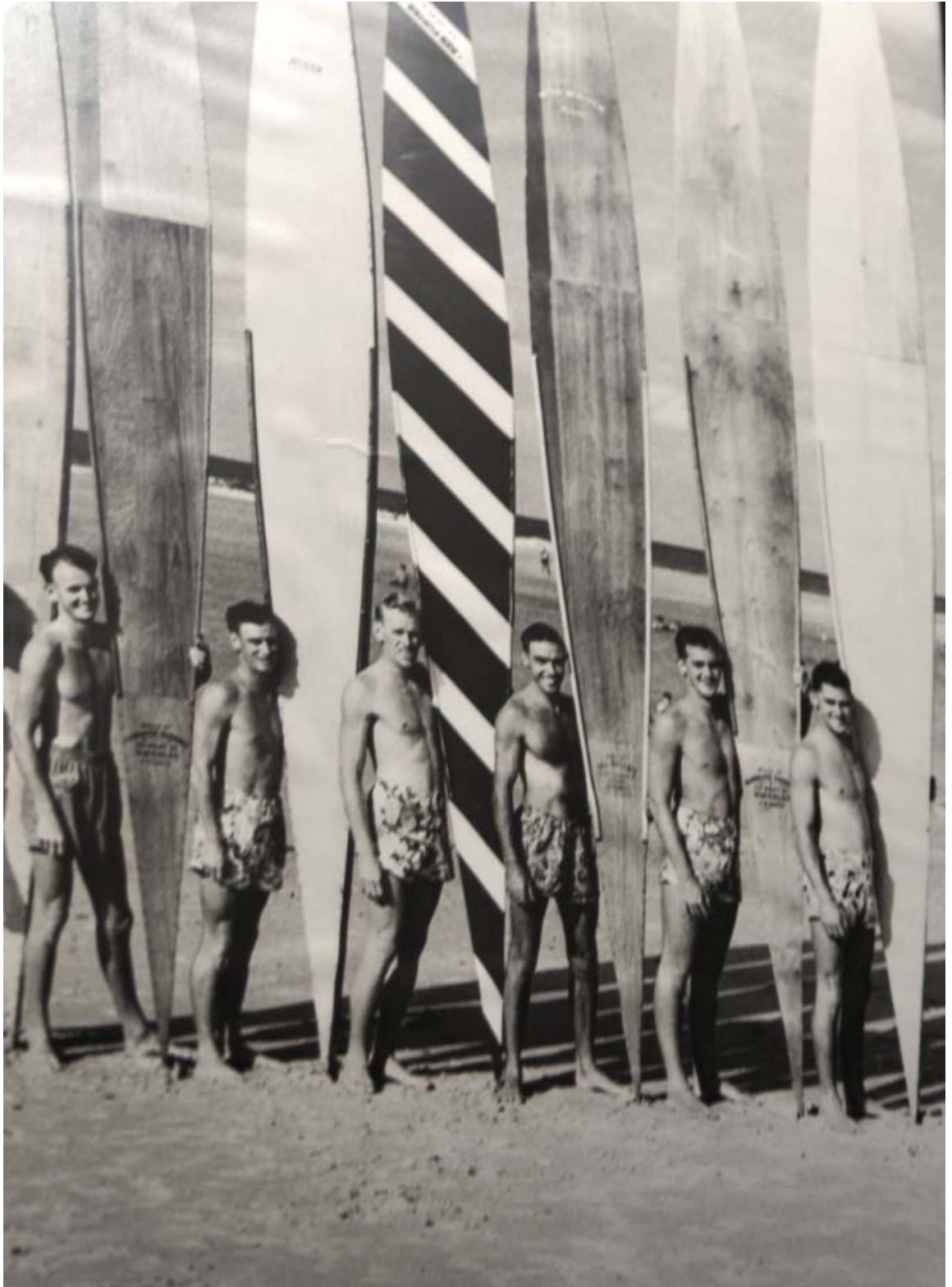


Figure 4.3: The ‘Kirra crew’ of surfers, circa 1953, shortly before Australian board-makers were introduced to fibreglass and balsa wood. (source: Surf World Gold Coast)



Figure 4.4: Some junior members of the Surfers Paradise Boardriders Association, circa 1963. A decade on from the Kirra crew and their board designs and materials had changed dramatically. (source: Danny Church)

The surfboard industry thence entered an era of heightened commercialism, and experimentation at the hands of leading surfers who became inventors and innovators. Talented board-makers from the 1950s and 1960s included Californians such as Dewey Weber, Greg Noll, Hap Jacobs, Mike Hynson and Skip Frye; Hawaiians Reno Abellira and Ben Aipa; and Australians McTavish, Geoff McCoy, Barry Bennett, Joe Larkin and Scott Dillion. The fine tuning of various shortboard designs now allowed surfers to ride in the most critical sections of the wave, holding speed and a tighter line through hollow barreling sections, without needing to ‘bail out’ in front of the wave’s pitching lip (Young 2008). With Dick Brewer shaping in Hawai`i and Bob McTavish in Australia, a growing rivalry also emerged between the two shapers and professional surfers riding their boards within the increasingly publicised World Surfing Tour.

Around this time tensions between surfers in Hawai`i (both native and *haole*) and confident, brash Australians also reached a tipping point (Bartholomew and Baker 2002). In large part this related to a shift in respected surfing styles, which corresponded to changes that enveloped popular surfboard design. Former Australian world surfing champion, Wayne ‘Rabbit’ Bartholomew recalls:

Of course, performance surfing changed in parallel with these design changes.

One year it was really cool to do the big fade on the longboard, do the s-turn and then walk the board. Then, almost overnight, high speed, aggressive direction changes became the real focus. (Bartholomew and Baker 2002 p 41)

Instead of the Hawaiian cultural approach to surfing, which had emphasised becoming one with the wave through a flowing, artistic riding style, new board designs and technologies produced a style of surfing which emphasised aggressiveness and power; ‘shredding’, ‘carving’ and ‘ripping’ became terms for describing desired surfing styles

(Waitt and Warren 2008). On the newly developed professional tour, this type of surfing was deemed most skilful. As a result many Hawaiian surfers became frustrated at the depiction of their style as inferior to that of Western surfers. Surfing was, after all, a traditional Hawaiian practice. The professional tour in the 1970s thus became tense and aggressive, and during the 1976 professional season Australian surfers travelling to Hawai`i boasted how they would ‘show the world how to surf’ (Bartholomew and Baker 2002 p 156). The Australians, including Bartholomew, Ian ‘Kanga’ Cairns and Peter Townend had been ‘talking themselves up’ in surfing magazines and surf media in the lead up to the Hawaiian season. This began to infuriate Hawaiian surfers who felt their surfing heritage was being disrespected by the arrogance of *haole* blow-ins. The disrespect so angered Hawaiians that a number of fights broke out, reaching a point where some Australian surfers had ‘contracts out on their lives’ (Bartholomew and Baker 2002). Bartholomew describes one particular incident he faced:

I looked in and saw about thirty Hawaiians lined up on the beach in front of this house and I wondered to myself what’s going on here? I could see the whites of their eyes as they started converging towards me...I got totally pounded...I was held under water, pounded round the back of the head, then pulled up and pounded in the face. They knocked all of my teeth out and just flattened my nose, I had cuts all over my eyes and lips...It took a few years to get over this, it really affected me for a long time. (Bartholomew and Baker 2002 pp 150-51)

These tensions were the result of a contrasting cultural relationship with the ocean, and differing opinions about which style of surfing was more esteemed (Walker 2011). But they were also tensions about surfboards – because the diverging cultures of surfing behind the clashes were intrinsically linked to revolutionary surfboard design shapes

and techniques – competing ‘projects’, to use Timothy Mitchell’s (2008) phrase, to define a nascent subculture, industry and surf economy. The desire to invent new and exciting ways to experience the surf drove Australians to experiment and become creative, while Hawaiians viewed themselves and their boards linked through centuries of Polynesian cultural heritage.

Subcultural trends went hand in hand with commercial innovations in surfboard design. Here ‘culture’ and ‘economy’ were not separate but co-constituted (cf. Pratt and Jeffcutt 2009). The next major development in surfboard-making centred on the design of a new fin system. In the late 1970s Australian Mark Richards had a new take on the original Bob Simmons’ twin fin, designing a board that turned quickly and worked perfectly in smaller waves. This surfboard was so successful it helped Richards win four consecutive world surfing titles between 1979 and 1982. However, as an example of the way different board designs suit individual surfers, fellow professional Simon Anderson struggled to control the twin fin system that worked so well for Richards (Warshaw 2005; Young 2008). A large man at 6’3” and 100 kilograms, Anderson was a talented surfboard-maker and to improve his competitive surfing in smaller waves in 1980 he designed and shaped a revolutionary three fin surfboard. The design gave Anderson additional drive and ‘thrust’ through his turning, and while winning several contests in smaller waves, it was Anderson’s performance in fifteen foot surf at Bells Beach Australia in 1981 that confirmed to other surfers that his new system was superior to twin fin designs. His surfboard became popularly known as the ‘Thruster’ and continues to be the dominant design followed in the surfboard industry to this day. Amazingly, despite creating the new fin design system, which worked well in all wave conditions, Anderson went against typical capitalist impulses in choosing to not patent the Thruster.

Instead he openly shared the board's measurements and design features with other shapers, who have since advanced its design for all types of waves and surfing bodies (Kampion 2007; Marcus 2007; Young 2008).

While the surfboard industry continues to use PU foam and fibreglass for surfboard-making – accounting for up to 80 percent of commercial production – old and new materials, designs and tools continue to be used with varying levels of market success. There are a smaller number of shapers such as Greg Noll, Pat Curren, Owl Chapman and Chuck Bassett who continue to shape surfboards from balsa wood, despite the timber being increasingly difficult to source ([www.balsasurfers.com](http://www.balsasurfers.com)). Because modern forms of surfing now privilege speed and manoeuvrability most surfers favour lighter, higher performance surfboards that are made from foam (Kampion 2007). But it is also still fashionable, especially for collectors, to commission master shapers including Greg Noll to make timber surfboard replicas using 'classic' designs from the past. A Pat Curren balsa wood gun for example can cost a collector up to US\$40,000. These boards are usually not ridden but instead displayed around the home or a business as works of art.

Meanwhile new innovations in surfboard-making have continued: there is money, fame and subcultural credibility imbued in inventing a board that can deliver a faster, smoother, more dynamic ride. Epoxy resins have become popular, providing a lighter and stronger finish than traditional polyester resins used in PU foam production. The epoxy resin is difficult to apply over foam and fibreglass sheeting and offers an unconventional 'feel' for the surfer, because the board flexes when turning on the wave face; similar to a snowboard (Young 2008). Another material now used as an alternative



to PU foam is carbon fibre, which was recently patented by Australian shaper and entrepreneur Hayden Cox through his firm Fiberflex International (Kaplan 2010).

With the current surfing style focusing so dominantly on speed – especially amongst skilful and professional surfers – there is an omnipresent need for board-makers to innovate in design. Speed enables a surfer to use the wave face as a ramp for launching high aerial manoeuvres; the shift to carbon fibre means surfboards are becoming increasingly lightweight, while also gaining additional strength. Celebrated surfer/shaper Mark Richards recently summarised the state of contemporary surfboard design:

I believe we are currently enjoying the best era ever in surfboard design. We have emerged from a period when the average recreational surfer felt obliged to ride the pro-tour surfboards, boards that are extremely thin, very narrow and curvy, with a tonne of concave in the bottom - boards that are essentially like a Ferrari or a Porsche. These are incredibly fine-tuned pieces of equipment, but you need to be a pro-surfer to successfully ride them, not to mention having access to decent surf... The profusion of quality boards means no matter what your standard of surfing, you should be able to find a board that you can go out and have fun on. (Richards 2011 p 2)

Over the past sixty years surfboard-making has gone through a number of definitive design eras, which have drawn on several different types of materials: hardwoods, fibreglass, resins, foams, and carbon fibre. The evolution of surfboard design has been led by a number of creative, entrepreneurial, often eccentric local craftsmen (they are actually men – see Chapter 7) who have always remained enthusiastic surfers (and often only came to surfboard-making because of their passion for surfing in the first place).

They have shared backgrounds in traditional trades and professions, from carpentry, machining and boat-building to architecture, chemistry, engineering and mathematics. Their work has been made viable by growth in local surfing markets, but is also about a personal quest to create specialised equipment which provides surfers with a profound sense of ‘stoke’ and a deeper connection to and mastery over waves. Beyond individual makers and the innovations they introduced, surfboards have been distributed among the general public by workshops and small companies, by original local producers that have since become large corporations, and by hand-makers who cherish old methods and mythologies.

How, though, are surfboards actually made by hand? And, who are they made for? The focus now turns to the hand-making system of customised production used today to varying degrees by fifteen of the eighteen workshops that participated in this research in Hawai`i, southern California, the Gold Coast and Illawarra.

## **4.2 Hand-making and a custom system of production**

In the contemporary hand-based production system found in all four case study regions, only two simple specialisations of labour are required, as were present in traditional Hawaiian methods: shaping and sealing. The *shaper* is responsible for designing and sculpting out the surfboard’s profile or ‘shape’ (Figure 4.5). Whereas once cuts of timber were the dominant material worked upon, shapers now mostly use casts of foam. After the shaper has finished their work the surfboard moves to the *glasser* (often called a *laminator*) who seals the surfboard. These workers use specialised handheld equipment to layer the surfboard in fibreglass cloth and then spread liquefied resin over

the top and bottom surfaces of the board to give a smooth, sealed and glossy finish  
(Figure 4.6).



Figure 4.5: Eric hand-shaping in his shaping bay, Arakawa Surfboards workshop, O`ahu.  
(source: Author)



Figure 4.6: Mick glassing a new custom made longboard at the CSD workshop, Illawarra. (source: Author)

The process for hand-making begins with the shaper and a blank foam mould. Following the methods trialled by Hobie Alter and Grubby Clark in the late 1950s, liquefied polyurethane is poured into concrete casts where it cures and forms a solid mass. These are moulded in variety of lengths and widths, with shaping workshops ordering ‘blanks’ from foam supply companies, often located nearby in light industrial centres, to suit their orders (Figure 4.7). Frequently suppliers are sought within the surfing region, in close proximity to workshops, to minimise time between orders being placed and the raw material being obtained for shaping and glassing. This is necessary to minimise the waiting time for customers who have ordered boards. Hence on the

Gold Coast for instance, clusters of workshops have emerged within close proximity to Burford Plastics and South Coast Foam, the two main suppliers. In the case of one workshop, it was located literally across the street from Burford Plastics – a mere 20 metre distance – within the same light industrial estate.

In southern California the sudden closure of Clark Foam in 2005 (which at the time supplied blanks to 80 percent of the domestic surfboard market) led to a sudden downturn in the supply of surfboard blanks (Rizzo 2010). This, in turn, sparked local surfboard-makers to experiment with the use of different types of foam and resin (PolyTech and Polystyrene foams, and epoxy resins for example). However new PU moulding factories, including Foam E-Z and Just Foam based in Oceanside, have since risen to replace the shortage left when Clark Foam ceased production for environmental reasons.



Figure 4.7: Greg from Sauritch Surfboards, southern California, showing hundreds of PU foam blanks. (source: Author)

After selecting an appropriate mould the shaper traces the outline of the surfboard onto the blank using a lead pencil or marker. To help with an accurate sketch, shapers often use cardboard templates as a smooth guiding edge for their outline. Next a hand saw or electric jigsaw is used to cut out the shape from the blank as the surfboard begins to take form. The shaper begins planing the rougher sections of foam, searching to achieve a smooth and even finish along the rails, while also reducing thickness (Figure 4.8). The planer is a shaper's most important tool because it is responsible for creating the right volume of foam, while also levelling out the board's rails and adding curvature to the profile of the blank (Figure 4.9). Too much foam means the board will



float too high on the water and be difficult to turn, while not enough foam means the board will sink and not support the rider.



Figure 4.8: Stuart from D'Arcy Surfboards, Gold Coast, in his shaping bay, talking through the process of hand-shaping another custom design. (source: Author)



Figure 4.9: Tim Bessell in his shaping bay, using his *Skil 100* planer to shape the rails to their correct thickness, southern California. (source: Author)

After reducing the surfboard's length, thickness and width, the shaper uses different grains of sandpaper to finely tune their design. This is a tedious process; the shaper seeks to create a symmetrical profile with rails, nose and tail equal in width and with the surface finish clean and smooth. After sanding the board several times, shapers often use fine mesh or gauze (similar to fly screen) to eliminate small imperfections in the foam and ensure a smooth finish.

Hand-shaping therefore relies on the ability to construct the design from a number of different materials. Whereas other creative industries including architecture or interior design split the design and construction processes into different labour tasks



(see Kloosterman 2010), surfboard shaping bridges both custom design and production – with the shaper completing both jobs.

Once this shaping has finished it is the glasser's responsibility to complete the board. While shapers regularly receive most of the fame and attention for their work as designers and artists in the production process, glassers play an essential role in the surfboard industry. Their job is to layer – called 'lapping' – the finished foam design with lengths of dried fibreglass cloth. Most long surfboards are made with 6oz. fibreglass sheeting – two layers on the deck and a single layer on the underside of the board. The extra layer on the deck helps reduce pressure marks from the rider while giving the board added strength. The process is the same for short boards, instead using 4oz. fibreglass sheeting to help reduce weight. Most shortboard riders seek to have the lightest board possible to make it easier to manoeuvre. The lapping of the board must overhang the rails by two or three inches (Figure 4.10).



Figure 4.10: The 'lapping' of fibreglass cloth over the rails of the surfboard, before the 'hot' or fill coat of resin and catalyst is applied, Byron Bay. (source: Author)

Next the glasser spreads a liquefied resin to begin the process of waterproofing and sealing the board. There are two types of resin used by workshops – polyester and epoxy. Epoxy resins are stronger and more adhesive to the fibreglass sheeting, yet are better suited for use with polystyrene blanks, as they can adversely react with polyurethane. Epoxy resin is also much more expensive than traditional polyester resins, about four times the price per kilogram. This means Styrofoam and Epoxy resins are only used occasionally, for customers that especially request it. Four of the eighteen workshops had used Epoxy: Bushman, Arakawa, Bessell and Byrne Surfboards. The benefits of polyester resins are that it is cheaper and easier to spread, thus providing efficiency. Mixed in with the liquefied polyester resin is a catalyst, or hardener, which when cured provides a hard and clear sealed finish. The resin has a high viscosity and needs to be spread quickly over the board's surface area before it begins to cure (Figure 4.11).



Figure 4.11: Applying the hot coat with a rubber squeegee, Gold Coast. (source: Author)

After lapping the glasser completes the fill or ‘hot’ coat. Here the resin is not actually heated but used to saturate the cloth and fill gaps in the weave. This is performed on both sides of the board. After curing the board is then intensively sanded to smooth out bumps. In some workshops this sanded finish is preferred, as it saves on labour and also keeps the board lighter. But for the majority of custom surfboard workshops a final gloss coat is carried out. This adds weight, up to 700 grams, along with a further US\$70 to US\$100 on the final price. It also provides extra strength and a

pleasant shiny finish. The key tools used by glassers are small hand held plastic squeegees. These help apply resin over the cloth, as glassers carefully move up and down the length and width of the surfboard to disperse areas where the glass is too thick, and cover sections that are too thin.

The typical surfboard workshop is a collection of separate spaces, divided and organised to allow the completion of different work tasks: shaping, glassing, drying, sanding and art designs are all completed in their own rooms (Figure 4.12). In addition there is often a room at the front of a workshop where customers can meet with owners and shapers and look at finished custom boards on the shop floor waiting to be collected. Glassing rooms must be well ventilated and light, while the majority of shaping bays were painted blue, in order to contrast with the white foam blanks and show up any scratches or indentations. Most workshops also store their materials (resins, hardeners, paints, solvents, and acetone) in a secured room as a requirement of local environmental and safety regulations.

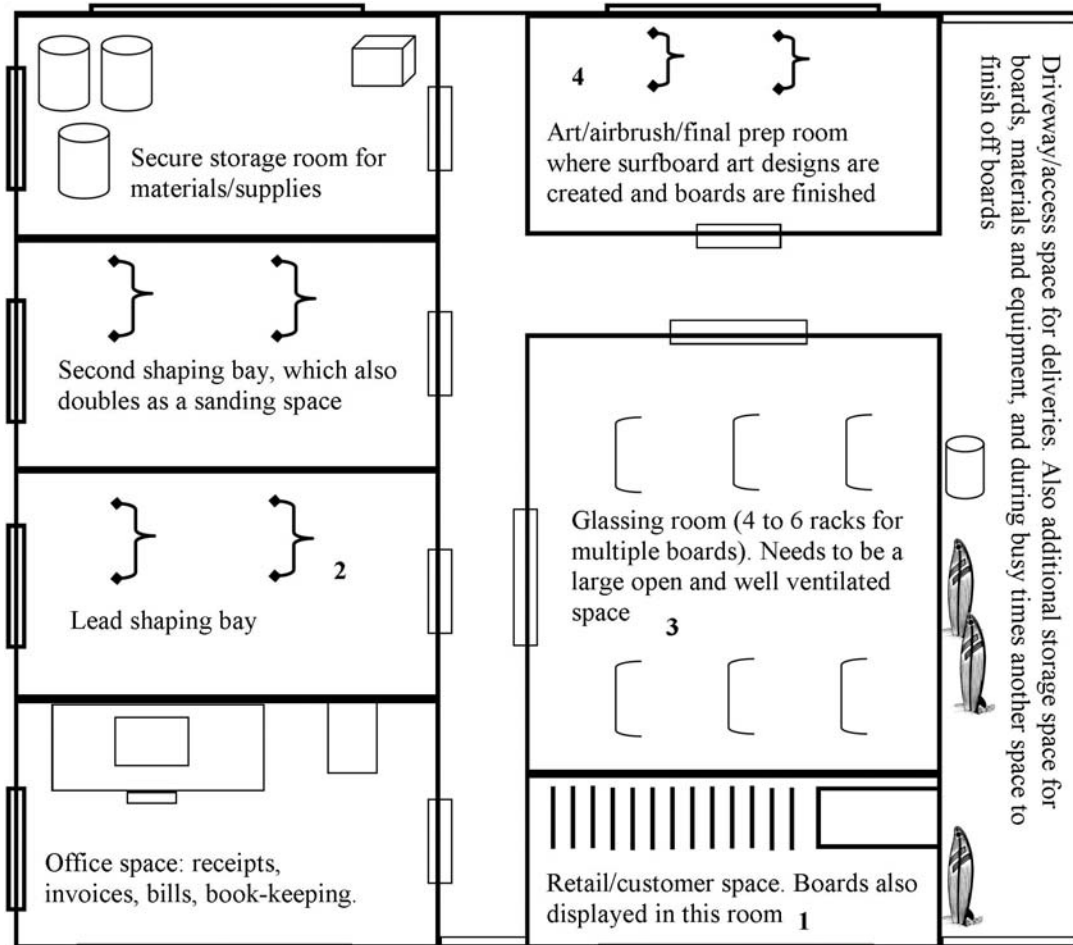


Figure 4.12: The layout of a typical surfboard workshop. (source: adapted from D'Arcy, Senate and Arakawa Surfboards workshop)

In three of the four surfboard businesses in Australia's Illawarra region, glassers were employed within the surfboard workshop (CSD, Skipp Surfboards and Byrne Surfboards for example). It was the same on the Gold Coast: three of the four workshops (Mt Woodgee, Intruder and D'Arcy Surfboards) employed glassers internally. Meanwhile in all four Californian workshops (Senate, Barker, Bessell and Sauritch Surfboards) and in four of the six Hawaiian shops (Cheater 5, Kimo Greene, Tore Surfboards), glassing was contracted out to external businesses located nearby. At the Carabine Surf Designs (CSD) workshop in the Illawarra, which has been in independent operation since 1965, Mick as the owner/operator was responsible for glassing, while his long-time workmate Terry was a 'veteran' shaper:

I shaped and glassed for a good many years. But now I just glass and do the airbrushing because I enjoy that just as much as shaping actually. I think it is more delicate and fussy but I enjoy that...I mean Terry is truly a great shaper so this way he can just look after all the shaping and in a small workshop like ours you need to work well together. (Mick, guided work tour, Illawarra)

While glassers were not responsible for creating and innovating new surfboard designs, they played an essential role in production across all four case study locations. Indeed glassing could not be replicated by any form of new technology, and in workshops such as CSD and Skipp Surfboards in Australia glassers regularly performed additional tasks: completing airbrushed artwork on surfboards, attaching fins, leg ropes and grip pads and polishing boards ready for collection by a customer. Glassers were therefore a crucial link in the local hand-making production chain.

While glassing is the final stage of work before a surfboard is ready for collection, a considerable number of design features are considered in the system of

hand-based, customised production. Design elements of surfboards include length, width and thickness, rail design, rocker (curvature), nose and tail lift, tail width and shape (fish, pin, square or rounded tails), bottom contours (v, flat, concave, channel or belly) and fin systems for turning and control (single, twin, tri or quad systems). How each of these eleven different components influences the surfboard's performance is essential knowledge for all hand-shapers. Glassers also needed to be able to successfully apply fibreglass and the correct depth and volume of resin over a variety of different shapes and designs; this is not easy work.

Longer surfboards above eight feet tend to be faster than shorter boards but are not as manoeuvrable and are unsuited to steep, hollow waves. Similarly, wider boards are stable and float the rider more easily than narrow designs, but are more difficult to turn and offer less control on the wave face. More width across the nose and tail of a board will offer greater stability, but narrow noses and tails are better suited to larger waves. Rails are another important design element and can be shaped with different volume and angle to help improve release from turns and direction changes. Thick rails will keep the board on top of the water when turning and are best in smaller, slow waves. Thinner rails, meanwhile, are best in larger, hollow waves – where they help grab the water surface and provide superior turning control at higher speeds. This was explained during an interview with the lead shaper at Senate Surfboards in southern California:

Well, width here [points to the centre of a surfboard] plays a key role in delivering kinetic energy to the rails, the leading edge on a wave gives deflection. Length plays a crucial role in speed, while curvature is important so you don't dive straight into the face. Then you also have the centre point or

balance point of a board, which differs between surfers depending on their size and style and rocker as well... surfboards are basically deflectors. The rail is a special shape that is calculated. Width divided into length, is aspect ratio, giving you a magic number related to lift. Width also allows the surfboard to leave a clean wake. A good example of the value of width is the modern hybrid boards like the fish designs. (Peter, interview, southern California)

One of the most important features in modern surfboard design has become 'rocker', or the degree of angle along the sides of the surfboard from the tip of the nose to the tail. A typical design for competent and experienced surfers is a concave rocker, shaped with a bowl-like curve. This design contrasts with early Hawaiian *olo*, which were shaped with slightly convex rockers and could be ridden on either side (Marcus 2007). The rocker is crucial because it determines how easily a board planes over the water, also influencing turning and responsiveness.

Generally, less rocker curvature means the surfboard has a greater planing speed and will suit gradual breaking waves, whereas it lacks finer control in turning.

Conversely, increasing the rocker means a board will be slower across the water because the curved surface area creates additional drag. This design works best in steep waves because it provides responsive control to the rider's body movement and will not nose dive into the curling wave face. While the rocker is the angle shape from the tail to nose, the bottom shape from side to side is also central for efficient planing over the water. Longer surfboards need more rocker to give some manoeuvrability. An experienced hand-shaper from O`ahu explained:

There is not one element a shaper should pay attention to with the exclusion of all else. All the elements come together; the bottom, the rails, the fins, the rocker



and the finish. It's the same when you ask a race car designer what is the important thing on a racing car. Everything from the tyres, chassis and suspension to the engine. If you have the best, most powerful engine but not the right suspension, all the speed and power is nothing. (Eric, interview, O`ahu)

In the hand-based system of surfboard production the number of occupational categories is low. The two primary specialisations are shaping and glassing and in the participating workshops many experienced workers had learned to perform both of these jobs. Similar tools and equipment had been used under this system for decades with little change to production techniques across the different locational settings. Where technology was integrated in hand-shaping related to the experimentation with different construction materials.

Beyond concerns of speed and strength, new construction materials are being sought for environmental reasons. According to Schultz (2009), in the production process the average surfboard creates about 170kg of CO<sup>2</sup> emissions. Some surfers use up to five boards annually. Trialling different materials was thus being driven by an environmental consciousness relating to PU foam and resin (use of non-renewal materials, CO<sup>2</sup> emissions, toxicity of petrochemicals, waste disposal issues) in combination with attempts at reducing weight and creating more manoeuvrable boards. Otherwise the manual production rituals and processes of hand-based surfboard-making have for decades largely remained unaffected by new technology.

The tools used by hand-shapers and glassers included various sizes and styles of planer, surface form tools, hand saws, electric sanders, sanding blocks, tape measures, acrylic paints, brushes, squeegees and markers (Figure 4.13 and 4.14). The hand-based system of production was labour-intensive, time consuming, and physically demanding.

Each surfboard was a personal, high quality and high cost item, with the development of occupational skills constant under this system of making, moving gradually from apprentice to early career and then ‘journeyman’ shaper. Only after thirty years in the industry, personally making and supervising more than 30,000 individual surfboards (each board made in this method is usually numbered individually – meaning it is possible to quantify ‘expertise’) did a hand-shaper become recognised in the industry as a master craftsman (Figure 4.15).

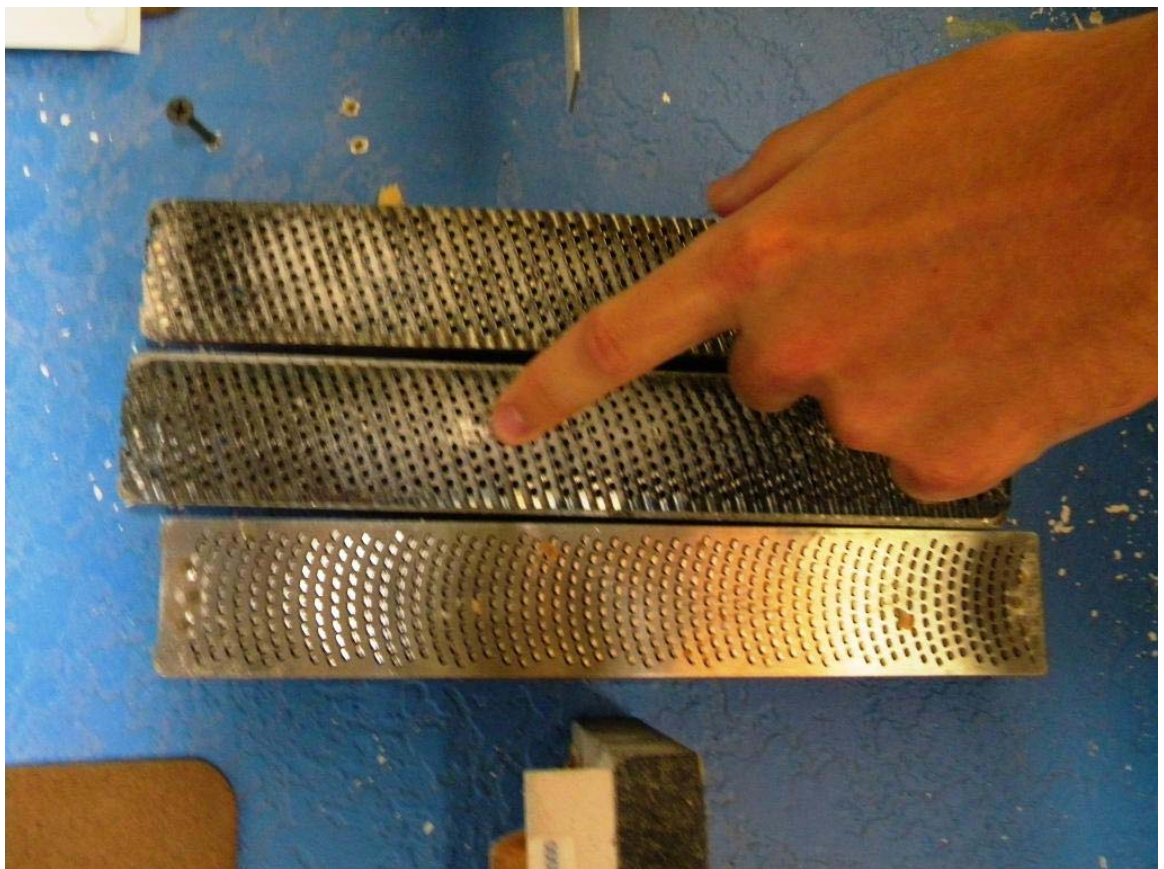


Figure 4.13: Different types of surform tools used to hand-shape custom surfboards in the Terry Senate workshop, southern California. (source: Author)



Figure 4.14: Different types of electric sanders used in the D'Arcy Surfboards workshops, Gold Coast. (source: Author)

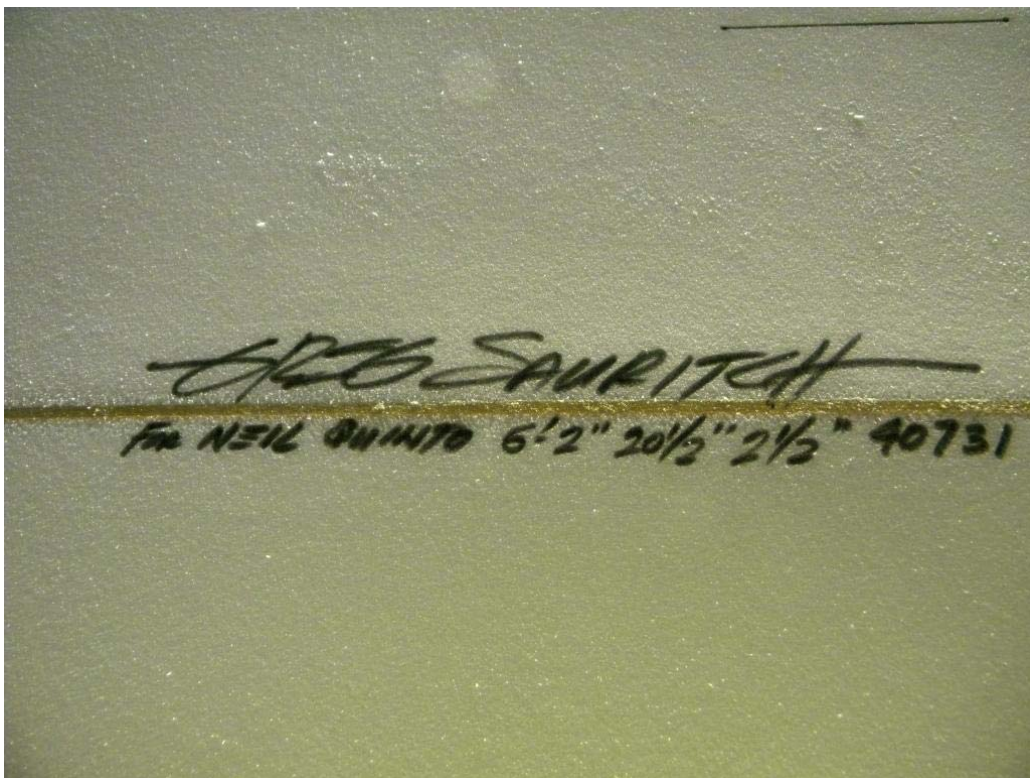


Figure 4.15: An individually numbered customised surfboard – number 40,731 for Greg – in the Sauritch workshop, southern California. (source: Author)

In terms of hand-based production, the completion of work was labour-intensive. The artistic, time consuming, physical and emotional nature of hand-making meant it was suited to local markets in popular surfing locations, such as the four case study regions, where there is a demand among surfers for customised boards suited to local waves. This dependence on local markets (who in turn depend on boards customised for local waves), as well as the need to regularly replace boards, is arguably the key dynamic influencing the industry's geographical pattern. Workshops are accordingly within close proximity to key breaks, in a linear fashion along the coastal suburban strips of the Gold Coast, Illawarra, southern California and O`ahu.

Local surfers visit a centralised workshop, meeting personally with shapers or glassers, where they outline the style and type of surfboard they want to have made. Customers provide shapers with general details about what they want from their new board, details often articulated by describing the feeling they are seeking on the wave. Customers told shapers how they: 'wanted the board to *feel* more responsive on the wave', or 'give me more control through my turning, so I can *feel* a smoother connection when I go to change direction' (RD entries, February and April 2009). It then becomes the shaper's job to complete the design from a set of unfinished specifications, producing a successful product at the finish. Hand-shapers need to consider the customer's ability, body size and weight (affecting buoyancy and movement) and the types of waves they ride. In this way the local geography of where a workshop is based determines the styles of surfboards that shapers and glassers became specialised in making (see Figures 4.16, 4.17, 4.18 and 4.19).

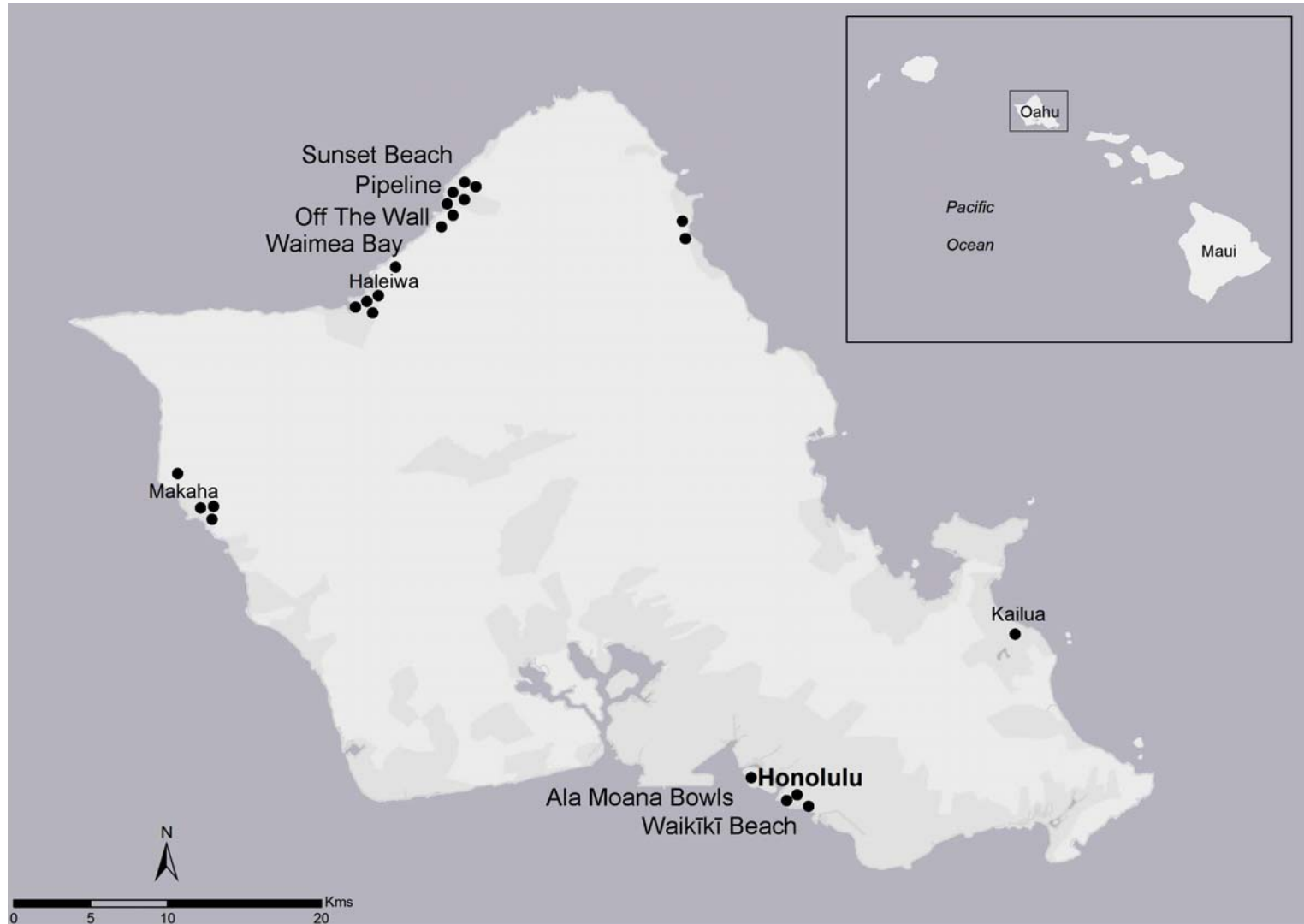


Figure 4.16: The geography of surfboard workshops on O`ahu. (source: Author)



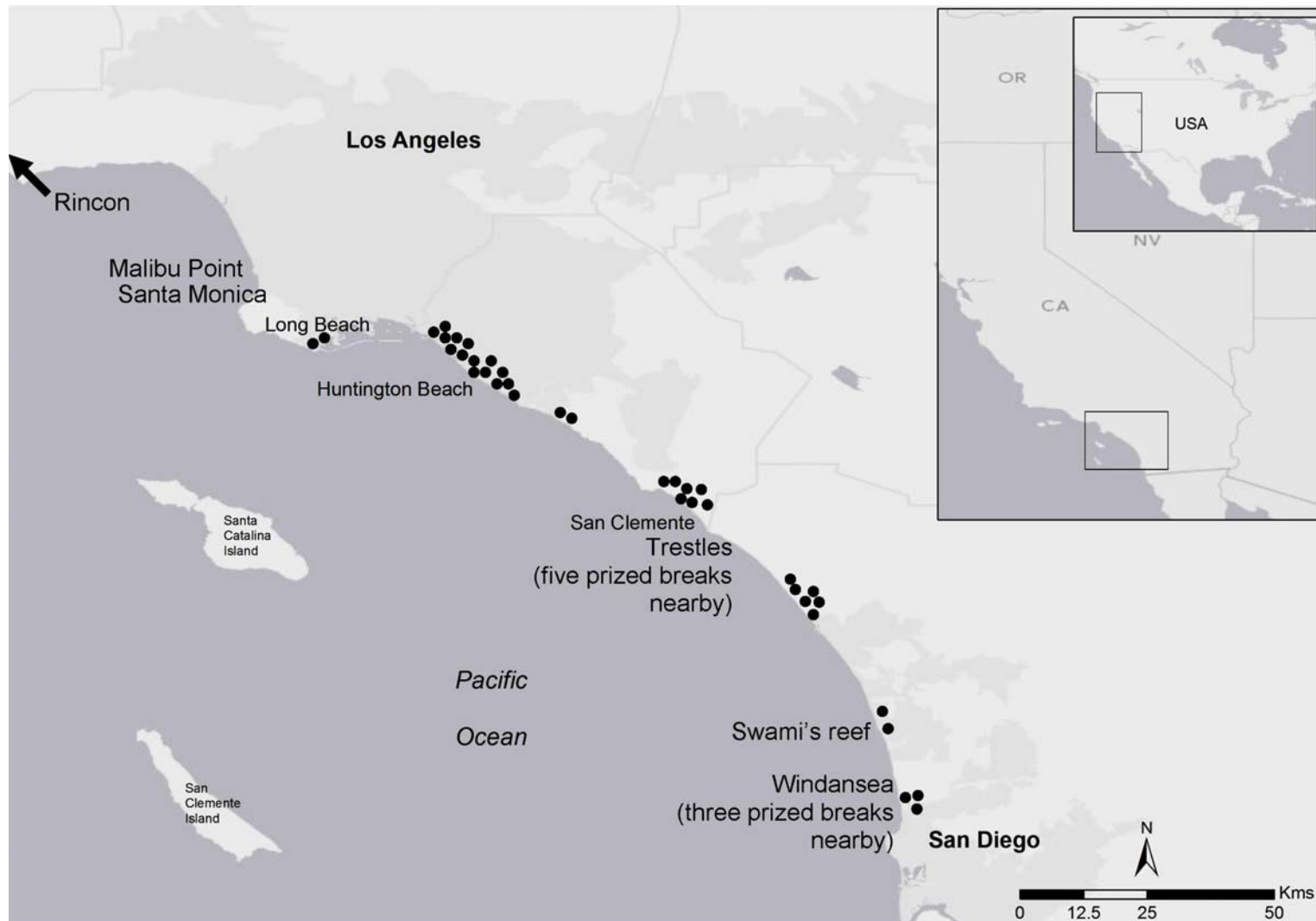


Figure 4.17: The geography of surfboard workshops in southern California. (source: Author)

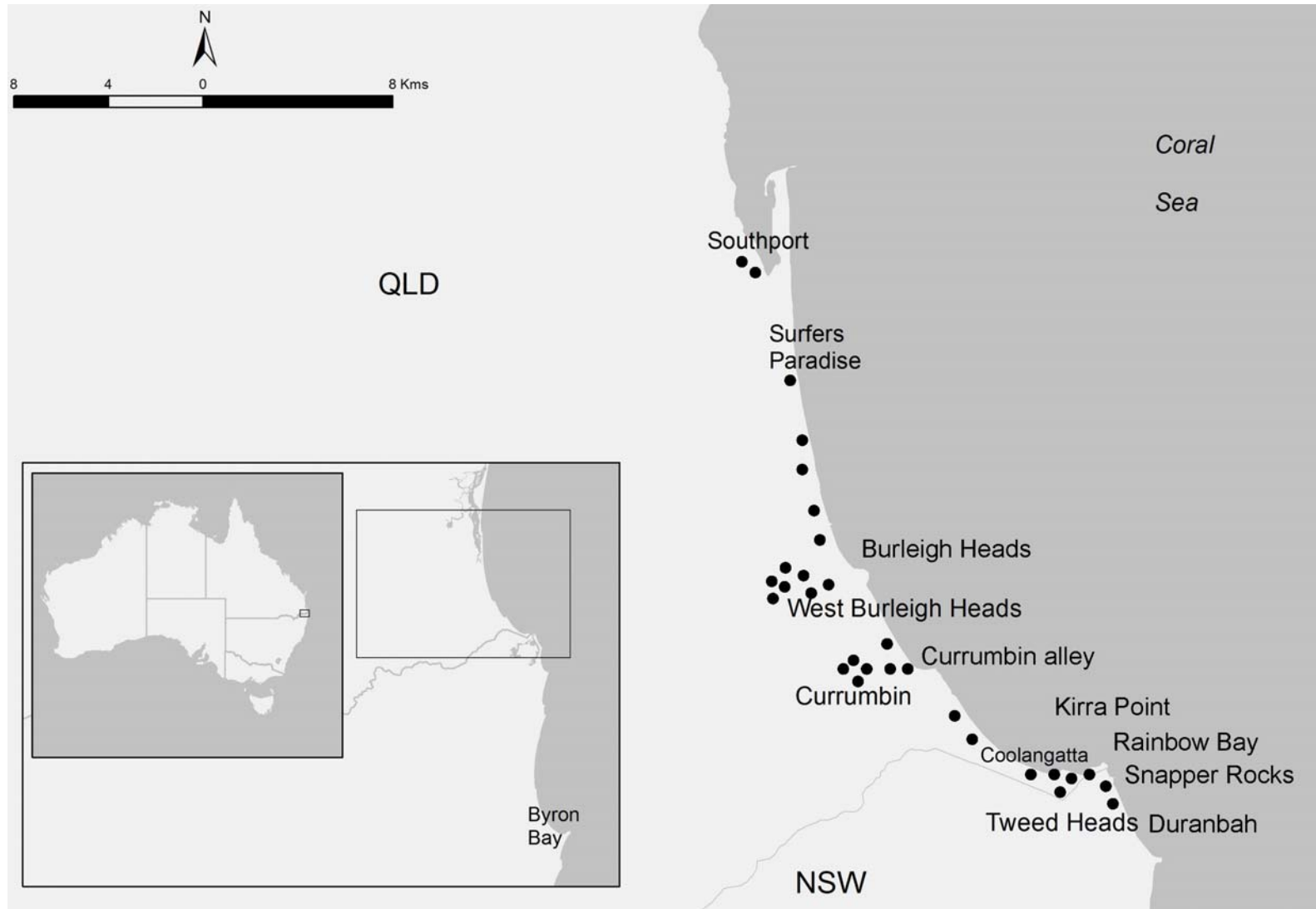


Figure 4.18: The geography of surfboard workshops on the Gold Coast. (source: Author)

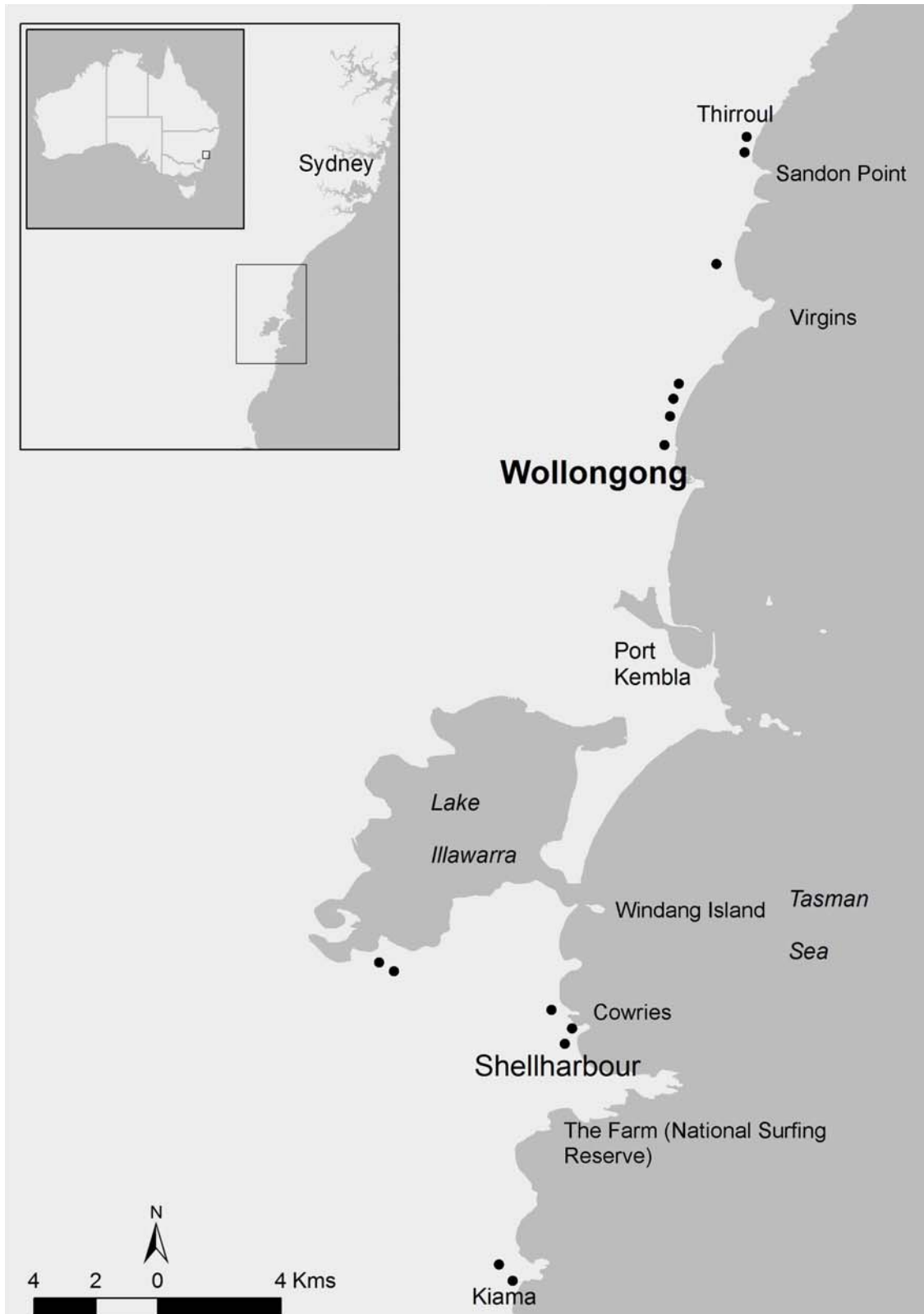


Figure 4.19: The geography of surfboard workshops in the Illawarra. (source: Author)



In Hawai'i, for example, workshops shaped boards for the large, powerful winter waves experienced on the North Shore of O`ahu: Makaha, Waimea Bay, Pipeline, Off the Wall or Sunset Beach (Figure 4.20 and 4.21). These shapers became experts at producing slightly longer (seven feet and up), narrow surfboards known as *guns*, which allowed surfers to paddle and get to their feet quickly – essential for negotiating the steep ‘drop’ of these powerful waves. At the Bushman surfboard workshop, located on the North Shore of O`ahu, Jeff explained the custom production process for the business, tailoring surfer skill to local environmental factors:

Usually a surfer comes into the shop and we go over with them what they are currently riding; that makes a good starting point then to work from. If they're riding big Sunset then you go about designing a gun to suit that wave, but if it is more like a board to get started on, then you design something more forgiving: wider through the profile, more thickness and that will help for paddling.

(Kalani, interview O`ahu)



Figure 4.20: A typical Hawaiian ‘shortboard’ custom designed and shaped by Eric Arakawa for three-time world champion Andy Irons. Irons was due to pick up a quiver of ten boards, including this one, from Eric up upon his return to Hawai`i in November 2010 but died at a Dallas Airport Hotel before boarding his plane. This was a board designed for the breaks of Pipeline and Off The Wall. (source: Author)



Figure 4.21: Two Hawaiian ‘guns’ custom designed and shaped by Eric. The board on the left is the MR-200 designed for waves up to 15 feet, while the board on the right is the XL Model, designed for waves above 25 feet, such as those that break at Waimea Bay, on the North Shore of O`ahu. (source: Eric Arakawa Surfboards)

By contrast, the Illawarra region in Australia tends to have a variety of smaller wave set-ups, from point breaks (Sandon Point) to shorter barrelling reef breaks

(Cowries). This meant that surfboard-makers in the Illawarra did not specialise in big wave guns, like their Hawai`i counterparts, instead become known for their high performance boards, designed to suit tube riding and sharp, ripping manoeuvres in a variety of smaller wave conditions (Figure 4.22). Meanwhile in southern California shapers had a diversified profile as waves changed along the coastline – shaping shortboards for several popular big wave spots, while also for more typical beach and reef set-ups: Rincon, Trestles, Swami’s and Windansea. Because southern California is home to many different styles of surfing, it was necessary for hand-makers to be adaptable in their work (Figure 4.23). On the Gold Coast, workshops were more adaptable than in the Illawarra, a function of the mixture of point and beach breaks found in that region, as well as demand among locals and tourists for ‘retro’ boards, hybrids and high-performance competition boards (Figure 4.24). In each of the four regions, longboards were also customised for local surfers, designed to suit slower breaking and more gentle waves that typified breaks at Waikīkī (O`ahu), Malibu (southern California), Greenmount beach (Gold Coast) and The Farm (Illawarra).

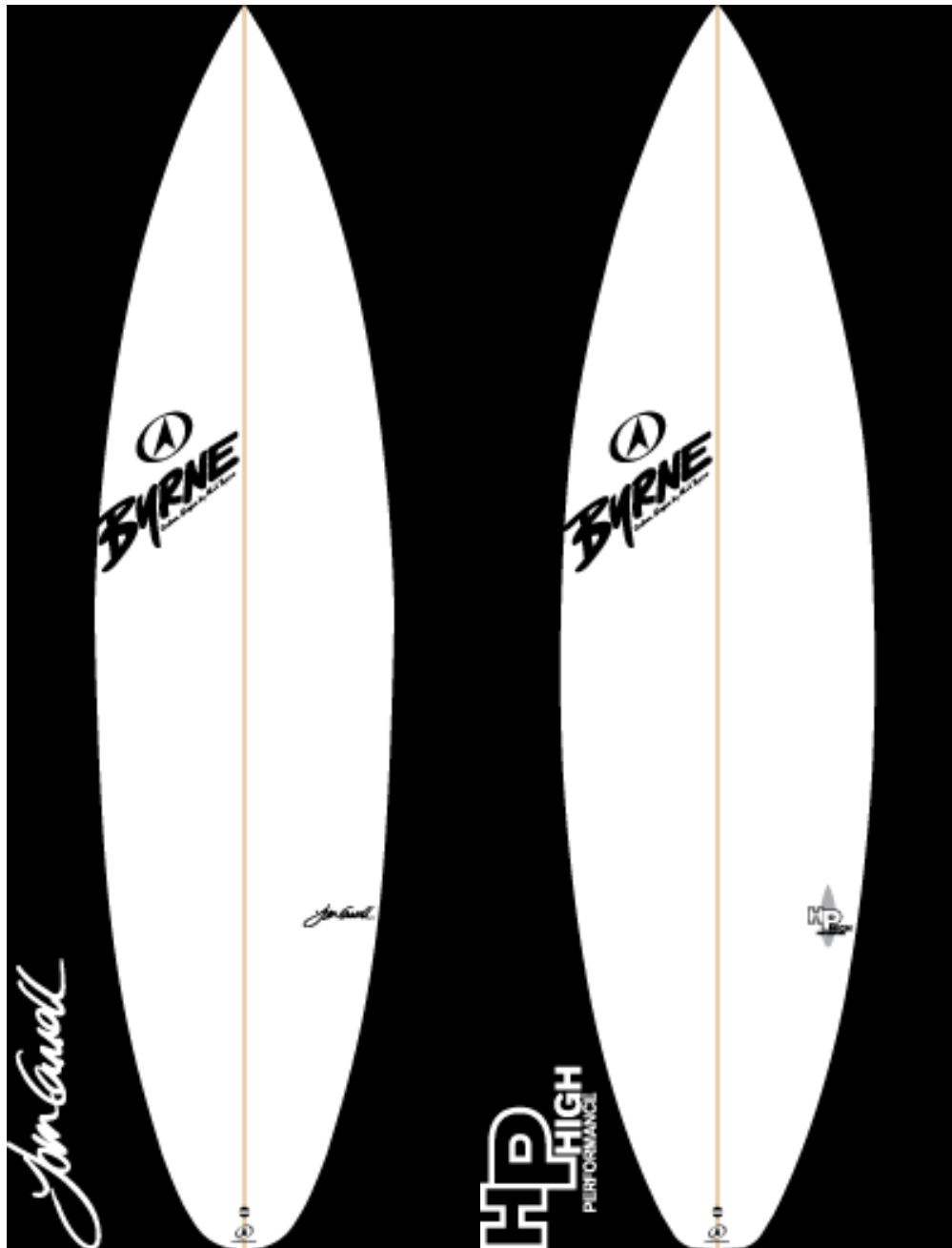


Figure 4.22: Two standard shortboards made in the Byrne workshop, Illawarra. The board on the left is the 'Tom Carroll' model, designed with four fins, on the right is the 'high performance (HP)' model made with a traditional three fin set-up and rounded square tail. (source: Byrne Surfboards)



Figure 4.23: A rack of different surfboards at the Bessell workshop, southern California.

The black coloured boards on the left are shaped from carbon fibre blanks for extra strength and durability for surfing in all conditions. (source: Author)



Figure 4.24: Custom shortboards ready for collection at the D’Arcy workshop, Gold Coast. The two boards at the front are shaped with a square tail, making them suited to the tricky hollow point breaks around Coolangatta and Tweed Heads. (source: Author)

Sensitivity to prevailing environmental conditions, combined with the creative nature of hand-making meant the work was not simply about mass producing pieces of sporting equipment, but was a legitimate art form, where many different design elements complemented each other. It became necessary for shapers to understand the way different design elements matched particular wave sizes and shapes, winds and bathymetry – along with the customer’s body. An undersized Hawaiian gun would not get a surfer into the correct position to successfully negotiate the wind that roars up a steep Sunset Beach wall, while a board too wide would not turn of the bottom quickly enough to lock the surfer inside the fast hollow barrel at Cowries in Australia. In all four



regions the most experienced surfboard-makers had developed iconic reputations – as artists, surfers, and stewards of vernacular production traditions.

Not only were shapers' surfing identities 'important for networking and getting the support of locals' (Greg, interview, southern California) but surfing regularly developed and sustained embodied craft skills. The ocean was a space where working knowledge about board designs, fluid mechanics and craftsmanship could be refined and worked into the body. Working on the north shore of O`ahu, Jeff argued:

Were mostly just passionate surfers really... That excitement for surfing drives my work and gets me the trust and respect from other local crew [surfers]... but man, you learn about design from being in the water. Trialling yourself... I learnt about the balance between curvature and board length from being in the water watching a customer take-off on a wave at Sunset [famous break]. I noticed that their style was way unique; they rode really far forward and felt the board was too slow. Seeing where her body was positioned I worked out I'd put too much concave [curvature] through the profile, which made the board too slow for Sunset... I made some changes and had more surface area planing on the wave to give more speed and man they loved the changes. (Jeff, interview, O`ahu)

In terms of successful production, hand-based shapers and glassers also emphasised the significance of building and maintaining local connections to their region's surfing community. Such relationships ensured continued support for a business via repeat custom orders. This was both complicated and assisted by the mobility of hand-shapers who often moved around the world at stages in their careers to refine their skills and further their knowledge of their craft. For example Jeff at Bushman Surfboards worked in Spain, Portugal, Brazil, Japan, South Africa, Indonesia and Australia; Phil, Dave,



Parrish and Laurie at Byrne Surfboards had worked in the United States, France and South Africa, while Matt at Barker Surfboards had shaped in Hawai`i, France and Australia. Stuart at D'Arcy's on the Gold Coast shaped in northern Japan, visiting there for extended stays every year, where he enjoyed a cult following for his boards tailored to prevailing local waves. This tragically ended abruptly with the recent tsunami in that region. In Hawai`i, most shapers had moved to O`ahu from the U.S. mainland (apart from Eric who was born on O`ahu and Ben, Kalani and Manu who were *Kānaka Maoli*) and they needed to prove their skills and talents there before gaining legitimacy with local surfers. While hand-making in different parts of the world broadened design skills as participants made boards to suit unusual wave conditions, establishing in a location required a connection to a local surfing community. This took time and a commitment to building quality surfboards and close relationships. Terry explained:

I worked in different places for about ten years to get better at my job. When I settled back home [San Clemente] I was a good shaper but it took me time to build up a local customer base. I almost had to prove myself to local surfers. I surfed with old friends, all the time and met new people. Then when they ordered a board I wanted to make them the best board they had ever ridden...you just concentrate on the workmanship and those are the things that build up your reputation and help your business. (Terry, guided work tour, southern California)

In his experience hand-making custom surfboards at CSD in the Illawarra, Mick explained how gaining the trust and loyalty of local surfers was most important for success:

I was a surfer so I had built up lots of friendships within the area... most surfers just want a board that suits their style and when you give them a good quality board, in my experience it usually means they will trust you and come back again... It's also, yeah, spending time with customers, so you don't just get them in and flog them anything, you talk through the design and they get excited about the board. This job is about relationships between surfers and I find we are quite loyal actually. (Mick, guided tour, Illawarra)

Workshops owners Terry and Mick both outlined the importance of connecting with local surfing communities, through workmanship and social interaction. This helped to establish and maintain a successful hand-based custom approach to surfboards.

Customers sought out workshops because they provided personalised service, both in terms of the finished product and in exchanges that occurred between makers and surfers in the process of ordering and designing. Credibility amongst hand-makers thus relied on creating quality boards – assisted by working in different places to expand skills – coupled with proving their own passion for surfing.

In addition, workshops also made surfboards for well-known local competitive surfers. Both Jeff and Kyle shaped surfboards for some of the most respected surfers in Hawai'i (Tamayo Perry, Jack Johnson and Flynn Novak for example), while Phil, Laurie and Parrish at Byrne Surfboards in the Illawarra made boards for professional surfers Owen Wright, Tom Carroll (a two-time World champion) and Phil McDonald. At Mt Woodgee Surfboards on the Gold Coast lead hand-shaper Wayne made custom boards for top ten WCT surfer Bede Durbidge. D'Arcy Surfboards, also on the Gold Coast, made boards for seven-time ASP World Champion female surfer Layne

Beachley. These relationships also helped to establish a local customer base as surfers sought to replicate the surfing performance of such icons.

During a guided tour through the workshop of Skipp Surfboards – established in the Illawarra suburb of North Wollongong in 1963 – the process for hand-made custom boards was described (see Figure 4.25):

The custom order is filled out one on one with our customers, talking through their needs and wants, then the design you've created is drawn on the blank and cut out, filed down by hand, with a planer, sanded over and over, to its correct dimensions. Next the board is cleaned and the artwork and deck design is created with an acrylic paint. Then the glasser begins their work, layering fibreglass cloth over, cutting it to size. This resin [holds the bottle up], with catalyst is added, really carefully, which begins to set hard. Then once it's dried you sand it over and polish it up to give off that glossy, finished look. (John, guided work tour, Illawarra)

Hand-shaping and glassing surfboards were meticulous and knowledge intensive jobs, involving creative design, attention to detail, chemical ingredients, and manual tools adapted from other forms of work such as carpentry. Customers sought out hand-shaped custom surfboards because they received intimate service and a product that was higher quality than surfboards being mass-produced in a factory.

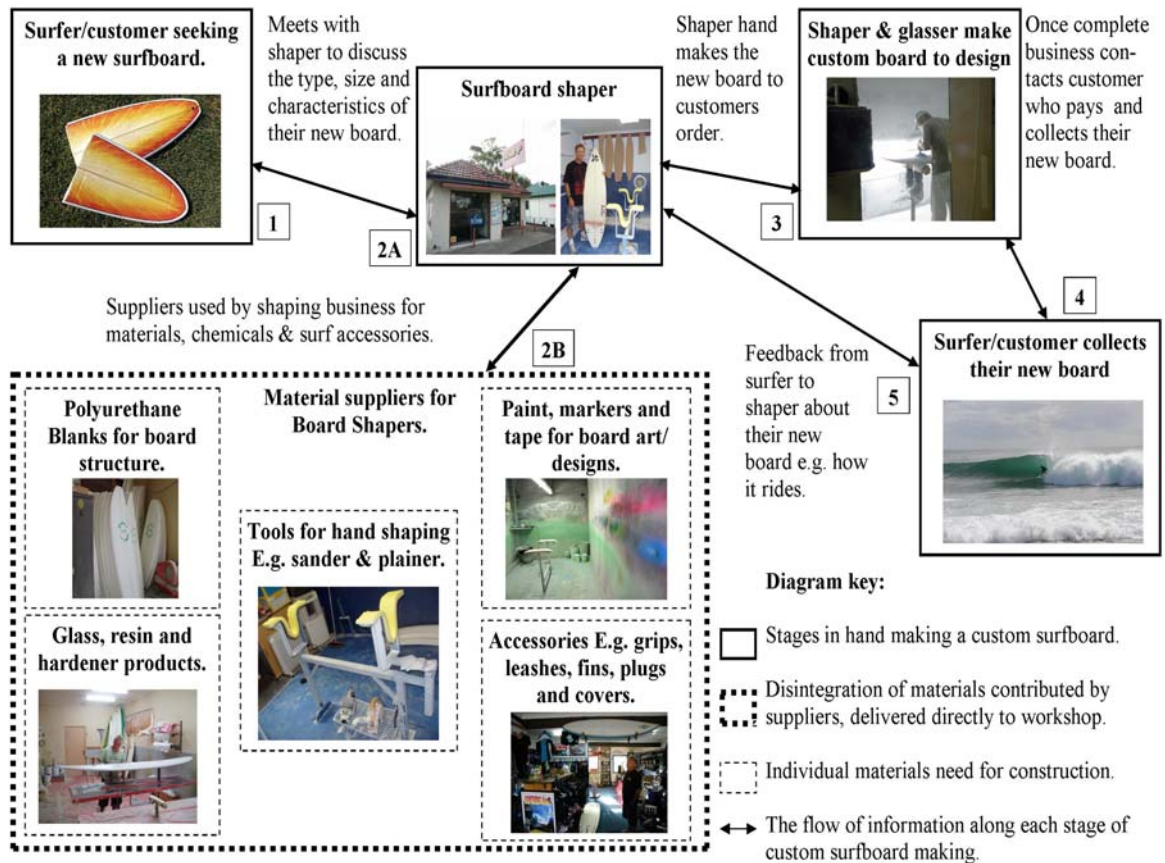


Figure 4.25: The process for designing hand-shaped custom surfboards. (source: Author)

Participants who made surfboards for a living came to know their customers socially, hanging-out, surfing with them and even watching them use products they had made. Mick in the Illawarra was amongst a group of local surfers to first ride waves at a break called The Farm in the 1950s. Tim, in La Jolla was involved in the local surfers club and competed regularly, meanwhile Ben on O`ahu coached a number of local surfers to help improve their surfing. These interactions and relationships ensured a high level of local credibility:

After I finished competing I turned to coaching local surfers so that I continued being involved in the top level of competitive surfing. I go watch all the contests

and people ask me for advice all the time and I always try to help them out. I still surf, I'm out in the water all the time as well, I go up to the North Shore or over the road to Ala Moana bowls...[local] people here know me and they know that I can make them a magical surfboard [laughs]. That makes me pretty happy actually, because they trust me to do a good job. (Ben, guided work tour, O`ahu)

In this way hand-based surfboard-making was dependent on attachments to local surfing communities, providing a customised experience where the consumer meets with and knows the maker. In producing their surfboards for local breaks and surfers, custom board-making was driven by the creativity of individuals, including Ben, who sought to provide a 'magical' experience on the wave. Rather than speaking of markets, margins and wages, surfboard-makers were motivated by surfing subculture. What was important to a business and its workers was credibility. This was matched by local surfers via their regular, repeated orders, sustained over years of doing business.

Because of the destructive capacities of the ocean and the perennial prospect of being wiped out in the waves (as well as the transporting of boards on car roofs, in awkwardly-shaped boots and on the back of bicycles), boards inevitably need replacing or repairing regularly. A board that lasts two years is considered exceptional. Thus local regular surfers necessarily source boards repetitively – a fact that amplifies the importance of credibility and relationship-maintenance for workshops. This became a key to the survival of such smaller, independent workshops and represents a distinctive feature of custom surfboard-making as a cultural industry. More than this, it also illustrates an example of how binaries of 'culture' and 'economy' break down as ontological categories under closer scrutiny (Pratt 2009b; Gibson 2012a), when a

community of loyal local surfers with a shared love of waves is essentially the same thing as a ‘market’ for this particular commodity.

### **4.3 ‘Scraping a profit’: the economics of hand-making surfboards**

Across the forty-five hand-shapers employed in participating workshops, the maximum number of custom surfboards that could be shaped per day varied between four and six, depending on experience, technique and time taken with customers. This included all stages of the shaping process from designing to preparing, cutting, planing and sanding. A typical shortboard design took around three hours with complex designs and most longboards consuming four hours of labour. The twenty-five glassers working across the eighteen workshops could each coat a surfboard in around thirty minutes, while it took a further two to three hours for the resin to set. After curing had occurred, sanding and polishing consumed another thirty minutes, with a second coat of glass requiring a repeat of the entire process – doubling the labour investment. If a glasser was also tasked with completing the installation of fins or airbrushing designs, a further hour was required for each surfboard. Because of the differences in occupational roles, outlined earlier in this chapter, more than half of the eighteen (ten in total) workshops across the four regions did not employ glassers internally. Instead they contracted this part of the work to glassing firms in the nearby area – a classic example of flexible specialisation (Scott 2000). Hence some smaller workshops did not have to support the wages and entitlements of a full-time glasser. Terry, a workshop owner in San Clemente explained his decision to outsource glassing:

...There are a few really top glassers around here [San Clemente] and rather than me having to hire them and worry about their weekly pay cheque and

holidays, you just send your finished shapes to the glassing shop and they charge you a fee per surfboard and that's all I need to worry about. (Terry, guided work tour, southern California)

In contrast, Arakawa Surfboards on the North Shore of O`ahu, along with CSD and Skipp Surfboards in the Illawarra, Mt Woodgee, Diverse and D`Arcy Surfboards on the Gold Coast employed full-time glassers. Indeed at CSD, Mick was responsible for glassing surfboards and was also the founding owner of the business. Rather than outsource their work, these shops employed glassers who moved efficiently between their different duties. These workshops were frequently busier; this in-house use of glassers sped up production because businesses did not spend additional time transporting finished shapes between separate glassing workshops. The determining factor in the internal employment of glassers related directly to the size and output of each workshop. At CSD Mick controlled the glassing process, while master craftsman Terry 'Snake' Bishop handled the shaping. Other workers in the Arakawa workshop on O`ahu, Skipp Surfboards in the Illawarra , Mt Woodgee and D`Arcy Surfboards on the Gold coast had trained to perform multiple tasks. For example at the Skipp Workshops Yasu, John and Chad all shaped, sanded, airbrushed and glassed surfboards as part of their employment. This ensured increased productivity at Skipp Surfboards.

While the maximum production output for a single hand-shaper was twenty to thirty surfboards per week, this threshold was rarely achieved. One reason for this was the seasonality of the industry. In Hawai`i, the main surf season runs between October and March, which is the busiest time for local surfboard workshops. Meanwhile in California, busy periods last from mid-November to December – leading up to Christmas – and the June to August summer period. At the southern end of the Pacific

the most productive times for Illawarra based workshops are from October through to February, coinciding with the southern hemisphere summer and Christmas holiday period. This six week boom period over Christmas was present also on the Gold Coast, but then extended until April because cyclone season often brought consistent swells to the region. Additionally, winter was a secondary tourist season, as southerners headed north to its subtropical climate. Outside of these peak times, production in each case study location across all eighteen workshops operated below maximum capacity. Owner and manager of Bessell Surfboards, Tim explained:

Around Christmas time and then leading into our summer; you know June and July, we are flat out, everyone is running around like crazy, but then other times in winter it might just be five or six boards per week, and I might cut down some of the hours guys are working. They will pick them back up when we're busy again. (Tim, guided work tour, southern California)

In the case of Bessell Surfboards, Tim employed a two other shapers and a casual worker who handled sales and enquiries at the front of the shop. At Senate Surfboards, six workers (three full-time and three casual) and a further storekeeper were employed within the business, with the use of this labour highly irregular and casualised. This was a common trend for other workshops regardless of where they operated. Kimo, an experienced shaper with more than forty years in the industry, outlined the seasonal variability of the industry and the adaptations he made to combine a love of surfing with making a living:

From the end of April through to the end of June I take off and go to Bali. I have to shape boards there for a few months because it's quiet here and work becomes



harder to find in the surfboard business; a few guys do that in Hawai`i... It keeps you busy, you know. (Kimo, interview, O`ahu)

In terms of cumulative output, hand-based production favoured shortboards (including hybrid designs that were referred to as ‘fun’ or ‘retro boards’) over traditional longboards at a ratio of seven to three. But in Hawai`i a shortboard was very different to an Australian or Californian equivalent. This was because of the contrasting environmental conditions: in Hawai`i powerful winter swells determined surfboard size – they were typically in the seven to eight foot range, a length which in Australia and southern California was approaching the size of a longboard.

The retail price for a shortboard in those Hawai`i based workshops continuing to hand-make boards ranged between US\$400 and US\$600, with a mean price of US\$490. Hawaiian longboards were more expensive, US\$560 to US\$1,050, with a mean price of US\$790, requiring the use of additional materials and labour investment. In southern California, across the four workshops currently hand-shaping, shortboards sold between US\$400 and US\$615, with a mean price of US\$510. Longboards were similarly priced to models made in Hawai`i, ranging from US\$570 to US\$1,150, with the average price of a hand-shaped southern Californian longboard US\$825. Customised hand-made surfboards had the highest retail price in Australia. In the Illawarra shortboards retailed between US\$480 and US\$700 with a mean price of US\$595, while a longboard sold from US\$690 to US\$1,290 with an average price of US\$940. On the Gold Coast, three of the four workshops hand-crafting surfboards sold their custom shortboard models for US\$470 to US\$700. The average price was US\$580. Longboards ranged between US\$750 and US\$1300, with an average design costing US\$920. Across the four case study regions the range in retail prices for surfboards was quite consistent, although

mean prices for surfboards tended to be highest in the two Australian case study regions (partly a function of exchange rates given the high Australian dollar since 2009<sup>12</sup>).

Over a twelve month recording period from June 2009 to June 2010 the number of hand-made custom surfboards sold across the four Illawarra workshops that still hand-made boards totalled 1402 surfboards (985 shortboards and 417 longboards). The smallest shop sold just fifty-six boards while the largest an impressive 525; an average output of ten surfboards per week. The gross retail value of this production in the Illawarra was US\$978,055 – an average of US\$245,000 per workshop. On the Gold Coast the volume of hand-shaped custom surfboards produced by workshops was similar. Of the three workshops still hand-shaping custom surfboards a total of 1179 were sold during the observation period (826 shortboards and 353 longboard designs). Production ranged between businesses, with one workshop hand-making 580 surfboards annually, while another just 125. The gross retail value of this production was US\$803,840 – or US\$267,000 per workshop.

In southern California, amongst the four firms that continued to hand-shape surfboards – Senate, Barker, Sauritch and Bessell Surfboards – production ranged from 220 to 578, with a total of 1474 surfboards sold in the observation period: 1031 shortboard designs and 443 longboards. The retail value of this work was approximately US\$891,285, or US\$222,821 per workshop. Meanwhile in the Hawaiian based workshops that maintained hand-shaping (four of six participating in this thesis), sales ranged from a modest sixty-five boards to 420 over the twelve month observation period. Total sales numbered 1025 (725 shortboards and 300 longboards). The total

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<sup>12</sup> At the time of writing the Australian dollar was worth US\$1.05, and had been as high as US\$1.10 in recent months – compared with US\$0.50 ten years earlier.

retail value of hand-based surfboard production amongst the workshops on O`ahu was US\$592,250, or approximately US\$148,000 per workshop. The total cumulative retail contribution from hand-based custom production across the four regions was US\$3,265,430. Southern California, the Gold Coast and Illawarra regions shared similar levels of production, while Hawaiian workshops operated at somewhat lower levels of hand-made production.

These sales figures illustrate the way different hand-based workshops, regardless of their unique geographic location in different parts of the Pacific, had reached a similar scale of production in terms of output and sales. In other words, custom surfboard-making constrained business expansion, where work was labour-intensive, high quality, time consuming and artistic. Chris, a hand-shaper for more than fifteen years in the Illawarra, explained the tensions between hand-shaping and business expansion:

One of the big issues for me running this thing is that hand-shaping is limited just by the way it operates...the time it takes and the interactions with customers... it's all very time consuming. I can only produce a limited number of boards and if I hire blokes I'm under the pump to get extra orders in to cover more costs and you don't want to feel like customers are becoming unhappy with the way things are going. So there is a limit to how big you can get with it.

(Chris, guided work tour, Illawarra)

In terms of employment base, each business tended to be relatively small. The eighteen independent enterprises employed eighty-seven workers, with an average workforce of 4.8 employees per workshop; with thirty-eight (43.7 percent) employed internally on a permanent full-time or part-time basis and forty-nine (56.3 percent) employed on a

temporary, casual or contract basis. Across the eighteen businesses there were forty-five hand-shapers, twenty-five glassers and seventeen employees tasked with a variety of other duties: computer programmers, sanders and polishers, shop assistants, ding repairers responsible for fixing damaged surfboards, customer support/relations and even graphic artists (as the case at Mt Woodgee and D'Arcy Surfboards on the Gold Coast and Arakawa Surfboards on O`ahu).

Another important consideration in analysing custom hand-based production of surfboards was the incurred costs to workshops. When analysing these costs, it became clear that hand-made surfboards were not large profit items, despite having relatively high retail value. While hand-made surfboards are high cost items for local surfers, they are also expensive products for workshops to make. First, participants outlined the pressures and significant costs of setting up their business, in terms of finding suitable work space at affordable rent or purchase prices, buying required tools and equipment and fitting spaces out to suit hand-making:

We moved in the late 1970s because originally we were too far from town and the beach. That move really cost more than US\$50,000 and back then that was a lot of money. (Mick, guided work tour, Illawarra)

Similarly, Tim from southern California explained the expensive nature of setting up his workshop near the town centre in La Jolla, a coastal area just a fifteen minute drive north of San Diego:

We are in a really great location here, near the beach, but man it doesn't come cheap. I rent this for good money and it costs you thousands to set the shop up and then just to keep everything clean and maintained so it's a healthy and safe

place to work. It's many thousands a year – expensive basically. (Tim, interview southern California)

There were significant risks for those hand-making workshops who sought to expand beyond this limit: one Gold Coast workshop (that for commercial reasons will not be named here) had in 2003 sought to upscale production and put in place best-practice environmental and workplace safety and conditions by investing many hundreds of thousands of dollars in a purpose-built, ground-up designed production facility.

Production capacity expanded accordingly, but with a global economic downturn, a high Australian dollar and a contraction in tourism on the Gold Coast, which translated into local 'tradies' (tradespeople reliant on the construction industry associated with tourism) who surfed losing their jobs, and thus buying fewer replacement boards, that workshop was at the time of writing selling their state-of-the-art facilities at a considerable loss (upwards of A\$200,000).

In a detailed analysis of production, incurred expenses for surfboards included the cost of materials (foam, resin, fibreglass and paint), maintenance and replacement of tools and equipment, rents/mortgages, utility costs, necessary labour time and wages. In the Illawarra and Gold Coast, costs for making a board ranged between US\$390 and US\$560 for various shortboard designs and US\$530 to US\$980 for different styles of longboards. In California production costs were slightly lower, ranging between US\$300 and US\$490 for shortboards or US\$450-US\$920 for longboard models. In the Hawaiian case there was a higher base cost to workshops for making shortboards and longboards. This was attributed to higher transportation costs, as blanks and resin could not always be sourced from local suppliers, and so had to be shipped from the mainland United States. As a function of the difference between cost and retail price workshops in

Hawai`i had the smallest margins. Here hand-made shortboard designs cost workshop owners between US\$310 and US\$480 to produce, and longboards from US\$460 to US\$930.

The average cost of making a shortboard under the traditional hand-based method in California was about 75 percent of retail price, meaning a shortboard design selling for US\$510 cost about US\$385 to make. Longboards were even lower profit; with a model selling for a mean price of US\$825 costing workshops US\$640 (78 percent of the retail price). In Hawai`i the costs of hand-based production ran at nearly 80 percent for shortboards and 84 percent of the average retail value of longboards. In the Illawarra region shortboard costs were 79 percent of retail price, with longboards 77 percent. On the Gold Coast margins for custom made surfboards were 73 percent for shortboards and 78 percent for longboards. Overall the profit margins for custom made longboards ranged more widely than shortboard designs – from 76 to 85 percent across the four regions. The profit margins for hand-makers and workshops were on the whole quite narrow, regularly 75 to 80 percent of retail price in each study location.

To help promote brand recognition and sales, Mt Woodgee on the Gold Coast, Byrne Surfboards in the Illawarra, Arakawa Surfboards and Country Feeling in Hawai`i and Senate Surfboards in southern California advertised their labels via promotions online or in local television and print media. Each of these workshops also sponsored professional surfers, making them boards at cost price or less. In the cases of Byrne (Illawarra), Mt Woodgee (Gold Coast) and Arakawa surfboards (Hawai`i) – the larger workshops – owners had entered into sponsorship arrangements to provide a group of

professional team rider's with a quiver<sup>13</sup> of boards – designed uniquely to suit different breaks and conditions. In return team riders were expected to display the workshop's label prominently along the board's deck.

Despite the high overheads and operating costs associated with craft-based production, all of the fifteen businesses using hand-shaping made an annual profit over the twelve month observation period. Given this was within a period of global financial downturn the profitability of the workshops suggests that surfboard-making by hand is robust and resilient. Indeed, that hand-shaping has survived as a production method for sixty years despite mechanisation, computerisation, globalisation of trade and transport routes and the offshoring of manufacturing to low-cost labour locations (see Chapter 5) is remarkable testament to the sustainability of the grass-roots custom surfboard industry, and the loyalty of local surfers.

But this did not mean workshops had not faced increasing cost pressures in recent years. With individual custom makers constrained in how big they could get and also restricted geographically in terms of market access (because of the need to tailor boards to local waves that they knew), fifteen of the eighteen workshops had shifted scales of production through other means: embracing a mechanised, automated approach to surfboard-making, known as computer-shaping. While all businesses continued to hand-shape surfboards for custom markets, a second system of production for surfboards – a much more capital rather than labour-intensive – approach has become increasingly pervasive in the industry across all four regions. This automated, intensified production system is the focus of the next chapter.

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<sup>13</sup> As an ultimate example, during the Hawaiian surfing leg of the World Tour in 1975 Australian Mark Richards used a quiver of six surfboards, ranging from a Ben Aipa shaped 6'9" stinger design to a 8'6" pintail design suited to the bigger waves at Waimea Bay (see Warshaw 2005).

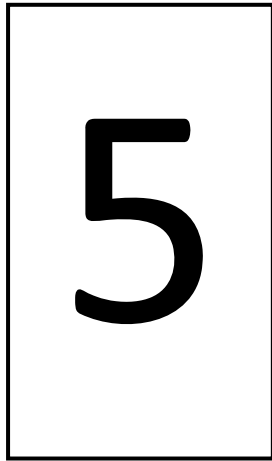
## 4.4 Conclusions

Surfboard production in Hawai`i, southern California, on the Gold Coast and the Illawarra emerged throughout the twentieth century as a viable cultural industry, driven by growth in the surfing subculture, the need for boards shaped to suit local physical geographical conditions, and by a number of key surfing characters and entrepreneurs, who experimented with the use of materials, designs and scales of production. Today local surfboard-makers in each region continue to custom-make with skills embedded in the minds and hands. Their work in shaping bays and glassing rooms produces high quality, customised surfboards, especially matched to the unique environmental qualities of local surfing breaks and consumers. As a cultural industry, making surfboards with the hands to custom specification is driven by the unique creativity of individuals, as makers seeking to build boards for customers that will provide them with a more exhilarating and responsive surf. Here the market does not exist externally to workers and their production, but is composed of surfers with whom they socialise and know personally. They observe customers riding their boards, hang out with them, and maintain on-going relationships that are more than just the financial transaction associated with buying a board.

What makes custom-making boards vulnerable is less the competition from fellow local independent board-makers, than the broader global context, within which the local makers profiled in this thesis now play. Hand-shapers are increasingly in competition for brand recognition, reputation and surfboard sales with global mega-brands, in an industry that has become much more than surfing itself. Hand-based production struggles to meet demand from all levels of the surfing market; increasing numbers of surfers are beginners and simply want to purchase a cheaper, less



specialised board on which to go surfing. Many simply wouldn't even know about the possibility of getting a board custom-made. In response, a production method has emerged in the very same custom workshops profiled in this chapter, which allows surfboards to be mass-produced through automated and computerised technologies. This mechanised system of production is now being widely used by both smaller, independent workshops and larger offshore operated businesses. It is to this production system and to the global explosion in the popularity of surfing that we now turn.



# **Computers and corporations: a system of automated production**

## **5.1 Introduction**

The aim of this chapter is to explore a second system of surfboard production present in the workshops that participated in this research: what is termed an automated or mechanised approach (Burawoy 1983). Since the 1980s the surfing industry has increasingly spread its tentacles of production, distribution and marketing, selling the surf across a wide range of products. This has influenced traditional custom workshops, who have shifted towards mass production and design replication. Surfboard-making has also spread into locations not well known for surfing culture, and into merchandise that is not technically required for surfing. Based on business models more akin to fashion apparel, and using automated, computerised forms of surfboard shaping, production has begun moving away from small workshops in popular surfing towns and regions to large manufacturing facilities in locations with pools of cheap labour, export networks and infrastructure.

Local independent makers and their hand-shaping practices are being placed under increasing threat by the accessibility of new production technologies and the increasingly oligopolistic tendencies of the industry among a small number of large ‘mega-surfing’ brands. They pose threats to local independent surfboard-makers, but also have changed the nature of the industry in such a way as to provide avenues for local independent makers to further distinguish their product. Corporate domination is always in danger of breeding homogenisation and thus global forces in surfboard-making – while a constant commercial threat – have also opened up a new means for hand-shapers to better distinguish their boards as unique, skilled works of art.

Hand-based production took advantage of technologies in the doing of existing manual tasks: shaping, sanding and sealing processes was done by skilled, specialised workers – hand-shapers and glassers/laminators. Modern technology was not essential to the process of making surfboards, but instead offered new tools, materials and ways of improving what was in essence the same work. Technology was used to augment production (e.g. electric planers), to make lighter or faster surfboards in the same way (e.g. foam), to advertise local workshops and their labels (on radio, television etc) or to deliver supplies along a disintegrated production line. Echoing Adorno (1980), new technologies under such a system of cultural production are not essential to the physical manifestation of the service or product, yet can improve the product or help it reach a larger audience. This parallels other forms of cultural production, such as music, where instruments and performance techniques have not changed much across time but larger audiences have been sought by using emerging technologies, sound engineering equipment, computer recording and internet distribution (e.g. Gibson and Connell 2005, Chapter 11).

In the new, automated approach to surfboard-making described in this chapter, the use of other new technologies is much more profound, and has become essential to the production of surfboards (Adorno 1980). Following a mechanised, automated approach, each surfboard is shaped using computer generated design templates with the goal of meeting demand across a more general mass market. This system introduced a number of key structural differences in terms of surfboard market scales and the number of occupational specialisations within a workshop. Most significantly it also required changes in the relationship between surfers and individual board-makers that shift the extent to which this cultural industry is embedded in dependent relationships and connections with a surrounding local community of surfers. Computerised-shaping technologies have altered the relationships and interactions amongst workers, and between makers and customers.

As four coastal regions Hawai`i, southern California, Gold Coast and the Illawarra have become unique and popular surfing locations. One is the birthplace of surfing (Hawai`i), and the other three have cemented their places as surfing locations of global significance, not only for their quality waves and surfers but for their role in the commercialisation of surf culture. Here surfing has become viable business and surfboard-makers must compete with larger labels and other commercial surf industry brands. Rivalry and struggle for market share has meant that local workshops have sought to speed and scale up production. I begin this chapter by charting surfing's rise to global prominence, its commercialisation and corporatisation, and then discuss the details of how workshops have responded by shifting themselves to an automated production system.

## **5.2 A global boom: the commercialisation of surfing**

The global boom of surfing in the twentieth-century is an important part of the story of the moves to computerised-shaping for scaling and speeding up surfboard-making. But importantly, surfing had largely globalised before machines were being used to make surfboards en masse. Surfing has followed a clear commercial pathway in assuming its place as a big capitalist industry. Emerging from its counter-cultural roots in the 1950s to become mainstream, popular culture, surfer's attitudes changed from hedonistic, almost anti-capitalist apathy to competitive professional world tours. Its geography changed from being situated along particular wave-exposed coastlines to a global corporate business, selling the surf across diverse product types, some of which have absolutely nothing to do with the act of surfing, and hence even to land-locked regions from the Midwest United States to central European nations such as Germany and Italy.

This story of phenomenal global growth sits behind the shift towards automated production in the surfboard industry – after all more surfers means more boards. The opening up of new spaces of surfboard production in China, Thailand and other parts of Asia, focused on exporting large numbers of surfboards into popular surf regions in Hawai'i, mainland United States and Australia is accompanied by other stories (profiled later in this chapter) of the shift to different forms of work for surfboard-makers and the undercutting of hand-shaping enterprises.

### **5.2.1 Popular culture, surfing subculture**

The commercial growth of surfing and the surfboard industry is based on the popularisation of surfing's hedonistic image and style. By the early 1960s surfing in Australia and the United States was being featured in a variety of motion pictures –

*Hawaiian Surfing Movie* (1953), *Gidget* (1959), *Beach Party* (1963), *The Endless Summer* (1964) and *Blue Hawai`i* 1961 – while also the basis of a unique music style made fashionable by The Beach Boys and cult surf groups such as Dick Dale, The Chantays and The Challengers. The coverage in film and music propelled the popularity of surfing, as Kristin Lawler (2011) explains:

An American ‘surf craze’ ...went on for most of the 1960s and was characterised by a popular obsession with all things surf and California. Surf music, surf clothing, even surfboards on the roof of cars in landlocked middle America – the kids couldn’t get enough of the surf lifestyle, and Hollywood, the music industry, and the new surfboard and surf wear companies couldn’t serve it up quickly enough. And with every magnification of the surf image in American pop culture, the number of actual surfers increased exponentially. (Lawler 2011 p 2)

While surfing participation in the 1960s was growing rapidly in both California and south-eastern Australia, it was also punctuated by moments of broader social controversy. According to prevailing social norms surfing was a lazy and self-indulgent pursuit that denigrated the esteemed role of traditional lifesavers and which went against traditional values of hard work and continuous employment (Booth 1994; 2001; May 2002).

By the late 1960s print media across the Pacific (from *Time Magazine* to the *Sydney Morning Herald*) began associating groups of Californian and Australian surfers with social problems such as outbreaks of crime, drug-taking, partying, anti-capitalist and anti-social behaviour. Surfers were widely referred to as ‘dole bludging’, ‘trouble makers’ and ‘jobless junkies’ because of their participation in an ‘oppositional cultural

practice' (Booth 1995 p 8). According to Douglas Booth (1995) surfing settings grew quickly as a counter-cultural movement in the 1960s, as surfers sought to construct their own identities away from those of the Surf Lifesaving movement (see also Booth 2001; Young 2008). In Australia the transmission of surfing practice outside of surf clubs – considered the more structured and authentic beach users – brought a focus on self-expression and an antagonism towards mainstream values. This meant that initially surfing struggled for legitimacy.

This is when one of surfing subculture's most persistent contradictions emerged. On the one-hand Californian and Australian surfers sought to move out on their own in terms of surfing participation and performance. They held an oppositional ideology toward work and play, structure and organisation. However to establish their place in society required that they also re-fashion this philosophy in order to gain acceptance and validity. Ultimately the way surfers did this was by moving into competition and professional organisation. Surfers went from being anti-competitive, soulful wave riders to structured sportspeople who staged competitions to show the rest of society their talents and abilities.

Booth (1995) provides an example of how these tensions and dilemmas played out through a discussion of former World Surfing champion Nat Young. In 1967 Young, an Australian 'soul' surfer, decided not to take up an invitation to ride in the prestigious Makaha competition, held on O`ahu. When asked why he didn't compete in the event by a surfing magazine Young replied: 'Surfing contests---eeek' (Booth 1995 p 9). He simply could not find the words to express his disdain for competitive surfing. Yet less than twelve months later, Young would compete in and win the 1968 Australian surfing title, emerging as an Australian surfing 'hero'.

Nat Young was not an isolated case in the story of surfing subculture and its popularisation. More than any other surfer, Californian Miki Dora epitomised surfing subculture of the 1960s. Dora maintained an image as a reclusive and vagrant character, who hung around Malibu doing nothing else but surfing; he even went to gaol twice for fraud and theft undertaken to maintain such a lifestyle. While portrayed in surf magazines as a destructive, rebellious and iconoclastic figure, Dora actually made a significant living by playing himself in a number of surf films. He starred in *The Endless Summer* and in seven of the *Beach Party* movies. Hence according to Jamie Brisick:

If you took James Dean's cool, Muhammad Ali's poetics, Harry Houdini's slipperiness, James Bond's jet-setting, George Carlin's irony and Kwai Chang Caine's Zen, and rolled them into one man with a longboard under his arm, you'd come up with something like Miki Dora, surfing's mythical antihero, otherwise known as the Black Knight of Malibu...His surfboard was his magic carpet and his wits were his wings, and from the late '60s up until his death in 2002, excepting a couple brief prison stints, Dora lived the Endless Summer lifestyle, defining what it means to be a surfer. (Brisick 2006 p 1)

Despite once saying he was 'repulsed' by the commodification of surfing subculture and the growing crowds that now lined the beach at Malibu (Brisick 2006 p 2), Dora undoubtedly used his name and image to fashion a living, also featuring in countless surfing magazines and advertisements (Kampion 2007). Along with regularly competing in surfing competitions, soul surfers such as Dora and Nat Young epitomised the contradictions that emerged alongside surfing's popularity. As a growing number of people took an interest in surfing and started buying surfboards to ride waves for



pleasure, a commercial market also galvanised around the subculture. Initially this demand was met from local surfboard-makers (machine manufacture would only come after the subculture globalised), industry was propped up by surfboard-makers, with interest from non-surf related companies including Coca-Cola and Michelin Tyres. These firms saw an opportunity to promote their products through the popularity of surfing (Lawler 2011). Popular culture, films, television and music exposed the surfing lifestyle to a wider audience. This was concentrated in California and east-coast Australia, at precisely the time when their residential populations boomed, and Hawai`i was mythologised as its birthplace, exactly when that state's tourism industry expanded (Connell and Gibson 2008). There was now a much greater volume of potential wave riders, who as 'surf' consumers would financially bankroll the sport's growing corporate interests.

### **5.2.2 Contests and tours: professional surfing developments**

Another part of this story of surfing's expansion and commodification is its codification as a competitive sport. Surfing competitions date back to pre-contact Hawai`i. At large festival such as the *Makahiki* and during times when the swell was big Hawaiian *ali`i* gambled on surfing performance, leveraging anything from domestic animals and food, to land and occasionally even surfboards themselves (Finney and Houston 1996; Walker 2011). The winning surfer was the person who performed the longest ride, from the outer breakers to the shore (Walker 2011). Competition continued after colonisation of Hawai`i and became especially prominent in the early twentieth-century. Around this time a rivalry developed between the mostly *haole* Outrigger canoe club and the *Hui Nalu* club (popularly known as the Waikiki Beach Boys), of which most members were

*Kānaka Maoli*. Members of these clubs did not limit competition to surfing, and included a wide range of water sports from canoeing to paddle board racing and swimming. While these historical examples of surfing competition are significant, they were not well publicised outside of the Hawaiian Islands and competition was limited to those members within each club. Furthermore these early surfing contests rarely provided money as a reward to winners and competitors.

By the 1960s surfing was in vogue, and commercial interest grew it as a sport. This greatly encouraged surfers, who were by now struggling to gain respect as legitimate sportspeople (Bartholomew and Baker 2002). In 1964 the International Surfing Federation (ISF) was formed and became responsible for organising an annual surfing competition open to all competitors, with the winner being crowned world champion. However, with poor formatting and a lack of funding there was growing discontent amongst surfers. This prompted a change in direction (Warshaw 2005). According to surfing journalist Matt Warshaw (2005), well respected Hawaiian Fred Hemmings gained the financial support of alcohol company Smirnoff and in 1969 held a more lucrative surfing competition, which also crowned a world champion. The first competition was held at Steamer's Lane in Santa Monica, and was strictly invite only. The inaugural men's winner, Cory Carroll, collected a healthy US\$1500; the women's winner Margo Godfrey meanwhile won just US\$150 (Warshaw 2005).

While the Smirnoff contest ran successfully for five years as a standalone event, it did not solve surfing's problem of gaining sporting credibility. What was needed was an international surfing tour with several different events, which would further disperse and promote surfing while opening up new markets for the selling of the surf. The first such tour was in 1976 when Hemmings was partnered by Randy Rarick (born in Seattle

but moved to Hawai'i as a child) and together they formed the International Professional Surfers (IPS) organisation. It set in motion an annual fourteen stage world surfing tour, with a women's world tour starting a year later. The IPS introduced a ratings system with competition points assigned to the different finishing places, while heats were formatted so that surfers competed against only one other opponent, with winners advancing to the next round of the event (Bartholomew and Baker 2002; Warshaw 2005). This format continues to this day under the auspices of the Association of Surfing Professionals, based on the Gold Coast.

The IPS (and later ASP) implemented a number of important changes in developing surfing as a professional sport, both financially and in terms of exposure. It found television companies in Australia, the United States and Japan to broadcast events and publicise the contests to large regional audiences (Bartholomew and Baker 2002). This encouraged major sponsors to support the tour, including a wide array of corporate interests from communications firms (Telecom, Boost Mobile) to tyre and petroleum businesses (Bob Jane T-Marts; Ampol Petroleum) and beverage companies (Coke-Cola, Fosters and Smirnoff). These were all unrelated to surfing but saw an opportunity to promote products to a young, leisure-based market. On the back of successful surfing contests and a professionally-staged world tour, surfing enjoyed widespread popularity and became more socially accepted as a valid sport. Around these professional surfing contests and accompanying experimentation with surfboard design grew several businesses that would have profound impacts on the selling of the surf – not only locally, but internationally through complex production, distribution and marketing strategies. These firms – Rip Curl, Quiksilver, Billabong – would successfully link the consumption of aesthetically branded fashion items with surfing culture.

### 5.2.3 ‘Everyone knows the feeling’: the corporatisation of surfing

With surfing enjoying newfound international popularity and a growing sense of legitimacy as a sport, surfboard workshops began multiplying in most coastal towns where surfing was being practiced. These workshops supplied the growing number of local surfers with the essential products for riding waves. Many workshops were tiny, operating from backyard garages and tool sheds and employing only one or two workers each (see Chapter 4). At the same time markets had now materialised for the consumption of other surf-related products, especially clothing, that would assist with surfing participation but that also capitalized on associations with beach culture and laid-back lifestyle. Surfing was becoming as much about image as it was riding waves (Bartholomew and Baker 2002; Kampion 2007).

In 1969 two surfboard companies formed in the southern Victorian town of Torquay, Australia<sup>14</sup> – home to several quality surf breaks around Bells Beach. In taking advantage of surfing’s period of global expansion, Australians Brian Singer and Doug ‘Claw’ Warbrick pitched their idea for a surfboard business to financiers in Melbourne. The two were given small loans to start a company they called Rip Curl – the company derived its name from the surfing term *ripping the curl* – which focused on making custom surfboards (see Rip Curl 1997):

Rip Curl Surfboards did well in a...competitive market which had opened up in response to the revolution in [surfboard] design. Pioneers like Gordon Woods

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<sup>14</sup> Torquay was another potential case study location for this thesis – as it is an iconic surf region and has played a pivotal role in the surfing industry globally. But with its legacy of Rip Curl and Quiksilver the story there was palpably different to those in Hawai`i, southern California, the Gold Coast and Illawarra, where small independent workshops prevailed. The dynamics facing independent workshops there were thus necessarily going to be contrasted against those of the corporate giants which the town spawned. The stories of these mega-brands from Torquay are nonetheless included here, even if the region does not feature as a prominent case study in its own right.

and Barry Bennett in Sydney and George Rice in Victoria had been joined by hundreds of wide-eyed hopefuls operating, like Rip Curl, out of garages and tool sheds. In many cases enthusiasm and innovation overshadowed technical expertise and quality, but Rip Curl concentrated on producing a small number of functional surf craft for local waves. (Rip Curl, interview, 2010)

The company's surfboard production was initially only servicing a local market, providing Warbrick and Singer with a steady income. There was, however, 'significant competition in the board market' by the early 1970s (Rip Curl, interview, 2010).

Responding to this competitiveness, the decision was made to shift the focus of the company towards the production of neoprene wetsuits. The water in Victoria was bitterly cold and at the time only one other business (O'Neill, formed in Santa Cruz, California, in 1959) was making specialised surfing wetsuits to keep surfers comfortable in the water. Warbrick and Singer saw a potentially lucrative market for well designed surfing apparel.

As Rip Curl continued to expand in Australia, it signed its first licensee in 1981 to a southern Californian company called Lowers (Rip Curl 1997). While Rip Curl maintained private ownership between Warbrick and Singer, they could now sell their wetsuits and clothing to the American surf market. In addition to Australia and the United States, over the next fifteen years Rip Curl sold eight other licenses to investors in Chile, Peru, Argentina, Brazil, Indonesia, Japan, South Africa and France. Rip Curl now enjoys annual international sales from surfboards, wetsuits, clothing, watches and fashion accessories, totalling more than US\$400 million (Aprhys 2008). Company founders Singer and Warbrick have since maintained the company's private ownership, resisting the temptation to publicly float the label.

Rip Curl is thus currently the world's largest privately owned surf company but has followed a corporate pathway quite different to that of rival brand Quiksilver, Inc. – the world's largest publicly-owned surf company. Like Rip Curl, Quiksilver founders Alan Green and John Law formed the company in the same small Victorian town, Torquay, in 1969. Also like Rip Curl, Quiksilver began as a surfboard workshop, making customised boards for local surfers. In the early 1970s Quiksilver successfully moved its focus into the selling of surf-labelled clothing and fashion accessories, down-sizing its surfboard production, which was less profitable. In 1976, American surfers Bob McKnight and Jeff Hakman purchased the licensing rights to Quiksilver USA from Green and Law, which gave them exclusive rights to produce and distribute Quiksilver clothing, surfboards and accessories in the United States. This represented surfing's first transnational enterprise.

In two decades Quiksilver grew from a small surfboard and clothing company – with annual sales of \$19 million in 1986 – to a publicly listed (Quiksilver listed on the NYSE in 1998), multinational conglomerate, with annual revenue topping \$2.4 billion by 2007 (Quiksilver 2010). Internationally, the company now operates 834 stores, 540 owned directly by Quiksilver, and 294 operating under licensing agreements (where the label exclusively supplies products to stores, owned by a private retailer – see Hamanaka 2011). Quiksilver sells in over ninety countries and in fiscal year 2009-2010 over 65 percent of its revenues were from outside the United States, with highest growth in the Asia/Pacific region.

The other publicly-listed surf mega-brand, Billabong, has a slightly different story again. Unlike both Quiksilver, Inc. and Rip Curl, which started as surfboard-making workshops, Billabong was formed in 1973 as a clothing and apparel brand on

Queensland's Gold Coast by Gordon and Rena Merchant. Gordon Merchant was working as a surfboard shaper but recognised a market for comfortable surfing shorts, which he and his wife hand-made from their home. After making the clothing Merchant personally distributed the board shorts and t-shirts to surf shops down the Australian east-coast. These were the only retailers where Billabong clothing would initially be stocked and sold. This helped create subcultural capital for the label and added to the credibility of Billabong as a 'surf brand' (Jarratt 2010). Part of the story about Billabong's success can also be attributed to timing, especially tourist and population growth in regional coastal towns, where surf shops opened up in the 1970s and 1980s coinciding with Merchant's production of surf clothing.

Importantly, each of these 'big' global surf companies did not rise to dominance based on surfboard-making, but instead through vertical integration of their surf fashions and apparel into retail stores through which they could sell higher profit items, including t-shirts, board shorts and jeans to wider markets. The vertical integration into retail has been highly profitable for Billabong, which between 1999 and 2010 grew its revenue from US\$110 million to US\$1.5 billion, listing on the Australian Securities and Exchange (ASX) in August 2000 under the consumer durables and apparel industry category.

In 2009 joint sales between the two largest surf firms, Quiksilver and Billabong reached \$3.6 billion. Both companies have expanded their revenue bases following a typical capitalist blueprint. Each has regularly acquired smaller, independent surf and leisure brands mostly in the fashion/apparel category, to maintain market dominance (as Billabong did in 2004 with the acquisition of Palmers surf, followed by Quiksilver's in 2005 with the acquisition of skateboard/footwear brand DC), while they seek to

heighten market awareness of their label through intensive advertising campaigns, sponsorship of professional surfers and events on surfing's World Championship Tour (WCT).

The international surf industry is now characterised by sophisticated production and distribution networks, distinctive branding, extensive marketing campaigns and transnational corporations. The corporatisation process has included the trade of apparel, accessories, travel, footwear, retail activities and board-making. In 2008 surfing in the United States – the largest market for the selling of the surf – was a \$7.22 billion industry, arranged across more than 4,900 retail outlets (SIMA 2008). According to the Surf Industry Manufacturers Association (SIMA), the surfing industry in the United States had a labour force of close to 50,000 and experienced compound annual growth of 9.7 percent between 2004 – when statistical measuring of the industry began – and 2008 (SIMA 2010). The most profitable surf-related goods within this industry were apparel and accessories, with surf-styled footwear for example generating a staggering \$1.1 billion in sales for 2008 (Figure 5.1).



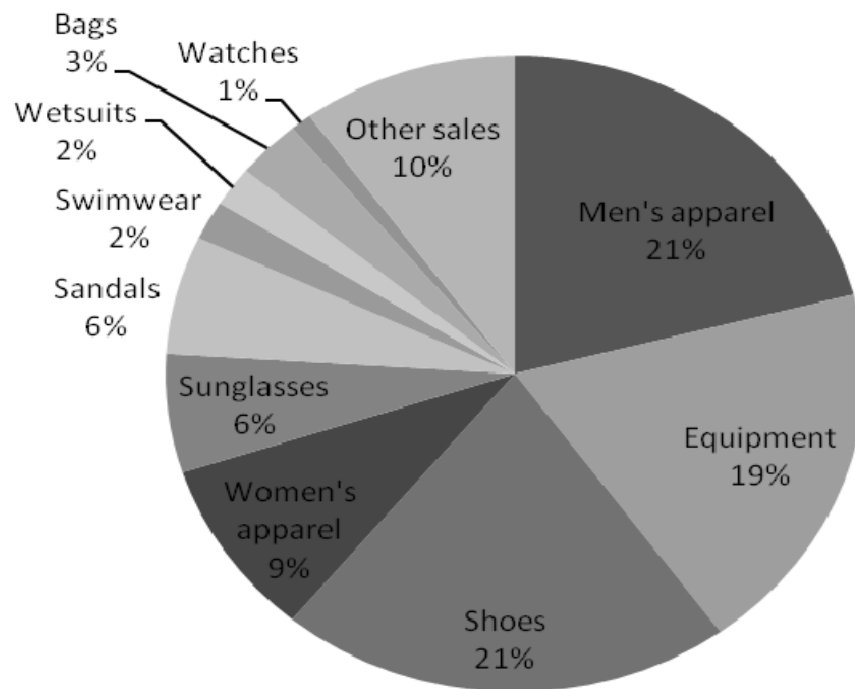


Figure 5.1: The selling of the surf – by product category. (source: adapted from SIMA 2010)

In geographical analysis undertaken for this thesis on the surf industry in the United States<sup>15</sup> coastal regions composed the majority of the market for surf products; logically this is where surfing is popularly practiced. At the same time the Midwest and non-coastal Eastern states still generated sales of \$752.9 million or 10.4 percent of the total U.S. surf industry (Figures 5.2 and 5.3). The sale of surf products mythologizes and yet also transcends the physical geographic origins that define the actual act of surfing in the ocean. For illustrative purposes of comparison regarding the industry's total size, the surfing industry in the United States in 2008 (excluding surf tourism, for

<sup>15</sup> Measuring the surf industry in Australia was not possible because no industry representative body exists that collects statistics. The organiser of the nascent Australian Surf Craft Industry Association was interviewed on the Gold Coast in 2011 – as yet, however, that fledgling organisation is not in a position to be able to collect nationwide statistics.

which value is unmeasured but certainly significant) was over three-quarters of the size of the more visible and influential U.S. motion picture industry – worth \$9.95 billion (Nash Information Services 2011).

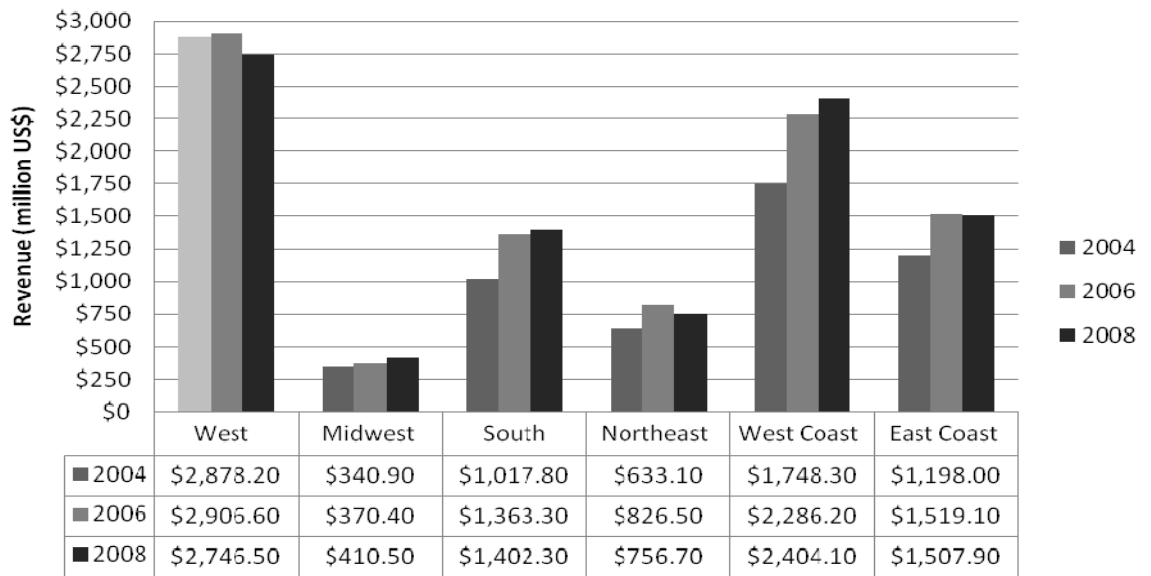


Figure 5.2: U.S. regional growth of the surf industry, 2004-2008 (source: adapted from SIMA 2010)

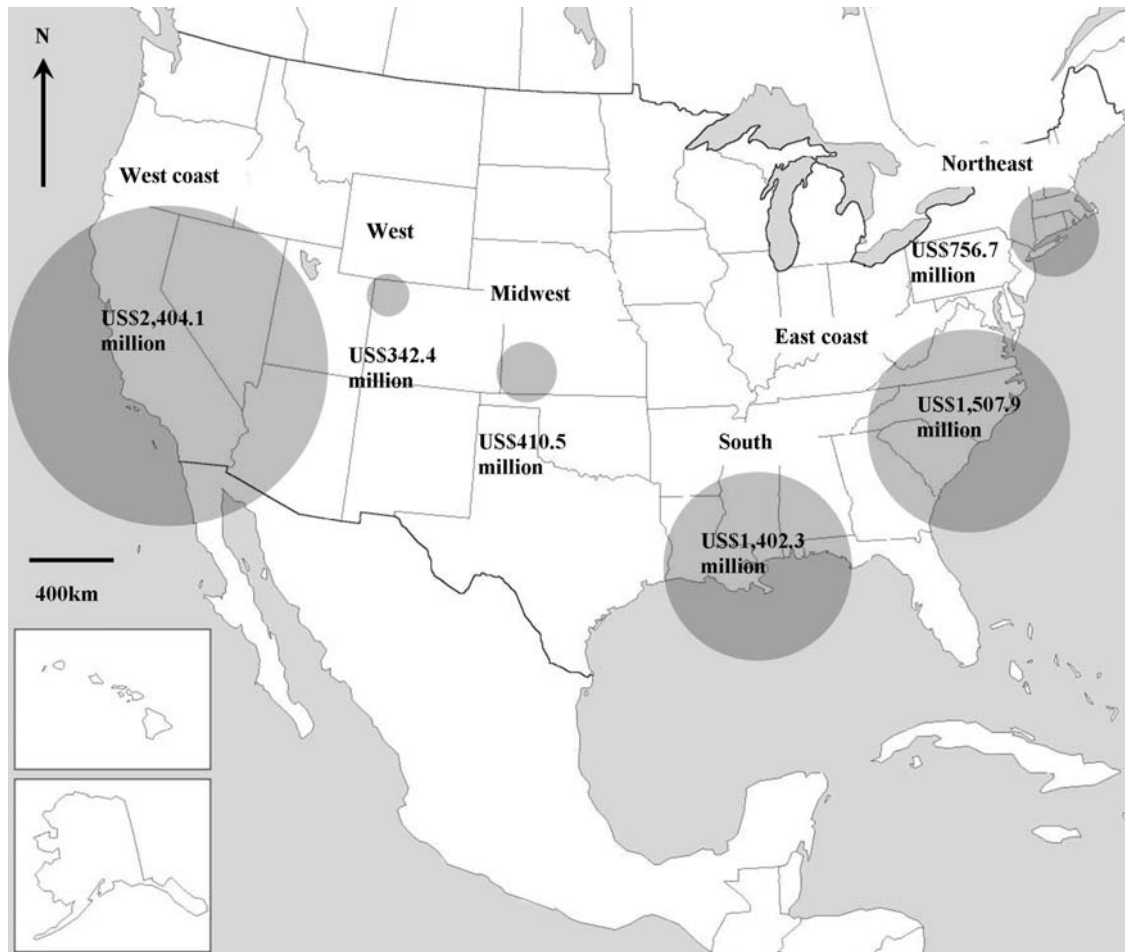


Figure 5.3: The geography of the U.S. surf industry, 2008<sup>16</sup> (source: adapted from SIMA 2010)

Alongside the commercial intensification of surfing has been a concentration of market power within this small number of large firms, and with retailers rather than surfboard workshops. The surf industry is a good example that illustrates imperfect forms of competition and the oligopolistic tendencies that have come to typify other forms of cultural production, like the film, media and music industries for example

<sup>16</sup> In this analysis Hawai'i is counted as a West Coast state. Since the 2008 GFC the size of the surf industry has contracted, along with most other retail sectors in the United States and Australian economies. I was told by SIMA that they would be releasing their latest survey of the surf industry in late 2011.

(Gibson 2002; Scott 2002; Christopherson 2006). Billabong, Quiksilver and Rip Curl not only sell the surf in popular surfing regions, but have expanded their retail activities geographically. Well-established in the United States, Australia and Western Europe (especially France and Spain), Billabong and Quiksilver have invested in infrastructure globally and now see increased retail presences in China, Japan, Eastern Europe and Latin America as strategic priorities. Quiksilver sells in over 90 countries and in fiscal year 2009-2010 over 65 percent of its revenues were from outside the United States (Table 5.1).

Table 5.1: Global revenue by division/world region, Quiksilver Inc and Billabong Pty Ltd. (source: adapted from Billabong 2009, 2010 and Quiksilver, Inc 2010)

Billabong Pty Ltd (HQ Burleigh Heads, Gold Coast, Australia) (in A\$ millions)					
Division	2008	2009	2010		
Australasia (Australia, NZ, Japan, South Africa, Thailand, Korea, Singapore, Malaysia, Indonesia)	412.7	444.2	425.6		
Americas (USA, Canada, Brazil, Peru, Chile)	620.5	836.8	712.6		
Europe (Austria, Belgium, Czech R., England, France, Germany, Italy, Luxemburg, Netherlands, Spain)	314.4	387.9	344		
Rest of the world	1.2	2.2	2		
<b>Total</b>	<b>1,349.5</b>	<b>1,671.2</b>	<b>1,484.3</b>		

Quiksilver Inc (HQ Huntington Beach, California) (in US\$ millions)					
Divison	2006	2007	2008	2009	2010
Americas (incl. USA, Canada, Latin America)	831.6	995.8	1,061.4	929.7	843.1
Europe (incl. Middle East, Africa)	660.1	803.4	933.1	792.6	729
Asia/Pacific (Australia, NZ, Japan, Indonesia)	225.1	243.1	265.1	251.6	260.6
Rest of the world	5.3	4.8	5.1	3.6	5
<b>Total</b>	<b>1,722.2</b>	<b>2,047.1</b>	<b>2,264.6</b>	<b>1,977.5</b>	<b>1,837.6</b>

Quiksilver retains design centres in California, Europe, Australia and Japan to ‘develop and share designs and concepts that are globally consistent while reflecting local adaptations for differences in geography, culture and taste’ (Quiksilver 2010 p 3). Production too has been internationalised in ways typical of large fashion brands. Quiksilver, Inc. for instance has sourcing offices in Hong Kong, Shanghai and Dongguan, and 84 percent of its apparel, footwear, accessories and hard good products

(including surfboards) ‘were purchased or imported as finished goods from suppliers principally in China, Korea, Hong Kong, India, Vietnam and other parts of the Far East, but also in Mexico, Turkey, Portugal and other foreign countries’ (Quiksilver 2010, 10-K/6). In 2010 Quiksilver, which labels itself as ‘The Boardriders Club’, had 6,200 direct employees globally, none of which were represented by unions. Incredibly, some of Billabong’s strongest recent sales growth across its 2,600 retailers has been experienced in countries with no realistic possibilities of surfing waves (e.g. Germany), including some that are entirely landlocked (such as Austria). Surfing’s symbolic discourses of freedom and beach culture are incredibly pervasive.

While the largest surf companies make most of their money from the selling of surf-apparel (t-shirts, board shorts, shoes and denim jeans) they also continue to make surfboards even if surfboard-making was not the basis of their global growth (SIMA 2008). Surfboards are made more to maintain credibility amongst surfing consumers than to generate high profits. They are stocked in surf retail outlets and available for order online through the Quiksilver, Billabong and Rip Curl websites (see for example: <http://www.billabongsurfboards.com>). According to Quiksilver’s Chief Executive Bob McKnight, this type of marketing is a way to: ‘reinforce our heritage and authenticity to the consumer’ (Hamanaka 2011 p 65). Yet, each of these companies does not directly own or operate a single surfboard workshop or employ a surfboard-maker. Instead they contract their surfboard production to several different external shops, which are tasked with supplying a pre-determined number of generic, computer-shaped boards labelled with the company logo. This means boards are not customised in a personal exchange between customer and maker but instead transported on mass to retailers via subcontracted relationships with anonymous producers (see below).

Surfing is now a significant global industry, based around lifestyle and image. From a Polynesian sport to a counter-cultural movement that took shape in the 1950s and 1960s, surfing has become a professional sport, lifestyle pursuit and global industry. Its corporatisation has meant that not only do surfers ‘know the feeling’ (to paraphrase Billabong’s company slogan) but increasingly consumers around the world get the feeling through the consumption of non-essential surf products and goods. Yet throughout the story of surfing’s history in Polynesia, its absorption into popular Western culture, its professionalisation and corporatisation, the surfboard has remained its defining product – indeed the only essential tool for wave riding from which all other forms of surfing subculture have been commodified.

Although surfing is now undoubtedly big business, the statistical contribution of surfboards to the industry is underwhelming. Despite being iconic cultural items and essential tools for riding waves, in 2008 surfboards made up less than 3 percent of the surfing industry in the U.S. – with \$190 million in annual sales. The sale of surf-related watches, sunglasses and board shorts was much more significant: surf-branded sunglasses for example had national sales in the U.S. of \$312.6 million (SIMA 2010). Custom surfboard-making in Hawai`i, California and Australia is not isolated from the corporatisation and market domination of Billabong, Quiksilver and Rip Curl – even with only small fractions of their corporate business dedicated to board-making they seriously undermine the viability of independent workshops through their stranglehold over space and exposure in surf retail shops (see Section 5.4 below and Chapter 6). These corporations maintain surfboard production arms but clearly not because they are high volume or high profit goods. Instead surfboards help such firms validate the sale of other products. Making surfboards establishes the status of Billabong and Quiksilver as

genuine surf-brands, as they globalise the distribution of a range of consumer-based surf goods. So while surfboards are eclipsed by fashion and accessories in commercial terms, they remain the subculture's central iconic artefact, authenticating the presence of brands in the surfing market in retail stores where only their branded mass-produced boards are available for sale.

Independent businesses that have hand-made a living from surfing are now exposed to this new type of competition. This has led to a major transformation in the grass-roots production of surfboards, a shift to mechanised production, which the following section of this chapter analyses, using the narratives of owners and workers in the eighteen participating workshops in this thesis.

### **5.3 Computerised making: the mechanisation of surfboard production**

As the three largest surf labels Rip Curl, Quiksilver and Billabong adapted strategies to sell the surf, they also continued to make surfboards to maintain authenticity and credibility in surf retail shops. To make their surfboards they adapted the use of a mechanised system of production, which in turn compelled smaller, independent workshops to follow. Only after the big three grew large did they move to an automated system of surfboard-making. Local surfboard-making workshops in the four regions in this research had in response shifted the organisation of their production (at least in fifteen of the eighteen workshops) and become increasingly vertically-disintegrated. A number of firms now supply workshops with the materials needed to make surfboards, so that some measure of risk is devolved. This included the supply of tools, operating equipment, materials including blanks, resins and paint along with some



glassing and distribution activities. External companies delivered some production services directly to workshops, a change from traditional custom industry practices of the 1950s and 1960s where production was carried out in-house – from the milling and gluing of the timber to the sealing of the finished shape (Kampion 2007; Marcus 2007). This disintegrated arrangement was described (and criticised) by Tim, an experienced hand-shaper and owner of a medium-sized workshop in southern California:

I put in my orders every second week for blanks, resin and other materials, and then once a month a truck comes here and they take away a number of boards that go out on consignment to a bunch of retail surf shops...these shops need to sell surfboards because of their image, but as far as we are concerned we get screwed because they don't pay us a cent until those boards are all sold and they don't promote the person who's made them. (Tim, guided work tour, southern California)

Greg – a smaller operator in southern California – explained his decision to outsource parts of his work as a strategy to reduce financial risk:

I contract now when I'm busy and the two of us [other employee] can't keep up with orders, it's easier for me and...instead of hiring someone full time we contract that work and then I don't worry about that pressure of keeping orders up to pay the wages...I used to employ a glasser but now I just take my finished shapes to the shop down the corner and they do that work. (Greg, guided work tour, southern California)

Structural and organisational shifts in surfboard-making such as those Tim and Greg described, are similar to the changing production regimes of other cultural forms of production. Allen Scott (1999) for example has demonstrated how the US recording

industry divided into two distinct categories: large ‘major’ labels, having greatest commercial influence over recording and distribution, and ‘independents’, much smaller-scale operators who signed pressing and distribution deals with the majors (see Power and Hellencreutz 2010). An almost identical relationship has now emerged in surfing between large companies including Quiksilver and Billabong and independent surfboard workshops JS, DHD and D’ Arcy Surfboards, with whom increasingly complex relationships exist. D’ Arcy Surfboards, for instance, license the Australian use of Tokoro Surfboards, a Hawai`i-based business, making and labelling the boards to set specifications locally – yet when the Hawaiian brand in turn signed a distribution deal with Rip Curl, D’ Arcy found themselves ostensibly producing boards as an outsourced third party for Rip Curl. This had little benefit for the workshop, because Rip Curl demanded they provide exclusivity in retail shops, yet only ordered a small number of boards:

Because they took him on as one of the Rip Curl shapers...so then we had a relationship with Rip Curl as far as supplying them. But one of the things they discussed in forming our relationship in the beginning was that if they were prepared to maintain good numbers [of surfboards] and keep stock up then we should give them exclusivity and only supply to Rip Curl stores and no other surf retailers. Then we said to a whole bunch of shops, sorry we can’t supply you because we have a deal with Rip Curl...but Rip Curl never ordered many boards and we had just flogged off these shops that would have stocked our boards. (Michelle, interview, D’ Arcy Surfboards)

This type of relationship was known as ‘ghost shaping’ in the industry and regularly occurred at workshops in each case study region. When one of the large surf brands

needed surfboards for their stores they would often contract a workshop and have the business computer-shape a determined volume:

How it works is they [large surf brand] will contact you and have a conversation about entering into an agreement with them to supply their surfboards for a store locally...it's called ghost shaping. The problem for the workshop though is that they have no identity in the process, you literally are a ghost as far as the surfer who ends up buying that board is concerned. (Jerry, interview, Gold Coast)

Another important part of this story is that at the same time as the industry oligopolised through the 1990s and 2000s, there were an increasing number of surfers taking to the line-ups in each region, increasing overall demand. This increased demand among novice surfers justified the mega-brands themselves expanding mechanised board production in low-cost labour locations, predominantly China and Thailand. To survive small workshops needed to be more visible and to supply more surfboards to retailers located in shopping malls and in close proximity to beaches in surfing regions. One by one local workshops shifted towards an automated, computerised system of surfboard-making. In this system surfboards are shaped following generic design templates to meet demand in a general mass surfboard market. This system therefore introduces a number of key structural differences in terms of the scale of surfboard markets, worker specialisations within the workshop and changes in the relationship between surfers and individual board-makers.

Fifteen of the eighteen participating workshops had consciously shifted in this way towards the use of a high-tech surfboard production system. Under this approach, computer assisted design (CAD) programs were combined with computer numerical control (CNC) machines to shape each surfboard from a mould of blank foam. The use

of this technology in surfboard-making was first trialled by Frenchman Michel Barland in the 1980s (Marcus 2007). Barland was a keen surfer, talented shaper and a licensee for Californian firm Clark foam, which was owned and operated by surf industry pioneer Gordon Clark and at the time was the world's largest PU foam supplier. Barland used his knowledge of surfing, shaping and a mechanical engineering degree to successfully create a machine which automated the shaping of each surfboard blank – a job that took a hand-shaper three hours could now be done in less than twenty minutes. Relying on fifty precise measurements, the technology revolutionised global surfboard manufacturing over the next fifteen years (Marcus 2007).

There are a number of important contextual points worth emphasising at this point, in relation to Barland's use of technological invention for surfboard-making. By the 1990s a problem had emerged with traditional forms of surfboard-making. While hand-shaping was appropriate for supplying localised, custom markets – where surfers in a town visited a nearby workshop (not a retail shop) and ordered a specialised surfboard from a hand-shaper – this system did not cater well to the entry level surfing market, those beginners wanting to get in touch with the surfing lifestyle. In particular, hand-based production was labour-intensive, slow and highly specialised. This did not lend such a system to the rapid production and supply regimes needed to meet mass market demands.

Those enthusiasts learning to surf who wanted to purchase their first surfboard concurrently faced an issue with timely supply. At busy local workshops with a backlog of orders over the busiest periods, new custom made boards took up to eight weeks to deliver. This degree of time invested in production made it difficult for hand-shaping workshops to satisfy the more instantaneous demands of entry level surfers. Many

beginners simply wanted from a retail surf shop, a generic board design that was user-friendly and could be tried out at their local beach immediately. After all, if one wished to take up other sports the necessary equipment was usually available off the shelf at a nearby shopping mall. New surfers assumed it would be the same with surfboards. Hand-shaping thus became limiting for smaller independent labels seeking to grow their customer base:

In the retail market, the way I look at it you've got a set of rings, there's an inner ring, there's a middle ring and then there's an outer ring and I've always wanted to reach the outer ring. People that just want to get in touch with the culture, how are they going to get a board for little Johnny? They don't necessarily need to take my time asking for measurements and designs. It's all very time consuming and I've had to try and sort of cut that out too. That's when I struck up a relationship with Beach Street...who sell my boards in their surf shops off the shelf. (Chris, interview, Illawarra)

In Chris' outline (which resembles a reversed concentric circles model – cf. Throsby 2008), hand-shapers could not access the largest growing segment of consumers. This was the outlet being monopolised by Rip Curl, Quiksilver and Billabong, with their more extensive retail networks and sophisticated, well-funded marketing campaigns. New CAD/CNC technologies became a strategy to 'get in touch' with entry level surfers. In Hawai'i this was explained by the owner of the largest workshop toured for this research; a label which sold close to 5,000 surfboards annually via an extensive, retail export network:

Hand-shaping limits the number of boards you can make, simply because a hand-shaper can only make so many boards for you each week. But with the

shaping machines, which we started using fifteen years ago now, you can copy a standard design and go about producing them over and over for the surfers who don't need a customised product they maybe can't use properly anyway. With the way the technology is now I can also pump out more refined boards. All that adds up to a more profitable business. (Workshop owner, guided work, tour O`ahu)

Glassing by contrast remained work performed through manual, hand-based techniques – technology has not yet been developed to replace manual glassing work.

Using computerised technologies a series of measurements accompanied by a three-dimensional profile diagram is loaded into a CAD program (Figure 5.4), which drives a series of laser guided cutting arms that shape the surfboard (Figure 5.5). The different measurements computed into the CAD determine the style and design of the finished board and once completed by the machine each blank only requires an additional five minutes of fine sanding by a worker who participants call the 'production shaper' (a junior level hand-shaper who does not design or shape custom boards) before it is ready for glassing. This mechanised production not surprisingly was said to deliver workshops significant economic advantages through the possibilities of increased output, volume and broadening market coverage.



Figure 5.4: The computerised production system begins with programming a board design using the CAD system (source: Author)

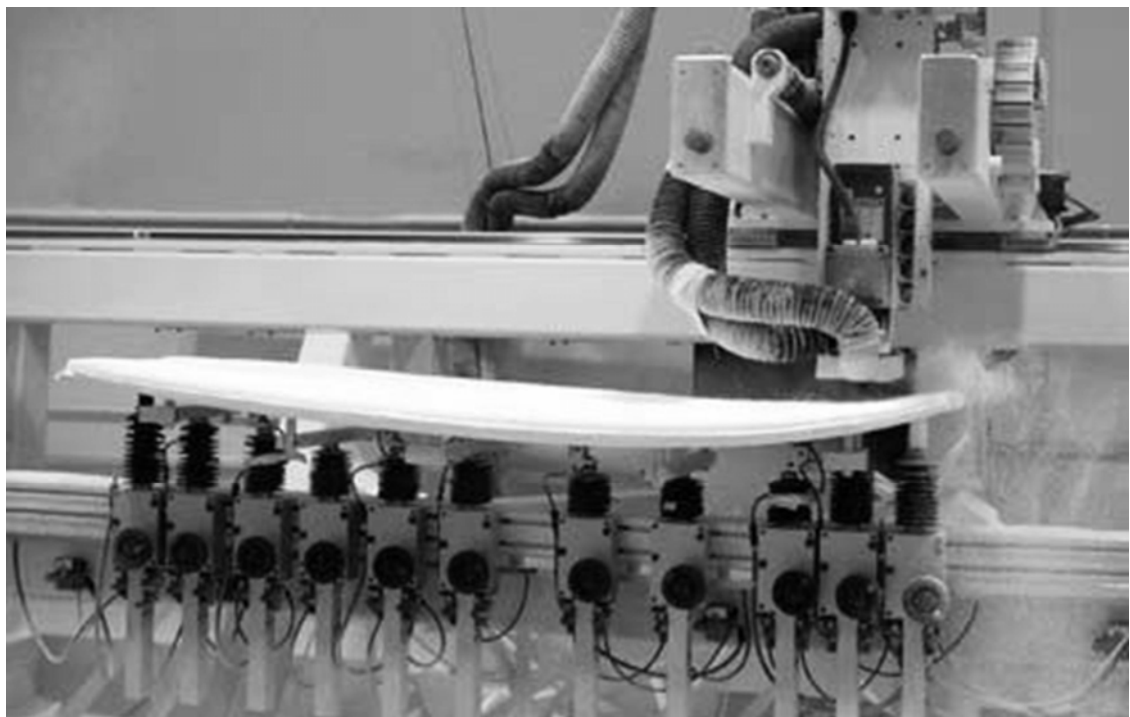


Figure 5.5: The shaping of the surfboard is then finished by a CNC machine. (source: Author)

Overall fifteen of the eighteen participating businesses were using new computer technologies in this way, varying their scales of surfboard production. These included Bessel, Barker and Senate Surfboards in southern California, Byrne Surfboards and CHC in the Illawarra, Intruder, Diverse, D'Arcy and Mt Woodgee Surfboards on the Gold Coast and Arakawa, Aipa, Bushman, Tore, Kimo Greene and Cheater 5 Surfboards on O`ahu. Dave and Phil from Byrne Surfboards in the Illawarra explained the methods and benefits of computer shaping in terms of their market access:

From your most popular hand-based designs, you use those dimensions to replicate with the machine. Computer shaping makes sense to increase your turnover and keep things sustainable and if we're not in business we can't hand-shape either, so we find a balance...you have to be able to reach as much of the market as you can...were going beyond that now with our boards going around Australia into Japan and the US. (Phil and Dave, guided work tour, Illawarra)

The O`ahu-based Cheater 5 Surfboards explained how they used automated technology to replicate their most successful longboard designs:

I had come up with a couple of really nice longboards (hand-shaped) in the 8 foot range and they worked so well I used the machine to reproduce them and I had increased confidence they would make customers happy and I could then sell more of them. (Kirk, guided work tour, O`ahu)

With automated technology and increasing number of professional responsibilities along the CAD/CNC production system, under this model the local surfboard industry becomes more similar to other, more recognised cultural industries where firms develop classically 'thick' (highly intensive) horizontal information flows



between specialisations in research and development, processing and planning, production and marketing (Morgan 1997). For example, in music (Power and Hellencreutz 2010) and film (Scott 2004) workers are involved across an assorted range of professional responsibilities in production, marketing and distribution chains. For those surfboard businesses utilising CNC production, specialisations have also become increasingly pronounced, with workers in the industry requiring backgrounds and experience in CAD programming, computer engineering and information technology. Meanwhile hand-shaping sections of many businesses have been downsized, and instead have begun supplying designs and board templates for computerised-shaping – acting something like research and development divisions:

The technology is quite advanced now and you need guys who know how to program and operate it of course. And then this is where I come in with the designs and different measurements that they can use to replicate the boards...it's now at a point where you can embrace it (technology) confidently and know the end result will be good. (Chris, interview, Illawarra)

Re-visiting Adorno's (1980) conceptual understanding of cultural production, computer-driven surfboard-making is an example of intensified technological integration, not only in production, but also in distributing and marketing products. Most of the workshops using CNC technology – Byrne, Arakawa and Bessell Surfboards – enabled surfers to order a board from a central website or link to authorised dealers. This meant that consumers did not need to visit the workshop directly and instead could complete online enquiries, where they explained the type of board they wanted. After paying with a credit or debit card the customer could then

have their new surfboard delivered to their location, often within just a few working days, as a workshop owner on O`ahu explained:

On the website, you can order a new board straight out. You just need to pick the design you like from the photos and the measurements we have. When you select it, you see, it brings up the price and you can order and pay for it in ten minutes. It usually gets sent off the next day, provided it is in stock. (Eric, interview, O`ahu)

For workshops with a retail section – Byrne, Mt Woodgee, Arakawa, Aipa, Bessell and Senate – a range of shelf-stock was kept to ensure customers could instantly purchase a new surfboard as in a main street retail surf shop. Consumers did not have to wait several weeks to take delivery. During quieter times, businesses like Bessell and Byrne have also started to shape prototype computer models using their most popular designs and displayed the boards around the shop. Some workshops now choose to shape up to 100 percent of their surfboards with CAD software and CNC machines (Tore Surfboards, O`ahu); others use the technology more sparingly, for in 30 to 40 percent of production (Bessell and Senate Surfboards in southern California, Aipa and Bushman Surfboards on O`ahu). Others such as Skipp Surfboards and CSD in the Illawarra and Sauritch Surfboards in southern California refused to use it at all.

#### **5.4 Space, speed and scale: the economics of computerised-shaping**

The scale of entry level demand for surfboards had been the catalyst for innovating a new, faster computerised system of production. But for smaller independent workshops operating from industrial warehouse space or garage type set-ups there were caveats. To

start with, their spaces of production were not connected to typical retail shops that could facilitate trade of large volumes of boards to new customers. As smaller businesses, it also became difficult to provide consultation to customers while at the same time continue operating CAD and CNC machinery. Thus in implementing a computerised production system to up-scale production, and thus improve profitability, workshops needed to attain strong brand recognition along with signing product distribution agreements with surf retail outlets.

On the Gold Coast in particular, where surf retail is enormous and ubiquitous, such retail deals, their dubious details and episodic breakdowns in trust between producers and shops, were the source of much discussion and complaint among workshops. In forming their relationship with D'Arcy Surfboards, Rip Curl's retail arm would not for instance sign a contract stipulating a minimum order of surfboards per month. As Michelle from D'Arcy Surfboards explained:

That doesn't happen [signing a contract] in the surfboard industry. If I demanded they sign something like that they would have laughed at me and just said 'well we will go and get another label' (Michelle, interview, D'Arcy Surfboards).

In an industry where handshake agreements were the norm, smaller, independent workshops often entered into ghost-shaping agreements 'in good faith' only to be 'screwed around' when large surf labels did not meet the conditions of a verbal agreement (Tim, interview, southern California). Workshops described these 'handshake deals' as 'the culture of the industry' (Stuart, interview, Gold Coast), which typified their experiences and dealings with large surf retailers, along with the extent to which they were poorly treated in comparison with the mega-brands. Particularly venomous was the attitude towards retailers who carried shelf stock of their computer-

automated boards yet who were not required to pay (and sometimes simply never did) for boards for up to 120 days:

I have been let down so many times by them [large retailers]. They want your boards on a consignment of three to four months [laughs]. I mean we have to pay our suppliers fortnightly. But I could actually live with the consignment if they paid for all the fucking boards they take. Some of the retailers, I haven't had payment from them within the consignment period, so I turn up and I can see the boards have sold, so I'm like 'where the fuck is my money'? I had one manager try and tell me they had paid...another told me flat out he had to pay the Quiksilver bill before I would see anything. That really pissed me off.

(Workshop owner, interview, O`ahu)

In times of economic downturn (exacerbated on the Gold Coast and O`ahu by the contraction of the tourism industry) struggling retailers repaid their largest creditors first – meaning the mega-brands, upon whom they relied to guarantee a certain amount of foot traffic (and without whom they could hardly warrant operating as a surf retail outlet). Smaller creditors such as independent surfboard-making workshops supplying a comparatively modest number of computer-produced boards, were paid last, if at all.

Workshops including Arakawa, D'Arcy's, Mt Woodgee and BASE (not interviewed – see Chapter 8) had thus up-scaled production through use of computer-automated technology (and in the case of Mt Woodgee through opening their own retail stores in Coolangatta and Burleigh Heads) in part as a strategy to avoid being pushed into obscurity within an increasingly cut-throat surf retail scene where discount stores, branded mega-stores and shopping mall outlets soaked up the bulk of demand (Figure 5.6). But in so doing, they also up-scaled the levels of risk involved, and the amount of

borrowing necessary to finance the branding and marketing necessary to generate walk-in demand for boards in mainstream retail outlets.



Figure 5.6: The ‘Kirra Surf’ mega-store, Gold Coast, supplies Quiksilver products, including surfboards ghost-shaped by contracted workshops. (source: Author)

Whereas hand-shaping workshops acted as sites of both production, distribution and retail (i.e. surfers came to them to get measured for new boards), computerised-shaping often took place in sites that were removed from where boards were ordered and supplied to a buyer. Purchasing computer-shaping technology was an expensive investment, which would take independent firms several years to make profitable. An initial outlay of US\$80,000 to US\$100,000 for CNC and CAD technology was coupled with ongoing costs related to the employment of specialist workers required to install, operate and maintain the equipment, on top of securing enough appropriate space.

Additional specialisations in this system increased costs and overheads. While some of the larger and more recognised workshops such as Arakawa, Aipa and Bushman Surfboards in Hawai`i, Bessell surfboards in southern California, D'Arcy and Byrne Surfboards in Australia had purchased their own CAD/CNC technology, the approach taken at Cheater 5, Senate, CHC, Mt Woodgee and Tore Surfboards had been to pay rental hire fees to larger production companies that had invested in the technology. These production factories were often located in the urban settings proximal to workshops: San Diego, Los Angeles, Honolulu, Sydney or Brisbane.

Under their individually-organised hire arrangements the four workshops that did not purchase their own shaping machines commissioned the equipment for a set period of time and replicated the production of their most popular, hand-shaped designs. Hire periods were arranged to suit the sales of existing stocked surfboards. Chris, the owner-operator of CHC in Australia explained his arrangement:

You punch all the specs of this [holds one of the surfboards he made for professional surfer, Mick Lowe] into a computer they can do really good replications... It's almost like the creativity has got to come from the human and if you want to replicate it's hard to go past the computer.... So, this design is working for me, but I have sub-contracted it out to a guy who owns a machine, and he's got the whole factory. I don't have a whole factory, so he can, the computer can go ahead and do this, and he glasses it and can stock it in the shop and that contributes to my...income from that as well. (Chris, guided work tour, Illawarra)

The fifteen workshop owners using computer shaping technologies in the four case study regions all said it had helped improve their business with market reach, and

‘increase the margins for our surfboards’ (Eric, interview, O`ahu). While previously hand-shaping workshops were sites for ordering, shaping and collecting a surfboard, the mechanised system of production meant that many surfboards were shaped and glassed offsite using design measurements that were faxed or emailed to the larger factory so that the CAD programmer could replicate a design. From here the boards were transported to a retail outlet, meaning customers now rarely met the surfboard shaper or glasser personally.

An experienced hand-shaper crafting surfboards using their hands and manual tools could produce only five or so finished shapes per day (twenty to thirty per week); the CAD/CNC system could churn out up to fifty boards per day, or 250 over a normal five day, eight hour working week. The process of computer-shaping a surfboard remained dependent on the knowledge of hand-shapers and their experience creating designs that worked successfully for another surfer. These were the designs whose measurements were copied and put into the CAD software for replication. While no two hand-shaped surfboards were ever identical, computer shaping allowed for the precise replication of different designs, meaning workshops could guarantee to retailers that their work was consistent.

Workshops that owned and operated their own shaping machines varied production depending on their sales volume, while the four businesses hiring the use of the technology aimed to produce enough stock during a hire period to last one month – also the amount of time workshops had to pay suppliers and hire factories. Production needed to closely match sales trends and for busy times of the year the technology was often hired more flexibly, frequently or for longer periods. The disadvantage for those workshops not operating their own shaping machines was their inability to change

designs. The initial profile of a surfboard made in a CAD system took around thirty minutes to set up, and only needed to be performed once. A further fourteen to fifteen minutes were needed to shape a surfboard, with an added five minutes of fine sanding by a production shaper completing the process. From here the board went to a glasser. But changing a design required the input of new measurements and the drawing of a new profile in the CAD program. This meant an added thirty to forty minutes per design change. With machines charged at a rate up to US\$320 per hour this made design changes through a production run expensive.

Instead the tactic used by firms was to complete an entire production run shaping from a single design template, or to only make a single change. Depending on the sales of those models, the workshop could return and produce a different design or wait until the shop had sold a sufficient proportion of the stocked boards before booking another hire period. In many of the latest CAD programs it was also possible to save different design profiles in the system, which could be re-used if necessary. This strategy meant businesses were not charged for idle machine time and instead produced the highest possible number of boards from their contracted rental period. As one experienced Australian surfboard-maker explained:

From your most popular (hand-based) designs you get them shaped off the computer, which is up to a few hundred dollars an hour, or if you want to make design changes through your run you try and arrange a fee per board... The technology has improved a lot in the last few years and the boards now are very good, so I don't feel like it's too much of a compromise in the artistic side of it. From a business sense it is a good thing. (Dave, interview, Illawarra)



As Dave outlined, it was beneficial for workshops to arrange a single fee per shaped board (typically \$US90 to \$US110) if several design changes were required. The hourly rate better suited single design production runs. Those five businesses that owned and operated their own computerised-shaping technology could be much more varied in their production schedules, while workshops hiring equipment needed to book in times of operation, meaning they had to balance out their use of the technology with their busiest times of the year. At Arakawa Surfboards on O`ahu computerised-shaping was used most during the Hawaiian winter months from October to March because the surf was most consistent during this time of the year. In southern California at Bessell Surfboards, it was different and the busiest times tended to be during summer, from May through to August when the weather was warmest.

The use of CAD and CNC automation for larger workshops has been important for increasing sales both locally and internationally. At Arakawa, surfboards were computer-shaped for export at a rate of fifty per week. These orders were placed from a number of authorised international retailers in Japan, Australia, France, the United Kingdom and mainland United States. Owner Eric explained:

I`m exporting boards out to many different dealers, around the world. I mean Europe, Australia, South America, Japan... it`s quite global actually, and of course I still cater to my home market here [O`ahu] as well. (Eric, guided work tour, O`ahu)

Eric had arranged his computer-shaping so that orders for his surfboards from a surf shop or retail dealer could be placed over the phone, via fax or email. The different orders were completed using the technology, glassed and sent off to the shop using a

contracted distributor. This business model was similar to that followed at Bushman, Aipa (O`ahu) and Byrne (Australia) surfboards, the three other participating workshops that owned and operated their own computerised technology.

For international retailers that ordered surfboards from the larger workshops there were two different systems of distribution. The first followed an identical approach to that used by participants for supplying local surf retail outlets, with surfboards made locally and then transferred from the workshop (usually shipped) to retailer. This was used by most of the workshops that exported their surfboards outside the immediate region. But a second method was followed by Bushman Surfboards, which did not involve transportation of surfboards. Instead the licensed retailers were sent detailed design measurements and CAD files, which they used to computer-shape boards in the sales location. While based on O`ahu, Bushman Surfboards sent their designs to four Australian surf shops. Jeff contracted a local computer-shaper to manufacture and brand surfboards under his label. The retailer was supplied an agreed number of boards, under five different designs – from a more advanced surfboard to a wide, thick board suited to beginners. Not transferring the actual surfboard between O`ahu and Australia saved Bushman Surfboards from paying postage fees, import taxes and tariffs. The flip side to this more complicated approach was that it relied on significant amounts of trust between the authorised retailer and Bushman Surfboards, which created the designs. Under agreements retailers would report sales back to the workshop on O`ahu on a monthly basis, and were trusted to stick to an agreed quantity of surfboards. The sales reports determined the commission owed back to Bushman Surfboards. Rather than charging retailers up front, Bushman Surfboards offered designs and the use of their label on a consignment basis; no payment was received until

a sale had been made. Such strategies came with difficulties. At workshops with larger ambitions, higher sales needed to be maintained. Slow periods corresponded with a rapid accumulation of incoming bills, higher freight costs, employee wages and bills from their large number of suppliers. And perhaps at least as important, relying on markets outside the tight circle of loyal experienced local surfers meant increasing attention to and investment in branding and marketing – each generating further costs and risks.

Of those fifteen businesses making surfboards with computerised technology, ten used their website to accept orders from individual surfers. These workshops included Aipa, Arakawa, Cheater 5, Kimo Greene and Tore in Hawai`i, Bessell Surfboards in southern California, D'Arcy and Mt Woodgee on the Gold Coast, and Byrne and Skipp Surfboards in the Illawarra. Each had loaded photos of their finished boards for potential customers to browse and provided information about the expertise of the business. Interested surfers could then complete an order form or send an email expressing their interest. Before the board mould was made the workshops contacted the customer to discuss, in more detail, the type of board they wanted. But ordering in this way meant that customers would not meet with makers face-to-face. Boards purchased in this way were only posted domestically at Cheater 5 in southern California and Skipp Surfboards in the Illawarra; at each of the other workshops orders were shipped to international customers. The market (and strategy) here was not so much to try to retain market share among beginners in competition with mega-brands, but to up-scale production among 'discerning', experienced surfers in other surfing nations – who were savvy to the top names of individual iconic shapers globally and wanted to diversify their quiver.

Beyond advertising on local radio and television, firms had also formed partnerships with recognised professional surfers to further enhance brand recognition. Like most highly commercial sports, surfing's professional athletes regularly feature in film and glossy magazines – *Tracks*, *Surfing Life*, *Waves* or *Surfer Magazine* – where they are photographed performing spectacular manoeuvres or riding deep barrels in tropical surfing wonderlands (Ponting 2009). Such riders become emblems, the pinnacle of surfing performance – a marker against which other surfers compare their own abilities. Their performances in the ocean inspire younger riders, who galvanise aspirations for professional surfing careers, while also influencing new local trends in surfing styles and practices (Ford and Brown 2006). In magazines, the label of the surfboard being used by a professional is highly visible – just like the brand of shirt worn by football players in sports magazines, or the electric guitar being used by rock stars in musical instrument magazines. They become desirable commodities by dint of association with the best surfers in the world. Businesses using computerised techniques as a means to access wider markets have been successful at forming partnerships with some top professional surfers – ensuring a level of caché beyond their traditional local base that helped sustain business levels through slower seasonal periods. These included former world champions like Tom Carroll (Byrne Surfboards), Layne Beachley (D'Arcy Surfboards) and Andy Irons (Arakawa Surfboards) along with highly ranked current professionals such as Joel Parkinson (Arakawa Surfboards), and Bruce Irons, Fred Patacchia and Mick Lowe (Bushman Surfboards). Bessell Surfboards and Bushman also shaped boards for music star and former pro-surfer Jack Johnson.

Riding a workshop's surfboard during world tour events or when surfing highly-publicised free sessions also elevated visibility of the label and their shapers to broader

audiences. This regularly boosted local sales, while simultaneously created opportunities to export away from home bases. Phil from Byrne Surfboards explained the importance of professional partnerships:

We started out doing a few boards for Larry Bertlemann [a legendary Hawaiian surfer] and Shaun Thomson [former world champion], and then we formed an association with Tom Carroll, who ended up winning two world titles riding our boards... the competitive side of the sport is where I think the real magic happens, and we positioned ourselves to be involved in that and it's an important association to have, building your name and business in this industry. (Phil, interview, Illawarra)

While computerised-shaping could boost sales beyond local markets this was ultimately dependent on retail distribution and attracting quality professional networks.

In terms of the computer-shaping production system, analysis of the output of participating workshops revealed production closely followed hand-shaping: 68 percent of designs were shortboards, with 32 percent longboard designs. For those Illawarra workshops using mechanised technology, shortboard designs ranged between US\$390 and US\$640, with an average price of US\$540, 10 percent less than hand-shaped custom shortboards. Meanwhile longboards sold from US\$635 to US\$1,110, and had an average sales price of US\$870 – just 7 percent lower than the average price of hand-shaped models. On the Gold Coast, retail prices were US\$400 to US\$620 for shortboards and US\$650 to US\$1,100 for longboard designs. The mean price for a shortboard was US\$515, or US\$839 for a longboard, which equated to an 11 and 8 percent difference to hand-shaped custom boards.

Computer-shaped shortboards in southern California retailed between US\$375 to US\$590 with an average price of US\$480, which was about 6 percent lower than the mean price of custom-designed hand-shaped models. The price range for computerised longboards in southern California was US\$550 to US\$980; with an average sale price of US\$775. Again this was 6 percent below the price of hand-shaped custom longboards. In Hawai`i, computer-shaped surfboards were again slightly cheaper in comparison to the other regions. Shortboards ranged between US\$350 and US\$565, with a mean price of US\$440, 10 percent less on average than hand-shaped customised surfboards made at the same workshops. Longboards followed the same trend with a price range of US\$490 to US\$950, and an average of US\$700 – 11 percent less than hand-shaped longboards. While analysis of production in California and Australia suggested that longboard designs had the least proportional price difference between the two systems of production, in Hawai`i there was less difference between the two types of designs. What these figures show is that there is some reduction in overall price as a result of computerisation, but not a massive difference. From a consumer's point of view the key difference is therefore about speed of purchase and delivery, and ability to buy surfboards by labels in other parts of the country or overseas. In most cases computer-shaped surfboards are sold from a retail outlet or stocked on workshops shelves and quickly sold to customers.

Based on the same twelve month observation period, an impressive 10,435 surfboards were traded by the fifteen businesses using a mechanised system of production: 7,094 shortboards and 3,341 longboards. The total gross value of the production was more than US\$5.5 million. However, the contribution was not as even geographically as was the case for hand-shaping custom boards. Hawai`i clearly

dominates in this new technology. Hawaiian computerised-shaping accounted for 5,948 (57 percent) of the total computer-shaped surfboards produced in the four regions.

Three workshops in particular – Arakawa, Bushman and Aipa Surfboards – accounted for 92.6 percent of this market. These were the three workshops that used an extensive network of retail distribution agents to reach local, national and international markets. While 63 percent of the computerised surfboards made by the ‘big’ three Hawaiian workshops were sold either in Hawai`i or mainland United States, there was a large contribution – approximately US\$1.4 million – made from sales that occurred outside the U.S, the three largest markets being Japan, Australia and Brazil.

For the Hawaiian based workshops, brand recognition and place association were key to their export arrangements, as Jeff from Bushman Surfboards explained:

Being based in Hawai`i, the spiritual home of surfing, you know, well that helps to start with. Then once I hooked up with the right surfers and proved myself a bit. You start to form a good brand name...that carries you forward and things opened up all of a sudden. I look now at Japan, one of my best markets and there are lots of surfboard shapers in Japan but what we do is offer the connection with Hawai`i. (Jeff, guided work tour, O`ahu)

Byrne Surfboards in the Illawarra, D’Arcy Surfboards on the Gold Coast and Bessell Surfboards in southern California also sold into overseas markets, at levels ranging from 15 (Bessell) to 30 percent (D’Arcy) of overall computerised production. However, during the recording period, a high Australian dollar – which was above parity with the U.S. dollar – meant that Australian exports had become expensive and uncompetitive; workshops had dramatically scaled back their exports. Exacerbating the situation for D’Arcy was that their key market was the exact region affected most severely by the

March 11, 2011 tsunami. Understandably surfers there are yet to take back to the water (if they will at all, given that, in Stuart D'Arcy's words, 'hundreds of surfers were lost in the tragedy'), and commensurately, exports from the Gold Coast to there have plummeted.

Proportionate to the total number of surfboards sold over the observation period, a computerised system of production emerged as dominant. Two in every three surfboards being made by workshops were produced using computerised-shaping technologies. This system of production accounted for 64 percent of sales revenue over the four case study regions. The costs related to a computer driven design approach included the hire or running of the technology, parts and machine maintenance, raw materials (blanks, paint, fibreglass, resin etc), wages and rents/mortgages. In Hawai'i, the average computer-shaped shortboard model cost US\$315 to produce, 71.5 percent of the sale price. The margins on longboards were comparable – costing an average \$500 to make a surfboard that retailed for US\$700. In southern California, production costs were again similar to those on O`ahu, with a higher mean retail return increasing profit margins there. The average shortboard model selling for US\$480 in California costs a workshop owner about US\$330 to make using the CAD/CNC technology, or 69 percent of the sale value. For longboards costs were US\$350 to US\$700, with the typical board selling for US\$775 costing US\$550 to produce; a slightly smaller margin than for shortboard designs.

In Australia, computerised production costs were higher than those in southern California and on O`ahu. Computer-shaped shortboards ranged between US\$300 and US\$490 to make, with the average shortboard selling for US\$540 costing workshops US\$385 to finish; 71 percent of its retail price. Longboards were US\$500 to US\$825 to



make; again representing about 72 percent of the retail price. On the Gold Coast a computer-shaped surfboard selling off the shop floor for US\$515 cost a workshop about US\$370 to make. Average priced longboards selling for US\$839 were US\$600 to make. This means that across the four locations costs of computer aided production were 69 to 72 percent of the regular retail price.

The profit margins for a single computer-shaped surfboard were therefore only 4 to 5 percent higher than those of hand-shaped models. The surprisingly high cost of computer-shaped surfboards demonstrates how the use and integration of new technologies for workshops only marginally improved profits in terms of individual boards sold; the more significant improvement in revenue and business sustainability was through overall increased sales quantities and better access to retail visibility. The shift to computerisation was considered an advantage in terms of market share, scope and brand visibility beyond their regional base:

In the shop here, which is quite small, it just means we can advertise beginner level boards right through to the higher performance ranges at the same time. It has made us more competitive and profitable because we can get the full market covered. By how much are we better off? I have noticed that over the last eight to ten years; it's in the range of several thousand a year. (Cameron, interview, O`ahu)

The shaping technologies Cameron operated had enabled workshops to meet the needs of local beginners, and to tap the growing national and international surfboard market via export and distribution networks – as was the case with Byrne and Arakawa Surfboards. In total, under the two contrasting systems of production, surfboard sales

across the eighteen businesses generated total revenue of \$US 8.43 million over the twelve-month recording period; as a comparison this is about 4 percent of the size of the U.S. surfboard industry (SIMA 2010). Nevertheless this was a substantial economic turnover given the independent, local roots of businesses. With the size of workshops varying between smaller, local operators and larger scaled exporters, actual profit results reported during interviews ranged between US\$20,000 and US\$500,000.

## **5.5 New spaces of surfboard production: the turn to Asia**

Not only have computerised technologies and design replication been used to catalyse new markets for independent workshops, but surf firms of different sizes have increasingly moved to produce boards in non-surfing regions where there are cheaper factors of production. The geography of these new spaces of surfboard production has been centred in Asia, especially China and Thailand. Added to this there has also been a concentration of new surfboard workshops in ‘cheap’ surf travel destinations including the Philippines and Indonesia. Across these destinations computerised technologies are being used to replicate standard designs on mass. In China – now the world’s largest manufacturer of surfboards – some 30,000 boards are exported weekly, most from the Guangdong and Zhejiang provinces (see <http://www.surfandsoul.com>). The dominant markets for these boards are the United States, Australia and Western European nations including Spain, Portugal, France and the UK.

The organisation of this production is such that companies manufacturing surfboards are now a mix of surf-based businesses like Rip Curl and Billabong, Global Surf Industries (based in Thailand) and SurfTech (also based in Thailand), along with diversified manufacturers like Benpat International and SHY Technology (both based

in China). These companies have located their production in settings where costs of labour and materials are significantly cheaper than those faced by workshops operating in the United States and Australia. Global Surf Industries, Firewire and SurfTech factories are all located just outside of Bangkok and use CAD and CNC technology to shape boards; they also glass them internally within the same factory, within a production line factory setting. Chinese firms, in particular, have taken the opportunity to computer-shape boards for the world's surfing masses, which are not only sold through surf retail shops but increasingly through non-traditional outlets. For example American based company Costco (a home wares, supermarket and discount store) began stocking Chinese made surfboards in California and Hawai`i from 2008, selling them for between US\$200 and US\$300. In most cases these prices were well below the incurred production costs for local board workshops. In 2009 Costco sold more than 7,000 of such surfboards across the United States (more than 70 percent in California) over the summer months. In other cases where surfboards businesses with established reputations have used computer-shaping technologies to successfully secure wider market share, a tactic has been to shift the location of production offshore. This was the strategy taken by the Gold Coast company Firewire Surfboards. In July 2008, a short time after receiving state government funding to keep making boards on the Gold Coast, Firewire controversially moved production from its Burleigh Heads workshop to a 'low cost factory in Thailand' (Nev Hyman, Firewire director, press release).

The importation of cheaper surfboards from new spaces of production in Asia had heightened competition for surfboard workshops profiled in this thesis. This was described by several business owners:

There are lots more pop-out boards here now... same designs copied over and over, popped out one after the other. The price has made it into a disposable item: buy a surfboard for \$300, in six or twelve months it's wrecked, so throw it away and buy a new one. (Mick, guided work tour, Illawarra)

Other business owners reiterated Mick's concerns. Kirk, in Hawai'i, explained how the market for his custom longboards – once the most profitable division of his Cheater Five Surfboards – was being eroded by the influx of boards made cheaply offshore:

Yeah, Costco introduced Chinese boards and stuff...we really suffered for that for a while and because they're Chinese manufactured, those boards are competing with my...boards for US\$1,000 and that makes mine look even more expensive – and they are you know. I have to admit they're expensive for surfboards, but they're nothing for the amount of time that's put into them.

(Kirk, guided work tour, O`ahu)

The most significant effects were experienced by those businesses based in southern California and the Gold Coast, the most lucrative markets for the selling of the surf, and also the most competitive. At the D'Arcy Surfboard factory on the Gold Coast, frustration was expressed at the influx of imported surfboards, which were not labelled for the place of production:

A huge factor at the moment is where you have factories in Thailand and China using computers to copy surfboards and ship them here to sell in the retail stores. We have got to compete against a product that is half the price. They are also half the quality. But because they are not being labelled the consumer doesn't understand that this board here is made in China and will have to be replaced in

half the time as this board here, which is two hundred dollars more but made locally from better materials. (Stuart, interview, Gold Coast)

Tim at Bessell Surfboards expressed anger and frustration at the way an automated system of production had begun disadvantaging localised workshops in southern California, unable to compete with price or market reach:

You get companies like Firewire and Global Surf Industries that produce all their boards in China and Thailand now off machines. Do you want a slave-laboured dude getting US\$3 a week making your surfboards, or do you want a guy who knows how to stand-up in a barrel? And, you know, do you want a piece of art made with human love and heart and soul, or one churned out on a computer? That's what people forget. They don't like to talk about the soul, you know. They want to be soul surfers, but they're riding pop out surfboards from China and its holding everybody back... This is one of the last industries that you can buy custom, but if I don't get enough business to stay in business, because of China, popping out boards for US\$280, that hurts everybody... all the way down the line, and that's my official fucking position. (Tim, guided work tour, southern California)

The concerns expressed by the different business owners were also reflected in analysis of the overall American surfboard industry. In the United States the surfboard industry is worth US\$190 million annually. The market share of surfboards made offshore had increased between 2004 and 2008. In 2004, 74 percent of the U.S. surfboard sales were of boards made domestically; yet by 2008, this had dropped to 63 percent (SIMA 2008). In financial terms, while the surfboard industry remained about the same size in the United States between 2004 and 2008 the market share of imported surfboards

increased from US\$49.4 million in 2004 to US\$70.3 million in 2008 – a 30 percent increase in four years.

## **5.6 Conclusions**

International growth in the popularity of surfing through the 1960s precipitated a number of important changes to the subculture. First was its saturation into ‘pop’ culture as The Beach Boys urged everyone to ‘go surfing’. Clearly popular culture’s coverage of surfing lifestyle was a seminal point in the story of commercialisation. There already existed a number of smaller surfboard workshops; most were backyard operations that employed only a few workers and churned out just a few boards each week for the local surfers of Malibu, Waikīkī, Coolangatta or Torquay.

From the mid-1960s surfing contests became a way for surfers to gain a sense of legitimacy as competitive athletes, contrary to social panics about the subculture’s hedonism and lackadaisical attitude to work. Whether for better or worse, surfing’s professional developments moved the sport in new directions. Not only did careers in surfing become achievable for the select few talented riders, but surfboard-makers began revolutionising surfboard designs, which simultaneously shifted trends in surfing styles. Dick Brewer and Bob McTavish were the drivers of this design innovation, working in different parts of the Pacific, but many other locally based workshops contributed, including participants in this thesis, not only meeting the demand for surfboards but planting the seeds of surfing’s corporatisation. In essence the global growth of surfing industry has been dependent on surfing’s convergence with other popular culture and media industries, including film, music, television and fashion.

From modest beginnings as surfboard workshops Quiksilver and Rip Curl emerged to as commercial giants; Billabong quickly followed to further galvanise markets for surf-based fashions and apparel. With more people surfing and consuming the subculture, those workshops cutting a living from making surfboards also shifted their approach to production. The catalyst for this change was the introduction of accurate computerised technologies, CNC and CAD programs, which allowed shapers to precisely replicate their best hand-shaped designs. This improved chances of reaching all corners of the surfing market, from experts to entry level. Distribution networks extended the reach of local workshops, so that Arakawa and Byrne surfboards could make a board in Hawai`i or Australia and distribute it to suppliers in Japan or Brazil. As the traditional home and contemporary Mecca of surfing, place association became pivotal in Hawai`i, adding commercial value to boards as they moved globally.

While computerised production – not quite mass-production, but substantially re-arranging work tasks and production scheduling – has opened up new markets for some small surfboard-makers, the economics of this system remain challenging. The costs of production relative to retail prices are only marginally better (4 to 5 percent) than hand-shaping approaches. Thus the chief benefits are speed, scope and scale – the ability to extend sales demographically and geographically.

Hence independent surfboard workshops have gone to great lengths to make their business more sustainable – embracing computer-aided design as a means to widen their markets and partner with professional surfers to maximise exposure. Yet the profitability of most workshops examined remains low. While the wider surf industry has been oligopolised by a few large companies, as with other cultural industries such as music and film (see Pratt 1997; Hesmondhalgh 2007), the more significant finding

amongst surfboard workshops is the pervasive shift from labour-intensive, craft-based production techniques to a capital-intensive production system where new technology has shifted the social links between makers, customers and breaks. Surfboard-making is, for shapers in particular, a labour of love rather than a means to great wealth. This theme of the shifting nature and precarity of the work of surfboard-making is explored further in the next chapter.



# 6

## **Hand-making: a labour of love or career suicide?**

### **6.1 Introduction**

This chapter narrows the focus of this thesis from the political economy of custom surfboard-making workshops to the workers themselves; it thus spotlights the narratives of those individuals cutting a living from making surfboards. While computerised production has become the numerically dominant system of surfboard-making, iconic connections and careers are still forged through craft-based forms of board-making. This analysis of workers who hand-make surfboards as paid employment, starts with the eighteen workshop owners and their pathways to starting a business in a challenging cultural industry. I then explore experiences of individual workers within workshops, to examine how they have developed skills and knowledge and learned their unique craft.

Focusing on individual shapers and glassers as cultural workers represents an acknowledgement that there is much more to surfboard-making as a cultural industry than production techniques and firm organisation – although these are important. Stories from workers about their experiences in the industry are crucial for understanding how it exists in the first place, and what dynamics shape its contemporary geography. With an interest in the experiences of board-makers as cultural workers, the thesis thus intersects with labour geographies (Herod 1997; 2011; Ross 2003; Castree 2007; Herod et al. 2007), as explained in Chapter 2, especially on the themes of changing firm organisation, general working conditions, workplace relations and the impacts of technology on working lives (Hanson and Pratt 1995; Peck 1995; Gill and Pratt 2008; Ross 2009). This focus on cultural workers is also important politically and intellectually, in order to give voice to workers' experiences in this phase of advanced capitalism. The culture of surfing and of surfboard-making as a form of work fundamentally shapes the industry.

This chapter therefore seeks to pull together the main themes that emerged in relation to working in the surfboard industry, attempting to understand the issues facing those people who want to continue to pursue a cultural form of production. Those who make customised, personal boards for surfers question their future security and whether pursuing careers in the industry represents an ongoing 'labour of love' or a form of occupational suicide.

## **6.2 Starting a surfboard business**

Where there have been large numbers of surfers, surfboard workshops have invariably appeared, whether that has been Durban, South Africa or Duranbah Beach, Australia.

By the late 1950s small surfboard firms had sprung-up in surfing hubs especially concentrated along the Californian (Malibu, Huntington, San Clemente and Oceanside), Hawaiian (Waikīkī, North Shore of O`ahu) and Australian coasts (Sunshine Coast, Gold Coast, Byron Bay, Newcastle, Sydney, Wollongong, Torquay). These remain crucial locations where creative surfboard design in small workshop settings is concentrated. In southern California, the Gold Coast and the Illawarra commercial production surfaced from within groups of local surfers (including some profiled here) who sought to make boards in their home town as a paid form of labour. There was a similar story about the commercial roots of board production on O`ahu, which had a much more extended historical connection to traditional Polynesian forms of board-making and to fledgling tourist demand (Chapter 1).

In the case of workers in the Illawarra surfing popularity meant they could begin their own independent operations rather than merely working as distribution agents for firms located outside of the region (like Barry Bennett and Joe Larkin Surfboards in Sydney), which they had previously done:

I was sponsored [surfer] by people in Sydney, but my apprenticeship was a fitter and turner and I wasn't happy with grease and shit in the industry and wanted something different and thought well, then there was no one here. So, I just saw an opening... a market for it, because I was competing then and, saw an opening for boards here. I was bringing boards down; selling Peter Clark made boards, who I was riding for... I thought well why can't we make them here? Then I went into partnership with Peter, I observed him shape, learnt the skills and that lasted 2 years, I said I'm going to go out by myself now... which was a risk for me but at the same time I knew lots of local surfers who I could make

and sell boards to, I knew they would support me if my work was high quality.

(Mick, guided tour, Illawarra)

Without competition in the Illawarra region, Mick recognised the potential to earn a living from shaping and glassing surfboards to meet local market demand. The most significant early problem facing participants looking to establish careers in the surfboard business was convincing local financiers that work would be able to turn over a profit, as John explained:

My first job, a bank clerk believe it or not, I did that for 2 years...but I was going nowhere and I wanted to turn my surfing into a business. At the time I was riding boards for a label in Cronulla [Sydney], bringing them down, and selling them. I could see a market for it here, Wollongong was buzzing on surfing and there was no one around locally...The bank was very wary of lending me money though, it was a battle to get it out of them, they said 'surfing – you can't make a successful business from that' [laughs]...it was a real battle ...they heard surfing, and were convinced it wouldn't make money. (John, guided work tour, Illawarra)

The problems John faced were quite typical of the experiences of small, independent enterprises: hurdles in securing funding and financial support, often at very high rates of interest because of high failure rates (Pollard 2003). John established Skipp Surfboards in 1963, around the time Australian Nat Young was being crowned World Surfing champion. After eventually convincing the bank for which he once worked to lend him money, he went about refining the skills needed to make custom boards, learning from those workshops for whom he distributed boards, while continuing his own competitive surfing and then hiring other respected local surfers (Phil and Dave Byrne for example)

once business ‘started to pick-up’ (John, interview, Illawarra). This had been a similar experience for shop founders Greg (in starting Sauritch Surfboards) and Terry (Senate Surfboards) in southern California, and for Eric and Ben in Hawai‘i. They were all keen surfers who rejected other forms of work in favour of pursuing careers that could ‘keep them in surfing’ (Terry, interview, southern California). Ben explained this best during a guided tour through his workshop on O‘ahu:

I got into it quite late, around 1963, but the story is so funny...I had a rivalry going with a *haole* guy named Joe who had brought Makaha Surfboards, it was called. One day I go in there not knowing he’s the owner and we see each other and man, that moment was weird, it was actually good because he invited me back and asked if I wanted to make a board...I was totally green [inexperienced] but just surfing every day. So the next day I took off from my regular job I was working, right, and from 5am to 5 pm I remember I just shaped that board. Joe glassed it for me and that was it...I never went back to my normal job [laughs].

Then about 1966 or so I started doing it myself and it was just amazing for me to be making a living from surfing. (Ben, guided work tour, O‘ahu)

For Ben and the other workshop owners, their identities as recognised local surfers were crucial to their business. They each had personal relationships with customers and shared waves at local surf breaks with those buying their products. This allowed surfboard-makers to perfect production techniques and board styles that suited local waves, prevailing surfing styles and the individual body shape and weight of customers. To build up local markets each of the eighteen workshop owners spoke about the importance of quality workmanship. A good surfboard was characterised as a design which matched the expectations and desires of the customer.

Economists (and economic geographers) have pointed out how individuals – like the workshop owners profiled here – often choose to start and run their own businesses so that they can ‘be the boss’, which also acts to heighten uncertainty because of higher volatility in earnings and thus higher rates of failure (Avery and Zemsky 1998; Pollard 2003). This was certainly the case for workshop owners who sought to pave careers in an industry that was growing locally at the time but where there were troubles meeting loan repayments, finding a suitable location to establish a workshop, meeting high initial overhead costs, establishing profitable markets and even finding suitable labour. One workshop owner explained how they had been involved in a failed business before, which they blamed on these factors:

I started another workshop in the mid-1990s with [business partner], which was my first mistake. He over-spent in setting the shop-up and we weren’t close enough to the beach...that meant we struggled finding new customers. Then we had problems with two of our workers, one shaper in particular just fucking argued with every decision we made... after about 2 years I saw the writing on the wall and got out...[business partner] kept going for another eighteen months or so but closed it down eventually and owed a shit load of money to the suppliers and the real estate. (Workshop owner, interview, southern California)

Another workshop owner in the Illawarra, who had also been involved in a previous failed surfboard business, largely blamed his problems on slack workers and a lack of business knowledge:

It doesn’t matter if you’re a surf legend or a noob, business is not a game... Either you get all your suppliers, transport, government regulations, media and staff organised or you’re doomed. And have a good accountant to deflect the

ATO [Australian Taxation office] and a tame banker to maximise your income and credit stream. I've been a twenty plus year employer and the most grief has come from employees...slow, late, hung-over, constant theft or downright useless. I've had two employees demand that I pay them more immediately or they'll quit, so I've terminated them on the spot. No final pay, just get the fuck out or I'll call the Police. After that [business] failed I got some professional advice before I had another go, and this has been going for fifteen years.

(Workshop owner, interview, Illawarra)

As business owners told me about the different factors they had overcome in establishing their surfboard workshop, there was also a sense of the role opportunism and timing played in fuelling business growth and helping to ensure longer term sustainability. What made each business successful was a combination of good timing (coinciding with surfing's rising popularity), high quality craftsmanship, and the strength of social connections that circulated within local surfing subcultures (see also Preston-Whyte 2002; Evers 2005; Waitt and Warren 2008).

All eighteen workshops had been established for more than ten years (up to fifty in the case of Ben Aipa in Hawai`i); and there were overall low rates of failure. In total five of the eighteen current workshop owners had been involved in a failed surfboard business. The circumstances around which these workshops were started were summarised by Jeff on O`ahu:

I think the timing of me starting this has turned out to be important you know, 1970s, early 80s, surfing is getting more and more popular. Competition is there but demand is higher and there was opportunity everywhere. It's very different now starting up, much harder cutting your teeth. But I also think you shouldn't

overlook surfing and the relationships that surfers have. If I tried to start now my chances of failure would be a lot higher of course. But I have a loyal group of customers who respect the work we do and that sustains the business. (Jeff, guided work tour, O`ahu)

Helping the early development of businesses such as Jeff's was that little corporate competition existed at the time; Billabong and Rip Curl were growing rapidly, selling t-shirts, board shorts and wetsuits, but there was no computer-automated system of production and international distribution of surfboards was yet to pervade the industry. Jeff also touched on the role forms of social interaction played in the success of workshops. Indeed participant narratives outlined the rich social capital that supported their work (cf. Bourdieu 1986; Wacquant 2005). In the Bourdieuan sense this social capital was generated through the connections participants had with different groups of local surfers: that 'loyal group of customers' (Jeff, guided tour, O`ahu). Their membership in different surfing groups (as both surfers and board-makers) provided owners with continued streams of paying customers, which supported the fledgling businesses financially via custom orders. According to Louise Holt (2008) individuals who have access to particular social networks can more easily mobilise their social capital, transforming it to maintain advantage within particular fields of activity. In this case selling surfboards was greatly assisted by the relationships and social bonds between makers (who were at heart also surfers) and the local surfing community.

In some cases where workshops had since grown, selling several thousand boards annually, lead makers had gained particularly high levels of what Bourdieu (1986) termed symbolic capital. For Bourdieu (1984; 1986) symbolic capital relates to the resources available to different groups of people – whether they be capitalists,



military leaders or domestic workers – based on their recognised social standing, that which functions under what Wacquant (2004 p 7) calls an ‘authoritative embodiment’ of value. Examples of symbolic capital at play were seen in the way the better known makers including Eric, Jeff and Ben in Hawai`i, Phil and Dave in Illawarra, Stuart and Wayne on the Gold Coast and Tim in southern California were granted higher status in the context of their surfboard designs and workmanship. Other workers and shop owners spoke about them as epitomising quality work and industry success. Hence Kent, working on the North Shore of O`ahu talked of the symbolic capital that Jeff had developed through quality work with surfboard design:

So you know Bushman [Jeff], years ago told me some advice, and he’s someone I look up to...he was making boards for this Japanese girl who surfed big Sunset, you know a charger for this little petite Japanese girl. She was out there in serious surf and he kept making her boards and she kept saying all the boards are too stiff, I can’t turn it and he kept thinking well she’s this little light girl, you know. Eventually he said ‘I watched her surf, I started watching her surf and I realised that she was standing way far up on her board, she never stepped back on the tail. She was kind of surfing in the middle of the board all the time’. So he goes ‘I just put the fins way forward, way further forward than I would ever put for anyone and she loved the board’. I found that incredibly helpful advice from someone like him. (Kent, guided tour, O`ahu)

As surfboard-makers were members in different surfing fraternities (Booth 2001) they had established important connections not only to assist with feedback on designs but also to underpin on-going sales of their boards. Surfing’s forms of social capital provided surfboard-makers with support and access to economic forms of capital.

### **6.3 ‘Where are all the young blokes’? Succession planning in the surfboard industry**

While social interaction between local surfers and their board-makers had been important to starting a surfboard business, by the time I interviewed them there was a palpable issue of ageing amongst the hand-makers. This was beginning to pose problems for the future succession of hand-shaping skills and specialised forms of knowledge. There were recurring comments among older shapers and glassers about where ‘all the young blokes went’ (Dave, interview, Illawarra).

During a guided tour through the CSD workshop in the Illawarra in late 2009, owner and glasser Mick Carabine began to discuss his looming retirement. In conversations with Mick he often spoke about his forty-two years working in the industry, explaining how he enjoyed making surfboards by hand and recounting favourite memories and experiences with customers. At one point in the tour, Mick was asked about his future plans for the business: how did he plan to pass on his skills, knowledge, tools and work space? What about the markets he had created in the region? Who would inherit them? Despite Mick’s business being profitable and employing two others workers, he bluntly said: ‘I just planned to walk away go down the coast and retire, just close it down’. There were no plans to pass on these cultural and financial assets and Mick felt that after so many years making surfboards for the enjoyment of others, it was ‘his time’. With more than 70 percent of hand-shapers and 50 percent of glassers participating in the thesis aged in their 50s, planning to pass down skills and knowledge was surprisingly not on the radar of most businesses.

This did not mean that workshop owners did not wish to see the continuation of hand-made approaches to customising surfboards. While an alternative automated

system of surfboard production was now readily available for workshops to (increasingly) use, owners expressed their desire and need to maintain hand-shaping practices. This was not only because hand-shaped designs were needed for research and development purposes, informing the replication of more generic mass marketed board models, but as Chapter 7 will highlight further, there were also more personal motivations, that were social and cultural in their origins. Workshop owners regularly advocated the need for continuing creativity and design innovation, in spite of the limited succession planning. They also agreed this could only be done by continuing to hand-shape. While computerised-shaping was increasingly common in the industry across the four regions, hand-based production remained profitable, and directly informed the use of automated shaping:

You discover your best designs hand-shaping. You'll be working away, shaping the next custom board and bingo something happens! The surfer rides it and is just stoked on it. That's when I use the machine to replicate for the entry level surfer. (Chris, guided work tour, Illawarra)

Tim from Bessell surfboards in southern California also expressed the importance of passing on the methods, techniques and skills of hand-shaping, which he felt was under serious threat of extinction:

Firstly, you see a lot of these shops don't realise that hand-shaping is crucial to the whole damn system; computers will copy perfectly every time but the artistic, creative side of this work comes from the person making it with their damn hands. I see that as being under threat now, I really do. Computers have come in and just suddenly replaced hand-shapers... then you also have the age problem and for me when you don't have the younger generation coming in to

learn this art, then I think the future of hand-shaping, well basically its fucked.

(Tim, guided work tour, southern California)

For hand-shapers the retention and passing on to a younger generation of their distinctive skills and form of knowledge – in terms of design concepts and techniques using different manual tools – was a serious constraint. There were opinions floated around by older workers that ‘younger people just aren’t interested in this sort of work anymore’ (Craig, interview, O`ahu). But in reality, where younger people were working in the industry it tended to be focused in the programming and operation of automated systems of production. The succession planning issue had come to a head again because of the growth of computerised technologies and their replacement of hand-shaping labour. In other words, CAD programs and CNC machines replicated manual forms of work, meaning hand-shaping was reduced to an appendage of mechanised forms of production (cf. Burawoy 1983). Additionally two other features in the regional dynamics of surfboard-making also played a part in casting doubt over the future of hand-making: the informality of surfboard-making as a form of cultural work, and the shift by large manufacturers to cheap offshore production in lower labour cost countries.

### **6.3.1 The informal and unstructured nature of hand-making careers**

Among the sixty individual workers employed to shape or glass surfboards in the eighteen workshops studied, clear patterns emerged in terms of their progression into jobs hand-making surfboards. The typical motivation for pursuing hand-making careers began with a personal enthusiasm for surfing. Participants recounted how surfing ‘became an obsession’ (Paul, interview, Illawarra) and the ‘only thing to concentrate on’ (Tyson, interview, southern California). In some cases respondents had worked in

unrelated fields and industries such as steel manufacturing in the case of Chad in the Illawarra (shaper and glasser) and selling used cars (Kyle, southern California). In other cases workers including Brian (glasser, southern California), Dino (shaper and glasser, Gold Coast) and Kalani (shaper, O`ahu) found jobs in local surfboard factories in the 1970s or 1980s, while still at school. This led them to eventually finding more permanent work in the surfboard industry. Kurt, an experienced board-maker in his early 50s explained during an interview the process that many workers in the industry followed in ‘getting their start’:

Kurt: My...older brother was into surfing before I was. I probably started surfing not seriously at 11 and by the time I was 15, I got pretty serious about it and I started making, I made my first surfboard when I was 14. I lived in the South Bay of California which was a hot bed of surfboard manufacturing and all the manufacturers were together in Hermosa Beach within two blocks of each other and I used to ride my bike from Hawthorne, which was only a few miles away inland, to Hermosa and hang out at the factories and watch ‘em build surfboards.

AW: And so was there someone who kind of, who you learnt with, who you developed certain skills with?

Kurt: No, you don’t get a start like that. It was mostly teaching myself from watching the guys that were so good...It really takes the experience, you’ve got to do the hands on thing or you don’t know how much pressure to put on, even after watching people. And those guys were, they were production guys, they weren’t going to talk to the kid in the doorway...but the boss Phil Becker used to let us, me and some buddies

stand in the doorway and watch, but he'd tell us, you can stand there, but don't ask me any questions. And all you could see was a cloud of foam basically.

Kurt's experience was commonly shared by the older generation of hand-shapers across the Pacific, with many finding opportunities to watch local master craftsman go about their work, occasionally landing casual jobs cleaning shops, unloading supply trucks or repairing dings. From these initial engagements, they eventually moved into general production roles finishing off boards or pre-shaping them before the lead shaper in a factory went about refining a design. Production roles helped to develop the finer skills involved in shaping and glassing surfboards. These apprenticeships were not professionally recognised. Learning about surfboard design and production occurred via a mentoring-type relationship, where an experienced shaper would guide the workshop's apprentice. The basic skills and forms of knowledge to glass or shape were passed on within the shop so that inexperienced workers developed the essential components of the surfboard-maker's toolkit, including knowledge of design theory (aspect ratios, planing hulls and shapes etc) and production skills.

Because hand-shaping was the only available system of production up until the 1990s, the succession process for labour worked efficiently enough when owners needed to encourage younger workers to learn the ropes: showing them how to measure designs onto blanks and sculpt out design shapes using the planer. However the integration of a new system of production had in many cases meant that workshops no longer actively continued these informal transfer practices. When alternative methods emerged to satisfy market demand for boards, business owners became less focused on engaging younger workers in the craft of hand-making, as Phil explained:

You know, that is something a lot of people forgot about. You become pre-occupied with machine shaping and until you sit back and this happened the other day actually, Dave [an experienced hand-shaper] said I'm retiring next year, and I thought, 'shit I've got to train someone up to continue with the design and custom shaping'. We became occupied by other needs for the business and didn't think about it [training a younger hand-shaper]. (Phil, guided work tour, Illawarra)

Unlike fashion and art, film and architecture – cultural industries where training and skills development is routinely professionalised – surfboard-making for both glassers and shapers was vernacular cultural work (cf. Warren and Gibson in press). This meant surfboard production was based around an informal industry configuration where prescribed or recognised qualifications for proficiency or professional attainment, were non-existent across all four regions. Career pathways were also ambiguous and endemically disorganised. Back in the 1960s some got their lucky break by simply hanging around enough at the workshop; something hard to imagine being possible nowadays. This had created a situation where attracting desirable younger labour was now vexatious: rates of pay were wildly variable (no standard rate existed in any of the four regions, varying depending on the strength of social relationships), while work was often physical, dirty and tiring. Added to this was the fact no guarantee would be given to keep workers employed. Other work opportunities simply proved more appealing:

It's one of the real problems we see with the industry here on the Gold Coast.

The work is just so informal and the people already in the industry are protective of their knowledge and set in their ways. There needs to be a way to teach younger people that are interested, about the industry. You know, how it works

the types of skills they need...without being able to do a proper qualification or apprenticeship, which we could use to market the industry as well, then I think in ten years time we won't have any younger hand-shapers coming through because they will have found jobs somewhere else. (Workshop owner, interview, Gold Coast)

With the rise of automated production techniques individual workers were no longer required to begin careers as apprentice hand-shapers. Instead employment in the industry regularly began with learning the operation of automated equipment. This was seen to be severing the transfer of knowledge (Malecki 2010) between established (journeyman, experienced or master shaper) and inexperienced/apprentice workers. Unstructured and informal regional dynamics of the surfboard industry became further troubled when larger businesses and labels started using computerised-shaping technologies, global distribution networks and cheaper labour to produce surfboards away from popular surfing locations. These new spaces of production have further added to the issues of succession planning and the future of hand-shaping labour: as older workers with creative hand-shaping skills can in time be simply replaced with mechanised reproduction.

#### **6.4 Precarious labour: hand-shaping and its insecure future**

As explained in the previous section of this chapter, the surfboard industry is highly unstructured, with no professional skills training or industry attainment of standards in either the United States or Australia. In order to survive amidst heightened competition from corporate players and importation threats from Asia, independent and locally operated workshops maintained and guarded rare artisanal skills, lending artistic and



cultural capital to custom-made boards. Such board-makers emphasised distinctive links between local environments and individual surfers, in a ritualistic process whereby boards were personalised for particular riders and waves. Yet resulting limited capacity meant workers employed as skilled hand-shapers survived precariously in financial and logistical terms. They negotiated insecure working conditions, fluctuating wages and uncertain futures – making boards by hand only to return marginal monetary benefits.

In shifting the dominant system of production to meet the demand for more standard boards supplied more quickly, local workshop owners had also moved hand-shapers to a peripheral role in many of the workshops. Of the fifteen businesses utilising computer shaping, twelve also maintained the employment of hand-shaping labour to some extent. In other words only three workshops no longer hand-shaped surfboards for consumption – two on O`ahu and one on the Gold Coast. The twelve that used both hand-shaping and automated systems could continue with detailed customisation and provide more personal service to surfers, but also used hand-shapers' unique embodied skills to inform the different designs being replicated with CAD and CNC technology. This process was explained by Kalani, a Hawaiian hand-shaper with more than twenty-five years in surfboard-making:

I do all the shaping for our custom orders but also because the money is in selling the highest number of boards you can, I've also got to work with [owner of the workshop] to refine the designs made with the machine. So I'll make a good custom board, you know a really sweet design and the customer will be stoked with it and then [workshop owner] will go and copy it and sell it at the surf shops [laughs]. (Kalani, interview, O`ahu)

On the surface, this research and development role appeared as a constructive adaptation to the computerised approach to production. While hand-based shaping was characterised by long production cycles and higher labour costs, computerised-shaping allowed businesses to quickly replicate generic board designs – at a rate of four boards per hour. Mechanisation helped workshops meet the demands of entry level and intermediate surfers for easy-to-ride designs, with hand-shaping meeting the needs of skilled local riders. While continuing with his custom work for local surfers Kalani also played a central role in evolving computer shaping designs. Deeper concerns were revealed once hand-shapers began discussing their working conditions, especially the temporality of their jobs and the tenure under which they were commonly employed by a workshop. Such experiences were summarised by several workers in each of the case study regions:

I get half the fucking hours I got ten years ago. I worked forty-five hours every week ten years ago. Now it might only be twenty hours, stretched over the week, less in the middle of our summer. It's almost unheard of to find a permanent hand-shaping job anymore because it's all casual and seasonal gigs. I work for a café in town [Haleiwa] that caters for the tourist business to make up for it [loss of income]... When the winter swells start rolling in I get more hours again, back up to forty a week and I'm busy hand-shaping for locals and a few returning tourists, but it's expected that you drop everything else because that's the fucking job and you've got to put up with it – or they'll find someone else.

(Andy, interview, O`ahu)

Not an isolated experience, the flexible, casual and seasonal nature of hand-shaping employment had become a widespread condition of the surfboard industry:

The busiest times are in the summer [June to August] and a month or so before Christmas. So you'll be working lots of hours, maybe fifty hours each week then. But I only get paid per board finished, which isn't ideal for quality workmanship because you know, you feel rushed to make a good wage. The rest of the year is quieter for hand-shapers so you have to scrape together what you have saved to get by. Then you get a phone call and you'll pick up a few weeks but then might have a few weeks off without any pay. So you get pretty worried, 'I'll call when I need you' is how it goes [laughs]. It has become that kind of job. (Peter, interview, southern California)

This was supported by Wayne, an experienced hand-shaper working on the Gold Coast for more than twenty years:

In the industry we now call it nervous November because you're waiting around to see how busy it will be for the summer...you start to get nervous by late November that the phone won't ring, and last summer it didn't and we were sitting here twiddling our thumbs and just didn't have any work. We got sent home basically and that was tough. (Wayne, interview, Gold Coast)

In their early 50s, Peter and Wayne's experience was remarkably similar to that outlined by Dean, working in the Illawarra:

Well I wouldn't suggest this to anyone no...I think from what I've heard from fellow shapers as well, it's like a dying art. I'm casually hired and also have to contract to other workshops as well. That isn't unusual but something I see now a lot across the industry. You don't have any stability and you don't even know what your pay will be this week from next week because it depends on whether they [workshop] say come in. Here's a good example: I worked a full week last

week, forty-odd hours and then this week, well it's Thursday afternoon and I've only worked probably fifteen hours in four days. I don't buy the excuses they give about orders varying, I just reckon computers have taken over and the labels [workshops] only use us [hand-shapers] to sort of keep up credibility and appearances. (Dean, interview, Illawarra)

Hand-shaping had become discontinuous and irregular. Added to this, it was also lowly paid. Despite the highly skilled nature of hand-based surfboard-making, wages were quite low: shapers in California and Hawai'i drew an average weekly pay cheque of US\$620 to US\$650 (about US\$33,000 per year). For a full week of work pay was slightly more in Australia: US\$680 to US\$800 (around \$36,000 to US\$40,000 a year). The twenty-five glassers participating averaged a modest US\$580 to US\$600 (about US\$30,000 annually) in Hawai'i and southern California. Australian glassers again made slightly more for a full week of labour, between US\$680 and US\$750 for a full week's work. The low wage, insecure nature of surfboard-making was summarised by several workers:

Yeah, ok, so I am doing something I am passionate about, of course, but fuck if I'm only getting US\$700 a week and if my hours are up and down every month than I can't afford to pay-off a house or even go on a fucking holiday... I've started to think about changing factories because I need more stability than this, and wages as well [laughs], but I'm not silly, I know it's hard to find [higher paying workshops] nowadays. (Nathan, interview, southern California)

According to another factory worker in Australia, the supposed 'lifestyle time' offered by intermittent and casual work was a myth perpetuated by business owners in the industry to persuade workers to accept fewer hours:

[In this workshop] we call it fluffy talk because you hear these promises from workshops all the time: ah there's no work the next few day, so you can go surfing, or yeah you can take the missus for a trip. Well, it's all bullshit because you can't, that actually costs money...instead you end up contracting yourself to other workshops or pick up some other sanding or polishing work on the side.

(Justin, interview, Gold Coast)

In contrast to the views of some cultural and creative economy proponents (see Landry 2000; Florida 2002; 2005), the seasonality and flexibility of hand-shaping employment – especially for older, hand-shapers – was not viewed as emancipatory, as 'freedom', 'lifestyle time' or a 'flexible' organisational condition of the surfboard industry. While surfing was indeed a lifestyle and personal leisure pursuit – less time working was potentially more time surfing – hand-shapers did not buy into discourses of freedom typical of boosterish creative industries proponents. Instead most expressed anxieties and angst about meeting costs of living or planning lifestyles around incomes that fluctuated wildly depending on the time of year (cf. Brophy and de Peuter 2007; Hesmondhalgh and Baker 2008).

In discussing their thoughts on the precarity of workers and requests for higher pay and job security workshop owners were typically unsympathetic to such demands, as one Gold Coast workshop manager explained:

You get all these demands about pay and conditions but I'm sick of bloody hearing it...It's amazing how people can wander in the door one day, begging like a whore for a job and within months they start giving you ultimatums like they are the boss. I've had heat from the EPA [Environmental Protection Authority], landlords and local Government, but they just want their share and

they'll leave you alone. So fill out the forms, pay the requested amount and they don't know how much you're ripping them off if you keep the real figures to yourself. Out of the two, employees are way more trouble than the government. Previously a slew of employees were essential but now it's possible to outsource certain skills and pay some other company to do some jobs rather than babysit your own employees. Less wages, less grief, guaranteed results is how I see it...Sure it's cheaper to go overseas but wait until China gets unionised [laughs]. (Workshop manager, conversation on Swaylocks forum, Gold Coast)

There were thus contradictions that emerged in the analysis of the surfboard industry. These centred on the way some owners spoke about and discussed the importance of hand-shaping and their actual use and exploitation of specialised manual forms of labour. While owners described hand-shaping as a soulful and artistic system of production with deep cultural value to surfing, four of the workshops had moved all of their production to computerised technologies over the last decade, while the other eight now used CAD and CNC machines in more than 60 percent of their board-making. Only three workshops (CSD and Skipp Surfboards in the Illawarra and Sauritch Surfboards in southern California) resisted the temptation to use computer-shaping technologies and remained solely focused on hand-shaping practices. Despite each of these businesses being locally focused in their production they remained profitable by fulfilling the demand for attentive, high quality products – selling between 400 and 560 surfboards annually. Yet the reality was computerised-shaping was less labour-intensive, could reach more of the surfboard market and returned profits at least 8 percent higher than the most efficient hand-shaper.

These experiences illustrated the precarious nature of employment for hand-shapers and spoke to the fragmentation and dissipation of a form of manual and artistic labour once central to the surfboard industry. As larger surf labels sent production offshore to make boards and other surf-related goods in places where labour costs were lower (China, Thailand and Indonesia), resulting pressures of competition on local workshops in Hawai'i and California catalysed change in the working livelihoods of individual hand-shapers – pushing them into a more precarious and uncertain position.

## **6.5 Conclusions**

Is a career in the surfboard industry a labour of love or a form of career suicide? On the one hand workshops owners who turned their attention to the making and selling of surfboards did so out of a passion and enthusiasm for surfing. In order to secure surfing livelihoods participants scrambled for shop space close to local beaches, material suppliers and prized breaks. In these settings contacts within surfing groups existed and became important points of connection for developing social capital. Garnering support for high quality work meant that a workshop stood with a much better chance of competing in the industry as a smaller, independent business.

Their survival is no small feat given the advance of surfing commercialisation and rise of the transnational surf-brands since the 1960s. Rather than following a clear path set out by training schools or formal apprenticeship, workers instead tell stories of gradual skills and knowledge development (along with markets and making profits), where mentoring from experienced shapers helped, but equally significant were the influences of personal surfing experience and feedback from customers riding their

boards. Hand-making was a form of ad-hoc employment, where careers in the industry often evolved along a vernacular and unstructured occupational path.

In this way the surfboard-making business was also a highly social process: opportunities were sparked from personal surfing encounters and a passion for staying in touch with surfing subculture. Despite informality in surfing's early decades of international growth a number of participants developed highly specialised skills using manual tools, in a process of trial and error, but also in dialogue with local surfing communities and fellow hand-makers. Participants recounted a mythology of surfboard-making that sought to stay true to rituals and traditions, which valued personal, customised service and production techniques.

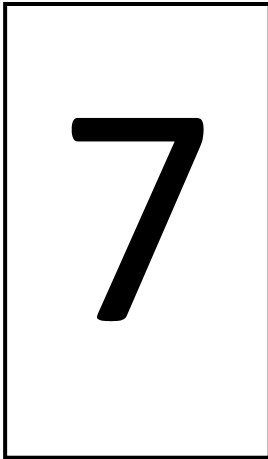
While a high degree of informality benefited early board-makers, increased global demand, competition from cheap labour locations, automation and vertical disintegration have all turned informality into precarity. As machines have come to replicate surfboard production, so too have they limited the need for ongoing human creativity. Mathematical measurements and design computations, and laser guided copying are now the key ingredients for surfboard-making, transforming human creativity to mere appendages of computerised methods. As one hand-shaper, Tony bluntly put it, 'computer geeks were favoured over ageing hand-shapers' (Tony, interview, southern California).

Another serious problem encountered with hand-makers and their unique skills and knowledge was their age: more than 75 percent were in their 50s or 60s (with Ben in Hawai'i in his early 70s). As these workers approached retirement some guarded secrets, techniques and forms of cultural capital, weary of giving away secrets of the trade. This has necessarily placed the hand-making system of production at a



crossroads. There was limited evidence of succession planning to younger hand-shapers, meaning many would not go through an ‘apprenticeship’ learning the intricate ropes of hand-making. They instead progressed to learn the skills needed to operate automated shaping machines and copy designs into the CAD program. This meant the future of hand-shaping employment was highly uncertain. Tensions around the long term tenure of hand-shaping was evident in worker narratives; like in other forms of cultural work under advanced capitalist conditions, surfboard-makers were in an increasingly precarious position (cf. Gill and Pratt 2008). Rather than a stable, permanent form of work, hand-shapers were now regularly employed in the industry casually and discontinuously. Added to this uncertainty was heightened competition coming from export factories in Thailand, China and Indonesia, and unscrupulous workshop owners.

Why then, with hand-shaping having such precarious and apprehensive future prospects, did workers continue in this line of work? In seeking answers to this final question the thesis drew on an analysis of the emotional and gendered dimensions of surfboard-making – to uncover the embodied energies that motivate and attach participants to this ‘soulful’ and ‘artistic’ form of work.



# **Blokes, embodiment and the emotional dimensions of surfboard production**

## **7.1 Introduction**

A final aim of this thesis is to understand what working in the surfboard industry means emotionally in the context of participants' lives. Drawing further insights from interviews with board-makers and from their personal stories, the chapter interrogates the bodily emotions which surrounded working, playing and living a life as a maker of surfboards. In Chapter 2, I positioned the emotions as phenomena inseparable from understandings of rationality because people in all aspects of life operate under multiple logics, which relate to all forms of decision making, behaviour and action (see also Ettlinger 2004; 2010). On the surface, the whole enterprise of hand-making surfboards now appears economically imprudent, or irrational. And yet board-makers in each of the

regions remained passionate and committed to their craft. This situation compels additional analysis of the personal, embodied and emotional dimensions of cultural production – the mythologies of hand-making that link contemporary board production to its historical antecedents; the closely guarded secrets of shaping and sealing surfboards; the bodily pains and pleasures of making specialised possessions for individual customers (who in turn frequent the same waves as the makers themselves, socialising with them as much as simply buying a product from them).

In interviews, workshop tours, and even out in the surf, board-makers were asked about financial matters, technology, and the emotional dimensions of their economic interactions: how work was performed, decisions were made and interactions played out with other workers and customers. Industry transactions occurred not just in a competitive market for a piece of essential leisure equipment, but across an *emotional industry terrain* (cf. Christie et al. 2008). This included exploring how attachments to surfboard-making as paid labour produced negative outcomes where there was heightened potential for coercion and exploitation (Hesmondhalgh and Baker 2008) measured against pleasurable, more satisfying elements. Hand-shaping surfboards solidified passionate, ‘soulful’ attachments to work, propagated subcultural legacies and renewed bonds between local surfers and makers. On the flip side it also attached workers to tenuous jobs that hurt bodies and seemed to be becoming ever-more precarious.

Amongst the industry’s labour force there was also visible and pervasive gender dimension to production. There was a stark gender division of labour at play in the operation of the industry across each case study region. It is a ‘blokey’ industry, but this is partly why participants said they liked the job.

With surfboard production considered a form of cultural work (see Chapter 6) scrutiny of its emotional, embodied and gendered dimensions can reveal how makers became motivated to forge careers in the industry, how they build up the mandatory skills, sense and knowledge when no formal training or skills attainment standards exist; and how a sense of self and attachment to the job develops through the type of work, including its gender dimensions. On that note, I begin this chapter with discussion of surfboard-making's distinctive male dominance.

## **7.2 'Strong bodies': the dominance of men in the surfboard industry**

In pre-contact Hawai'i surfing participation amongst *Kānaka Maoli* universally included men and women. Surfing style was not divided along gender lines, nor did riding performance in the ocean privilege a masculine, aggressive riding style. Where surfing participation and surfboard-making were hierarchical was along a class axis. Kapu defined where *maka'ainana* could surf and what types of boards they could ride and these regulations were policed by the community *ali'i* (Walker 2011). Meanwhile pre-colonial forms of Hawaiian surfing were, if anything, aligned to what westerners would identify as a feminist reading of the body – the ocean was valued as a nurturing, spiritual space. By the nineteenth-century, amidst the changes brought by colonisation, surfing participation in Hawai'i became dominantly practiced by native and *haole* men. While some Hawaiian women (and increasing numbers of *haole* women) continued to surf, Hawaiian men in particular maintained surfing identities as a way to resist imperial suppression and cultural encroachment on land (Walker 2011). Meanwhile early surfing in California and Australia, which did not become popular until the mid twentieth-century, was structured under a very different set of cultural and societal norms. These

overtly viewed surfing and the surf zone as inappropriate for women (Booth 1995; 2001). In these contexts surfing evolved to privilege masculine attributes, while female surfers, although always a presence on Australian beaches were considered weak, with their style relegated on the surfing hierarchy (Chapter 2). It is perhaps not surprising then that the development of surfboard-making as a commercial industry has also become a form of cultural labour dominated by men.

Across conducting the research for the thesis there was not a single female shaper or glasser employed in the eighteen workshops. All forty-five shapers and twenty-five glassers were men. Where women were employed in a surfboard business – at Cheater 5 and Arakawa Surfboards on O`ahu and Skipp Surfboards in Australia for example – it tended to be as front of house sales attendants, book keepers, financial organisers or stock monitors. In the case of D`Arcy Surfboards on the Gold Coast, Michelle D`Arcy, whose husband Stuart was the main shaper, was the overall general manager of the business, looking after accounts, invoices, phone calls and staff relations. These were essential duties for each business and ensured workshops remained organised and profitable, well sourced with raw materials like resins, blanks and paint. But these tasks were also considered ‘more’ suitable feminine roles by the male workshop owners:

Yeah, my wife looks after the shop at the front here. And I`m really hopeless with the book work side of things and knowing what bills to pay when. Women are just better at that organising and dealing with that. I mean they have a better attention to detail. (John, guided tour, Illawarra)

John`s response highlighted the way different jobs were assigned a gender based on what sorts of duties an employee needed to perform and whether those were seen to

require strength and were physically demanding (meaning they were considered masculine roles) or whether tasks were seen to need greater care and attention to detail, in which case a job was considered more feminine. This echoes Linda McDowell's (1997; 2001) work on the gendered and performative nature of work within London's merchant banks (see also McDowell and Court 1994). While obviously an enormously different industry, they share discourses about the way different forms of wage labour 'best suit' a given gender: tasks, wages and conditions are thus often separated along gender lines.

In terms of making surfboards for a living, men talked about their jobs as naturally masculine work – tough, tiring, physical and dirty were descriptions used in explaining the job's responsibilities and duties. Tools used to shape and glass each surfboard were specialised for the industry and difficult to use. They required what Chino, a southern California shaper aged in his early 50s called 'strong bodies'. Participants explicitly acknowledged shaping and glassing as 'naturally' masculine domains:

Honestly, the work is really not very appealing to women is it? It's hard work, you get bloody dirty and the glass fumes are pretty intense. I'm not saying women couldn't be good glassers and maybe there are some out there, but not that I know and really I don't think it suits them...it just appeals more to men, working with their hands like this in a manual type of job. (Mick, guided work tour, Illawarra)

When asked about the nature of his hand-shaping work and long career in the industry, Greg, in southern California, had a similar understanding of the requirements of

workers. By its 'nature' hand-making surfboards was considered masculine and suited to the stronger and more muscular male body:

It's totally fucking hell for your body, this work. Especially with the planers, you know? Here – it's a heavy thing huh? Probably weighs fifteen pounds... So when you're going like this all day long, ploughing through the foam, you know, twisting and lifting and sanding and cutting, fuck, man, it's hard work. You want to know why not many women are shapers. Well that's it really, it's very physical and it's naturally suited [to men]. (Greg, guided work tour, southern California)

Where craft skills and hand driven tools were the basis of production, the work became conceptualised as a natural domain for men.

### **7.3 The social relations in the life of a surfboard-maker**

The domain of the workshop as male working space was further constructed and galvanised via the personal exchanges and social interactions that took place in shaping bays and glassing rooms. Activity was focused in the workshop where production was carried out during the day but worker interaction flowed into other local spaces: popular surfing spots, beachside car parks and social bars or pubs. Fellow workers from a business, local customers and workers from competing businesses were in each region all part of a wider surf-related social group. In this way there was a relational side to the surfboard industry and its labour force (Fletcher 1999). In terms of in-house production, friendship was a key feature of the job. While creative secrets were at times fiercely protected by older expert craftsman, because workers had been shaping and glassing alongside the same individuals for many years they had come to form strong social

bonds with colleagues (Ettlinger 2004). These relations extended well after a day's work had finished and flowed well beyond the walls of the workshop. Workplaces thus became male dominated social settings that combined both paid labour and a subculture united by a passion for surfing. Here 'blokey' mateship was a ubiquitous feature in the production of surfboards:

The blokes who work in here, yeah we're all pretty close mates, you know. We work hard in here during the week and every Friday we crack open some beers and we have a joke and share some stories. That's a big part of the job and it's a small crew here usually just five or six of us, so we become pretty close. We're always chatting about our next surf trip or the latest chick one of the boys is rooting [laughs]. You know how it is. (Charlie, interview, Illawarra)

Similar gendered expressions of mateship were observed on the Gold Coast, in southern California and on O`ahu. As Charlie also reveals in his discussion of workplace mateship, part of this male social bonding involved the implicit and explicit sexualisation of women. In one example, during a guided work tour through a business in southern California an attractive female surfer walked into the shop and sought some help from the owner to fix her badly-dinged board. Word quickly spread through the shaping bay (the researcher was also 'out the back' talking to the other workers) that a 'hot chick' was 'out front'. The three remaining workers moved to the retail section of the shop so they could 'check her out' and 'have a perv'. When she had left the men openly traded jokes about her attractiveness and sexually alluring appearance (RD entry, March 2010).

In an industry where workshops regularly employed only a few workers, confined to a small factory space, working long days during the busy summer months,



individuals often became close friends. They socialised together as well as worked and surfed alongside each other. Conversations during the working day regularly included discussion of sex and women. Here women were rarely talked about in terms of skilled surfing bodies – like other local male surfers were – but as objects of sexual desire and conquest. This finding reflects earlier research on surfing culture which demonstrates how groups of male surfers regularly circulate notions of women as sexual objects rather than legitimate surfing bodies (see for example Stedman 1997; Henderson 2001; Evers 2004; Waitt and Warren 2008).

Homophobic undercurrents were also detectable among some of the male workers. While it was perfectly acceptable for the men within a workshop to ‘have a perv’ on the ‘hot chick’, on another occasion fellow male workers used terms like ‘poofers’, ‘homos’ and ‘fags’ in discussing two male customers being served in a shop that were interpreted as being gay (RD entry, April 2010). The thought of a fellow surfboard-maker being queer, for most participants, disrupted their normalised understandings of such work as hyper-masculine and requiring what Chino called ‘strong bodies’. For these surfboard-makers, physical muscle was a requirement of the job and was strongly disassociated with women and homosexual men.

But in another contradiction, the heteronormative construction of surfing culture was regularly blurred as surfboard-makers spoke passionately about fellow male colleagues whom they admired and whose work they valued. This admiration and respect was again forwarded to men employed within the workshop and others employed at competing businesses. Individuals were praised based on their high quality workmanship and demonstrated commitment to a mythology of surfboard-making –

staying true to a form of artistic production and not ‘selling out’ to the lures of mass production:

Man I’m so stoked that a guy like Skip Frye who hasn’t sold out and hand-shapes everything, way more than 50,000 boards, can get US\$3000 for a surfboard, for a foam board. I think that’s amazing. Someday I hope to be able to do that. I totally admire that guy because he’s constantly searching for each new great design and just goes at it. The guy has paid his dues. (Tim, guided tour, southern California)

Admiration towards fellow hand-shapers within a business was also articulated during a guided tour through the Arakawa workshop on O`ahu. Rather than a single creative pursuit, Eric explained how surfboard-making was a joint relational profession, where the ‘love’ was shared around:

It’s quite strange for some business people because I see this as a collective thing, you know. There are heaps of shapers I admire and are good buddies with and we have shared knowledge together; it’s kind of like the shaper’s club, you know. That’s a wonderful thing, because you learn off your buddy and become a better shaper at the same time; you’re sharing the love around, in a way. (Eric, guided work tour, O`ahu)

Mateship was therefore a tangible element of life as a surfboard-maker; not only for passing time or giving advice, but also for learning new skills and techniques.

Participants did not consider their skill or knowledge about surfboard design and hand-making techniques to ever be complete, but rather on a continual path of refinement and development where new abilities were always being implanted and fashioned in the body. The close knit, working interactions between participants (in this thesis

exclusively male), who often drank and socialised together as part of their working identities closely follows the concept of 'relational labour' (Fletcher 1998; Boggs and Rantisi 2003). Surfboard-making, as a male dominated form of cultural production, also has a crucial relational dimension. Workers expressed the pleasurable nature of their social experiences within and outside the immediate work space. In surfboard-making workshops, the emotions were informative structures in the *material* production of boards. As Sarah Ahmed (2004) argues, emotions have a relational nature as socially rooted phenomena and for artistic craft work dominated by men, social relations in the surfboard industry are crucial for learning new tricks, developing a wider customer base, attaching to the job, fashioning identities and being inspired to return back to the shaping bay the next day. These relations are 'flushed' with emotions.

#### **7.4 The embodied and emotional dimensions of crafting surfboards**

The particular ways surfboard-makers performed their work became prime data for theorising about their experiences, talents, knowledge and skills. In talking with customers, sketching new designs onto foam or using different craft tools, the emotions of surfboard-makers became clearly observable. These were readable on the body physically via movements, stares, and bodily gestures while also marked verbally through language, laughter and tone of voice.

The most important relationship in designing custom surfboards occurs between the customer and hand-shaper. This was a relationship that usually played out in the workshop but in the case of regular customers also took place in local surfing line-ups and social spaces. Conversations sought to bring together the unique surfing attributes and style of the customer, matched through the surfboard to their body and their

favourite waves. Thus, the embodied senses (feel, touch and sight) were essential for hand-making, where hard work and haptic skills, not mere reproduction, were the over-riding symbols of quality workmanship. Ben, a *Kānaka Maoli* and owner of a popular workshop on O`ahu, explained the process for performing his work:

After I meet with my customer I start to visualise their board [places his fingers on each side of his head] and then I get my hands on the blank [foam material]. You know I have to imagine that board coming to life and I have to feel it with my body. I use measurements to check each shape but you picture it in your mind, the different elements of the board; its tail shape, width, thickness, rocker, rails all of this and you put all those different elements together and make something that brings so much joy to a surfer and to me. (Ben, guided work tour, O`ahu)

The required skills needed to hand-make custom surfboards were deeply embodied with emphasis on the shaper's ability to 'feel', 'visualise' and bring 'joy' to the customer through skilled craftsmanship:

I work like this [shifts his hands up and down the board] to feel the rail, you know I can feel the difference between this rail [left hand side of the board] and this rail [right hand side]. Looking at it, I can also see the difference between this part of the board [near the tail] and this part of the board here [near the nose]. All that comes down to feeling and looking and time in the shaping bay. If I was to measure it and only go off those measurements then it doesn't necessarily feel right. It's really hands on, and what feels good. (Stuart, guided work tour, Gold Coast)

It was also important to be accomplished with using different manual tools, and equally, by embodied and emotional senses – especially tactile control of, and feel with, the hands. This was illustrated in the busy Byrne Surfboards factory in the Illawarra, where Dave, a glasser and shaper, outlined the importance of felt embodied senses in performing and evaluating work:

If you want to become a good shaper you have to learn how to feel the board and see how each board will turn out before you've even started making it. I mean you have to imagine the design in your mind and picture how you'll shape it together. You have your drawings and order form [for custom boards] but that may as well be in another language...so for me I use those feelings. I visualise and really get into the right frame of mind where I feel good about how the board is coming together. (Dave, interview, Illawarra)

For custom surfboard-makers the body was an emotional subject, mobilised to produce unique and original surfboards. Hawaiian shapers like Ben and Kalani had distinctive talents in being able to design and make 'Hawaiian guns' suited to O`ahu's heavy and powerful reef breaks. Meanwhile Stuart and Wayne on the Gold Coast and Phil, Dave, Chad, and Yasu in the Illawarra became expert at making light fast and manoeuvrable boards – a reflection of local waves and surfing style. In southern California shapers like Greg, Tim, Shane and Chino had become experts at shaping 'hybrid' boards: designs that fused concepts from long boarding (achieving increased paddling and buoyancy by leaving greater volume in the board's tail and nose) with those of shortboard manoeuvrability (sharp and explosive turning ability). Such hybridised designs made up 30 percent of surfboards sales in Californian workshops.

In the Illawarra, Chad explained how his shaping bay needed to be filled with the right emotional energy to ensure his 'surfing energy and spirit' flowed into his custom work:

The thing is, you usually have to be in here [shaping room] with a positive energy...it's a very hard job to do when you're like this [slumps his shoulders towards the ground mimicking a tired position]...to shape a board for someone you know you've got to sort of liven your body up...This is an art and you've got to be focused on the fine details as much as the bigger design picture.

You've got planers, sanders, tools and it's not just a paint brush, you know what I mean? A lot of it has got to come through you. I come in here mostly with the intention that I want to do this person the best board they've ever ridden and hopefully that my surfing spirit and creativity will come through, and deliver. Sometimes when you do a mistake in here it's not a mistake. That's one of the things I've learned, not to get too bummed out. Deal with that. I've made a mistake but keep rolling because maybe, my spirit will go, 'hey I made this guy the board he wants'... if I'm going to create things it's got to come from a kind of me that I have faith in. (Chad, interview, Illawarra)

Chad and many of the other hand-makers articulated a deep connection between their work and their bodies. When a shaper began to make a new custom board they relied on embodied knowledge. Each used a variety of specialised tools, commonly adapted from carpentry to perform their work: planers, shaping blocks, surface form tools, saws, files, sanders, protractors, brushes, tapes, scissors and squeegees. Greg, Eric, Terry, Chad, Yasu, Laurie, Kalani and Jeff all used a certain brand of planer, which was highly prized for giving the worker a fine sense of touch:

The Skil 100 [planer] it isn't made anymore; [they] stopped making this model years ago. There's plenty of others on the market but they don't give you the feel around the blank like this. These are a shaper's best friend [smiles and picks it up in his hands]...it glides easily and cuts really finely on the blank and the motor doesn't burn out. Shapers that don't have one would give their right arm for a Skil 100. (Greg, guided work tour, southern California)

The planer itself was motioned in long, flowing strokes to delicately and uniformly sculpt sections of polyurethane foam. Any adverse movement in the hands or body would mean the shaper gouged into the foam and would likely destroy the design. Similarly, moving along the board with a rubber squeegee glassers neatly spread the liquid resin in even strokes, careful to achieve a uniform thickness across each surface of the board. Thus basic hand driven tools like planers and squeegees became cherished and essential tools for shapers and glassers – an extension of their bodies (Figure 7.1 and 7.2).



Figure 7.1: Greg using fly screen mesh to smooth over the rails of a custom board, southern California. (source: Author)





Figure 7.2: Stuart in his workshop demonstrating the importance of touch and feel for when using an electric planer to hand-shape, Gold Coast. (source: Author)

Using manual tools hand-makers felt their way through the production of custom surfboards, bringing out the correct dimensions and sealing to the right depth to achieve lighter weight. In each workshop a shaper's planer was carefully cleaned and polished, stored safely and never allowed to be used by another worker; each had their own set of tools, to which they felt connected, and were protective towards. Frequently they offered strong opinions about their preference for one planer over another, or for the latest release by electric tool manufacturers (comparing new models with 'classic' old ones). Through repetitive and sustained use of these tools experienced shapers and glassers developed heightened senses of feel and touch, or what Mark Paterson (2009) refers to as haptic knowledge (see also Gibson 1966; Crang 2003). The haptic knowledge of surfboard-makers tuned-in the embodied skills vital for completing the job. These

talents were refined over years of work and became inculcated in experienced hand-makers as a ritual part of their tool kit (Paterson 2009). Greg outlined this in a conversation that took place as he finished off a new custom board (and which among other things illustrated both the haptic and sexist elements of surfboard-making culture):

The main thing for shapers that do it by hand is trying to get this rail and that rail the same. Even though I have these templates here [he shows me the wooden templates], I never use them they just sit there, cause I'm constantly doing it by feel... in fact I've been in a restaurant where I'm sitting at a table and I grab the table and I start feeling it to see if it's the same shape on each side, and I talk to other shapers who do the same thing! [laughs]. The guy that owns Encinitas Surfboards, he said 'I was dating this chick one time and I couldn't handle the fact that one of her tits was bigger than the other', he could feel it and it bothered him so much [laughs]. (Greg, guided tour, southern California)

Hand-makers used their haptic knowledge to establish whether designs were correctly symmetrical and could accurately define the smallest imperfections in foam shape or thickness of a fibreglass seal. These markers were invisible to less experienced shapers. Discussion of this embodied knowledge was also part of a conversation recorded between master-shaper Terry and early career shaper Mino, at Senate Surfboards in southern California:

Terry: Oh fuck... I told him, damn it. Wider tail, wide tail...fuck it's a ten footer, that's why I wanted a longer tail, and that's why I wanted to be here when he did them. Oh fuck, oh those rails [runs his hands along the board]. Ah Mino...

[Mino then comes into the room]

T: Wider, Mino...

M: You like it wider?

T: Yeah wide tail, these [three custom surfboards] are for a 250 pound guy.

M: Oh NO....

T: Yeah WIDE! [emphasises to Mino] I can feel that it's not wide enough; don't even need to measure it. And come here...

M: You say wide? I'm sorry...you can re-cut it?

T: How wide is this thing? I can feel it's not wide enough?

M: It's twenty-three [inches]

T: No twenty-four!

M: Oh, you say twenty-four? [Shocked expression on his face]

T: Yeah, BIG GUY [again emphasising the customer is a big man]...

M: OH...sorry.

T: Come here. [Mino walks over to Terry] Go like this and move your hands along the board's rails...you see [laughs to himself]. This is not thick enough either. Wider and thicker, Mino.

Mino incorrectly shaped the designs, which Terry immediately noticed by using his hands and sense of touch, even when they were half wrapped in protective plastic (Figure 7.3).



Figure 7.3: The three incorrectly shaped longboards at the Senate Surfboard workshop's shaping bay, southern California. (source: Author)

Learning surfboard-making on the job informally and over decades, hand-shapers and glassers gained heightened haptic abilities through their daily work duties. This haptic knowledge relates to what Flanagan and Lederman (2001) call somatosensory perception, which gives a heightened reception to patterns affecting the skin surface; such as curvature, edges and texture (see also Gibson 1966; Crang 2003; Paterson 2009). The haptic system relies on a close link between bodily perception and movement, which Gibson (1966 p 54) refers to as 'the sensibility of the individual to the world adjacent to his [sic] body by use of his body'. Haptic perception thus becomes an embodied skill for a surfboard-maker. This use of the body is intrinsic to the labour

process for hand-crafting surfboards: shaping, sanding, glassing and painting is messy, corporeal work.

Accordingly, makers discussed the importance of constructing work spaces which fostered positive sensory responses. Work spaces (shaping bays, glassing and drying rooms) became organised and constructed in particular ways that aimed to create highly productive emotional space. Colour, graffiti on workshop walls, loud music and posters helped to create an enjoyable workshop where workers could more easily ‘get into the right frame of mind’ (Terry, interview, southern California) (Figure 7.4). This is an important dimension of surfboard-making and relates to sound and a visual sense of place (cf. Hetherington 2002).



Figure 7.4: The decorated walls of the D'Arcy workshop, Gold Coast. (source: Author)



In workshops music was played loudly because it helped circulate ‘a good feeling to be at work’ (Kent, interview, O`ahu). The type of music played in workshops also varied geographically. For example in the Aipa Surfboards workshop on O`ahu music tended to be Hawaiian country and folk styles, which was favoured by the older men. By contrast at Skipp Surfboards in the Illawarra and at Senate Surfboards in southern California, where workers were also younger, alternative rock genres were favoured, emphasising electric guitars and power chords. Punk music was played at D`Arcy Surfboards on the Gold Coast. Whether it was a radio station or CD, participants regularly sung along to recognised tracks. Bright painted walls, pictures of surfing trips and posters of attractive, semi-dressed women also adorned the walls in shaping bays and glassing rooms. These sounds and images had the effect of heightening the gendered nature of the space, hyperbolising masculine dominance. When discussing the organisation of his workplace, John at Skipp Surfboards outlined an important aspect of work space and its connections to emotion and time:

Trying to get a shop which makes the boys happy about their work is what I`ve tried to do. This is a nice place to work you know, that is important for turning out good products. So when I am thinking about a good shaping bay I`m thinking it needs plenty of room, nice high benches and stands, good tools but also have some music going, we can be cracking jokes at each other...because this work has to be fun. The other day Chad and Yasu were saying how working here makes the days seem to float by. I liked that. I took it as a compliment.

(John, guided work tour, Illawarra)

In his work on perceptions of time and space John Urry articulates how some spaces are distinguished in terms of whether they are temporally rich or poor (Urry 1995). At

Skipp surfboards, time for Chad, John and Yasu appeared to float by. This had the affect of promoting positive feelings – excitement and enthusiasm towards work. These feelings informed the surfboard-making process and assisted in inspiring the creation of high quality, high price boards. While many conventional occupations do not provide temporal freedom, surfboard-making could operate on a nine to five routine or be structured around the bodily rhythms of individual workers. John believed that a positive emotional space was important for motivating his labour force (cf. Wood and Smith 2004). The fact that time appeared to speed-up perhaps shows the success of his strategies, contrasted to ‘regular’ work space, which creates a seemingly slower, drawn out experience of time. The temporal dynamics of space emerged as part of understanding the embodied emotional experiences of surfboard-makers and their artistic performances (Urry 1995). When asked about this ‘speeded-up’ sense of time while at work Chad elucidated why emotions mattered as much for productivity as for social well being:

Ha, yeah, it’s just I’m working away, chatting with the guys here, we’re all pretty close, and you do get a good feeling about shaping, being at work ...I like coming to work finding out what the boys are up to and making custom surfboards. For a surfer that’s incredible. So the fact time seems to go by faster at work tells me, yeah, I am busy but also that I enjoy doing this job, which makes the day go quicker. (Chad, interview, Illawarra)

During the designing and making of a new board, sensory entanglements and relations between workers, tools, customers and suppliers created a powerful embodied and emotional terrain. The hand-made surfboard industry was thus patterned by distinctive geographical spaces and emotional relationships (Ettlinger 2004), forged in the process

of making surfboards for skilled surfers living proximal to workshops, whom makers knew personally. Conversations observed between surfers and makers traversed surfing performances, wave conditions and styles in the water. These interactions took place daily and helped to develop strong friendships and bonds between local makers and surfers. Ultimately, board-makers showed that the emotions could not be detached from an understanding of surfboard production.

#### **7.4.1 ‘A soulful pursuit’: the emotional pay-offs of the surfboard industry**

Much of the colour and ferment of social movements, of street life and culture, as well as of artistic and other cultural practices, derives precisely from the infinitely varied texture of oppositions to the materialisations of money, space, and time under conditions of capitalist hegemony. (Harvey 1989 p 238)

One of the contributions this thesis seeks to make is to explore the motivations and attachments of surfboard-makers to their job, despite its precarity, with overt reference to emotions. Of the forty-five participating hand-shapers the mean age of workers was fifty-two, while the twenty-five glassers were a slightly younger group with an average age of forty-three. This ageing workforce profile meant most hand-makers in the surfboard industry had begun careers between the 1960s and early 1990s – surfing’s boom period. For all but three of the participants, surfing remained a regular leisure pursuit. This attachment to local surf culture legitimised the work of shapers and glassers amongst customers and it had been a ‘passion and love of surfing’ (Kalani, interview, O`ahu) that inspired most individuals to seek out employment as surfboard-



makers. Because no formal pathways existed into these professions the ability to find meaningful paid employment in the surfboard industry needed to be driven by personal ambitions and desires:

I was ten years old when I first started surfing, and my mum took me down to the surf shop and I got my first board. And I kind of knew I was in love [laughs]. But also they weren't going to keep buying me these things forever. So I went down to the one shop where they sold all the materials and I go 'I want to make one'. I saw one of my brother's friends who made one and that looked good enough for me. When I think back it had to be terrible [laughs]. But he HAD made it himself, that was cool and exciting. So I went and did it and I was twelve years old. You know I can still hear my mum yelling at me, when I'm going 'how do I get this resin under my finger nails off'? [Laughing and visibly proud of this] But you know being a surfer is what this is all about. Surfing knowledge is what makes good shapers. (Terry, guided work tour, southern California)

The emotions informed professional ambitions to forge out a career in a rewarding form of work, but they also mobilised the development of essential embodied skills and forms of specialised knowledge. In discussing the nature of their work hand-shapers explicitly described the 'artistic' (Tim, interview, southern California), 'magical' (Stuart, interview, Gold Coast) and 'soulful' (Jeff, interview Hawai'i) process of making surfboards:

When I think about hand-shaping it's, you know...a collective experience, that is what surfboard design is...[it] started off as a two by four [piece of timber] basically, and then morphed its way into something much more progressive.

And it might sound silly but really that evolution of surfboards and surfing has been a soulful process. It's come from the artistic way surfers have made boards to ride waves. It's where guys have put everything, their bodies, mind and everything to make it come to life. (Tim, guided work tour, southern California)

Tim and the other hand-makers defined their work as a daily creative journey, where embodied skills and knowledge about surfboards were galvanised progressively over time through their own surfing experiences, observing other surfers, talking with customers and sharing an attention to detail. The requisite skills for shapers and glassers did not develop quickly or easily because different customers required unique designs and as new materials rendered old techniques for glassing boards obsolete.

Still, surfboard-makers were modestly paid artisans and could only realise full wages during the busiest months of the year when, in each region, local orders for hand-made custom boards were highest. Participation in the industry and the pleasures of the job were therefore not gained from financial rewards. Instead social and cultural factors were at play in motivating and informing participation in this form of employment:

We don't get rich building surfboards, but I think if you really look deeper the wealth is in the relationships. We get the privilege and benefits of saying that we've got friends all over the world. We have this common passion for surfing.

(Chino, interview, southern California)

This was a sentiment shared by other hand-makers working on the opposite side of the Pacific:

Fuck, I learnt a long time ago I wasn't going to make much money doing this...but I just wanted to be the best hand-shaper I could and I have made so many friends, lifelong friends, from doing this all around the world. Those

relationships are amazing. I feel very lucky to be able to travel around the world and stay with friends in their home. That is just the way surfing can bring people together. (Stuart, guided tour, Gold Coast)

As Chino and Stuart explained working in the surfboard industry did not provide workers with substantial incomes but gave alternative ‘benefits’ set around a sense of mateship and social camaraderie within a subculture with international connections. It is important not to underestimate this. Surfboard-makers were clearly chuffed to have clients and friends around the world: a sense of significance and cosmopolitanism beyond prosaic elements of everyday life. Being a surfboard shaper enrolled workers in relationships that extended around the world, brought together via shared interests and passions for surfing.

In all four regions surfboard-making was a form of social and cultural membership as much as a profession. Participants referred to a ‘brotherhood’ (Stuart, interview, Gold Coast) of surfboard-makers: while it was a competitive industry, it was also a collective of craft workers that felt great pride in their work. As paid employment this was a job that had expanded from a laid-back surfing life and provided a unique, socially rich lifestyle and a sense of belonging, which was according to Eric from Arakawa Surfboards on O`ahu the ‘next best thing to being a professional surfer’. Like Eric, Chris from the Illawarra outlined his career motivations and attachments to the job:

It was all about connecting my passion for surfing to a career that kept me doing something I loved and allowed me to live the lifestyle I wanted. I was a sponsored competitive surfer but when my professional career finished I had to adapt to something else. What still amazes me is that you can be in the surf

doing a new order, and you're out there [in the surf] actually surfing and your talking to a customer, going 'yeah ok, I can see how you surf now, if I give you this and this, then you'll do that turn better'. Seriously, how good is that for a job? I have a lot of pride in what I do and when you see someone at the beach holding one of your boards, that is incredibly rewarding...and I still get a buzz from it every time [laughs]. (Chris, guided work tour, Illawarra)

As Chris describes, the emotional pleasures that flowed through the work were an important 'pay-off'. Watching customers using surfboards that participants had made with their hands brought them a great sense of pride. This emotional response is a distinctive feature of surfboard-making as a cultural industry, where makers create high quality surfboards that they get to see being used by their customers. This is different to so many other forms of commodity production, which maintain material and figurative distance between maker and consumer:

I just get such a buzz, you know, from doing this. The whole damn thing from designing it to putting the sweat and tears into the board to get it to the way you think it will work for each surfer...when they ride a wave on your board and tell you how good it felt, I just get a lot of joy out of that...Now I'm like, yeah, bring it on – let me have a go at shaping it! I get a real buzz you know. (Shane, interview, southern California)

Pivotal here was the pleasure of making quality things that participants got to see being used, by others, for their own pleasure. Many other hand-makers outlined similar emotional pay-offs, which they felt from making things that were used by friends:

At the end of the day I get such a huge amount of joy and satisfaction from my customers. I get to know them really well, we become friends and I just get so

much from that. I can measure my work in dollars that we make but it is only part of it really. I love the relationships I have with these people. They keep coming back and they bring friends. I don't want to lose meeting new people either because I am only computer shaping and filling retail orders. Fuck that! I'm not like that and my guys here are not like that. It's what keeps us going, the friendships, man. (Terry, guided work tour, southern California)

Likewise, for Stuart there was a great sense of satisfaction and pleasure felt, when customers came into the store to give positive feedback on the performance of their board:

One of our customers, a young tradie [tradesman] picked up his board, went straight out for a surf and an hour later comes running into the factory still dripping wet, he hadn't even bothered drying himself off [laughs] and starts yelling 'where is [Stuart] D'Arcy, where is he'? We thought 'oh no what's wrong', but he goes 'I've just got to tell him that board is amazing, oh my god this is the best board I have ever ridden'...he was that excited. He ran straight upstairs into the shaping room to tell me. (Stuart, interview, Gold Coast)

What emerged from participant narratives and guided work tours was that while transactions taking place between makers and customers were necessarily financial ones, the work being performed in surfboard workshops involved ubiquitous and significant emotional dimension. This could not be measured in the analysis of personal wages or business income, but its significance was palpable and openly articulated by individual workers. Indeed the work of makers was deeply informed and motivated by the emotional terrain across which making things and selling them took place.

Emotional pay-offs not only resulted from personal social relations and exchanges between makers and customers, they were also delivered in the doing of the job: hand-shaping itself. This is what Ben referred to as the ‘visualisation’, ‘imagining’ and ‘coming to life’ (materialisation) of custom boards. Such pay-offs infused the production process beginning at the design stage and finishing with the customer collecting a shiny new customised surfboard. Pride in craftsmanship motivated the search for a high quality finish, and haptic bodily responses ensured that the finished product – more often than not – matched or exceeded customer expectations and desires. The emotional terrain of surfboard production explained why workers remained passionately attached to their jobs despite small remuneration for their labour.

#### **7.4.2 Soulful or soul-destroying? The unpleasant emotional terrain of surfboard production**

While participants went about their work across an emotional terrain of highly pleasurable work experiences and relationships, there were considerable counterbalancing, unpleasant emotional dimensions. Many of these were associated with wider changes occurring in the surfboard industry. That is to say the emotional terrain was not just shaped by upbeat experiences and encounters.

In contrast to the views of some creative industries proponents (e.g. Florida 2002), the seasonality and flexibility of hand-shaping employment – especially for older hand-shapers – was not viewed as emancipatory, as ‘freedom’ or an advantageously ‘flexible’ organisational condition of the surfboard industry. While surfing was a lifestyle pursuit – with seasonal and weekly lulls enabling more time surfing – workers also talked about constraints, frustrations and the pain in the work.

The surfboard industry's emotional terrain was thus also shaped by stresses and struggles. Surfboard-making was often described as a 'labour of love', an artistry that turned imagined designs into physical surfboards, but there was an alternative undercurrent of emotional anxiety and angst about meeting costs of living and planning lifestyles around fluctuating rates of pay (cf. Brophy and de Peuter 2007; Hesmondhalgh and Baker 2008). Their precarity as a group of artistic cultural workers was made sense of through the emotions:

It's not easy at the moment and I would be lying if I said it didn't [worry me] where hand-shaping is going. It's very upsetting to see its decline because of its history in the culture of surfing and because of the people that have been involved [in the surfboard industry]. I feel strongly about continuing to hand-shape surfboards but I also feel the situation is probably hopeless. (Steve, interview, southern California)

Steve was engaged in a wider conversation about his personal experiences in working for his employer. Described as being in a 'hopeless' situation, Steve spoke to both his own personal employment tenure – he was working around twenty-five hours a week, down from a full-time equivalent of forty hours – but also to the uncertain state of hand-shaping more generally. Precarity was now part of the emotional terrain of surfboard production and even pleasurable feelings weren't one-way emotional responses. In articulating his reaction and thoughts on the changing tenure of hand-shaping employment, Tim became visibly angry and vented his feelings towards Chinese importers, who he felt eroded the symbolic or artistic content of the surfboard:

You know, do you want a piece of foam and glass made with a computer, or with human love and heart and soul? That's what people forget. They don't like

to talk about the soul, you know. They want to be soul surfers but they are riding pop out surfboards from China...the custom surfboard is the heart and soul of the industry it has been since the beginning and that needs to be preserved...it has to be preserved. Otherwise we will lose something valuable to the culture [of surfing]. (Tim, interview, southern California)

Hand-shapers continually expressed a desire and ambition to maintain the craft-based production of customised surfboards. Their emotional attachments to the job also meant they repeatedly accepted the unpleasant features of the industry – its erratic, temporal working conditions, irregular rates of pay, lack of security, informal occupational training and lax job protection. Frustration with deteriorating conditions and the politics of the shift to automation were entangled with feelings of responsibility to ‘carry on’ (Andy, interview, O`ahu) with customised forms of surfboard-making:

The custom surfboard embodies what’s special about surfing. You are riding a board that is unique. There are no other boards like it, because it has been designed and made by a person who has put their creativity into it and made it to suit your body and the waves you ride. I mean for a lot of hand-shapers, we want to keep in touch with transferring the skills on. There is a market for it [custom hand-made boards] so it’s a viable thing but workshops have to support it and not go for the easier dollar. I am being wishful, though, I understand. (Manu, interview, O`ahu)

Workshop owners recognised the passion and attachment of their workers to hand-crafting practices, which allowed them to coercively exploit their labour:

P: When needed I hire the other two hand-shapers. There are limitations in terms of production and with the shaping machine; it just means I don’t have to pay



full time wages for them. I bring them in casually and they love what they do so I think they're happy to be getting work. Times are changing, so we have to change as well.

AW: How do the boys react to the changing hours and seasonality of the work?

P: They complain sometimes, but like I tell them, you should feel lucky you have a job at the moment and you're doing something you love, right?

AW: Do you see the hand-shaping side of it as having a future?

P: I think it does, yeah, I have a market for the work because this part of southern California is a hotbed of surfing talent and they want to ride custom boards made by good hand-shapers...and they love what they are doing, they get plenty of time to chase waves and they don't have to accept the conditions if they don't want to. (Workshop owner, guided work tour, southern California)

In this conversation the workshop owner in southern California described a situation where workers were hired casually and intermittently. While workers complained about their irregular hours to business owners they spoke of the attachment workers had to performing their job and the 'choice' they had to refuse.

Not only had the pervasiveness of computerised production in each study location reduced the level of customer-maker interaction, it also meant new workers to the industry did not learn hand-shaping techniques, skills and knowledge. The feelings of responsibility and duty by more experienced surfboard-makers to continue on traditions and customs further attached workers emotionally to their precarious job:

We need to keep hand-shaping; it's something I feel strongly about, I think it's my duty or responsibility. It is the best way for experimenting but the traditions of it mean so much as well. It can be physical and tiring but it's just a very

soulful job for people that by their nature are also surfers. When you bring a board to life with your hands and the customer loves it there's something really soulful to me about that, opposed to replicating with the machine. It would be shameful if hand-shaping just died out. (Ben, guided work tour, O`ahu)

In many ways hand-shaping surfboards increasingly occupied an untenable position: alternative, faster and more capital-intensive ways of doing the job were available and an ageing demographic of hand-makers – most in their 50s and 60s – meant skills were in a stage of generational decline. Why then, did hand-shapers persist with manual, lowly paid and time intensive jobs? This was in large part due to the ubiquitous emotional dimensions and pride in their work:

Why we do it Andrew is because we see a physical product come out from the work. All of us, glassers, polishers, sanders and shapers, we all get to see a physical product [emphasises] come from our work. Whereas guys working in offices designing ships on a computer wait years to see something come from it, or they may never see it, we see a product appear within a few days, and there's a beautiful finished board. That's what keeps you going – it's the creativity, the beauty of the product that keeps you going. (Bob, interview, Gold Coast)

Bob explains the powerful emotional attachments of surfboard-makers to their work, as they create surfing's only essential product. Despite eroding conditions, temporality and struggles with getting by, work was a joyous, passionate and soulful experience.

Analysis of the work of hand-making surfboards highlighted how the emotions were functional constitutive elements of social, cultural and economic transactions, motivating and influencing all kinds of decision-making (Davidson and Milligan 2004; Ettlinger 2004; Bondi 2005; Christie et al. 2008). For board-makers, this was frequently

gratifying, but also at times frustrating. Paying attention to the felt landscapes of attachment, interaction and entanglement – featuring in the production and trade of surfboards – was important in understanding the industry and its workers. This opened up for examination the conditions under which different outcomes (partnerships, relationship-building, skill development, exploitation, generating profit, maintaining cultural and social traditions) became possible (Ettlinger 2004; Christie et al. 2008; Pile 2010). The emotional terrain of manual, hand-based production generated pleasurable and positive experiences, enabled expression of unique artistic skills, and maintained cultural traditions and large networks of social capital. But there were also equally significant stresses and strains.

At times passions for artistic, cultural forms of work and a desire to maintain hand-shaping connections made individuals vulnerable and ‘open’ to heightened exploitation by business owners. The emotional terrain of the surfboard industry was not smooth or homogenous but instead intermingled emotional dimensions and anxieties (Law 2004; Gill and Pratt 2008). Chris best explained why he continued working in an industry that offered low rates of pay, was physically and emotionally demanding and precarious:

I just love what I do; no it's not just a job for us, you know. It's not about the pay; I keep telling my wife this [laughs]. She gets frustrated because I've been offered a job in real estate by a friend of mine because I'm a good people person we [surfboard-makers] know how to talk to people. But that doesn't inspire or motivate me to get out of bed in the morning [laughs]. It's true your passion, yeah it waxes and wanes. I've got to admit you know sometimes... it's not so much the creative side of it; sometimes it's the practical, economic side of it.

Sometimes I feel like ‘ah fuck, I’m just not getting ahead’. Then at other times it becomes the creative side of it, you can get down on yourself. Most workers turn up to work and count down the time until they clock off but I can say I’m a surfboard shaper and I still smile when I say it. (Chris, interview, Illawarra)

In the face of globalisation and corporatisation, hand-makers like Chris remained true to the mythology and art of surfboard-making, commitments that provided them mediocre financial rewards but gratifying emotional pay-offs.

### **7.5. Breaking bodies: hand-making and its physical health problems**

Like surfing on the ocean, making surfboards physically shapes bodies, as much as bodies shape boards. Stresses of insecure employment were combined with a series of physical health problems. There were minor ailments, aches and pains but also more serious health implications for workers, discussed by a number of older participants who had been employed in the surfboard industry for up to fifty years.

The life of surfboard shapers and glassers over the course of a long career was not particularly healthy for their bodies. Pre-1960s surfboard-making relied on the use of hardwood timbers and plant-based waxes to waterproof surfboards. These time-honoured techniques were pioneered by Hawaiian *Kāhuna* several hundred years ago. Materials used in this work were organic and not particularly dangerous to health. In the contemporary surfboard industry commercial workshops use synthetic materials and components in production. Blanks are mostly cast from polyurethane foams, with resins, catalyst and acetone use for sealing and oil-based acrylic paint considered the most effective for colourfully decorating a board. All these materials include active ingredients or components which are irritating to the body and in some cases harmful to

health. The foam used in surfboard blanks, which were first cast into moulds and sold on mass to surfboard factories by Gordon Clark and Hobie Alter in the early 1960s, are composed of fine reactive polymer compounds. When shaping by hand or using a CNC machine the blank releases small particles of polyurethane into the surrounding air. If inhaled these foam particles become blocked in airways and are known to cause respiratory illness. Likewise glassers using hot coat liquid resins, catalyst to harden the resin and acetone to clean up spills and drips inhaled dangerous fumes and came into physical contact with potentially harmful chemicals. These were the physical hazards of the work.

Throughout the three years of observing and interviewing surfboard-makers participants re-iterated the physical, messy and dirty nature of their work. On the one hand this was often viewed as an enjoyable part of the production process where workers took satisfaction from getting their hands dirty. The dirty, messy nature of the work re-enforced the perception of the job as masculine. Yet combining with this were a number of health problems that shapers and glassers had developed over their careers, with several experiencing ongoing physical health issues.

The first of these related to muscular and skeletal ailments or what one shaper described as the 'sore body you get from walking up and down a board a million times' (Phil, interview, Illawarra). Such aches and pains were caused by the monotonous lifting of heavy tools, materials and supplies: blanks, tubs of resin, chemicals and paints. These duties were similar to those performed by other trade workers including carpenters, plumbers and electricians. After years of continual bending, squatting and lifting these repeated movements had taken a toll on ageing bodies:

General wear and tear of my body has started to give me trouble. It's because of these strange movements we make around the surfboard when doing the work. I've started to feel it...I know glassing over a surfboard doesn't seem like a strenuous job [laughs] but when you think about it I'm standing for eight, nine hours a day hovering over a surfboard with my body slouched over like this [leans over arching his back] swinging around my arms and hips. I guess it's not hard to see the problems you start to have after twenty-four years doing it.

(Mike, interview, southern California)

Experiencing similar discomfort and soreness in his body, Joe, a glasser and hand-shaper on O`ahu, described impacts on his health:

By the end of the day I get home and sit down and within fifteen minutes my lower back and right side of the hip starts to ache. It's really annoying I mean it's nothing serious I don't think. But it's just fucking there every afternoon...oh yeah it's because of the work, yeah, definitely, it's all the lifting and standing up and swinging around. Well after twenty-seven years my body has started to tell me something. (Joe, interview, O`ahu)

Mike and Joe's physical health problems were relatively minor and did not dramatically impact on their quality of life. They were still able to perform their daily work tasks, if at reduced capacity, and importantly for them could still surf regularly without discomfort. At the same time performing daily work duties had taken a toll on their bodies.

Contrasting their experiences were a number of more serious health problems amongst participants who were aged in the late 50s or 60s and had been working as surfboard-makers for more than thirty years. Over this time bending over surfboards and

swinging planers around the shaping bay had left their bodies with significant discomfort. Kimo spoke about his experiences with chronic pain and feeling as though the body 'was worn out' (Kimo, interview, O'ahu). Workers discussed persistent physical health issues that were felt in backs and hips, diagnosed as joint-based arthritis. As a master shaper, Greg's back pain had worsened recently, which he blamed on the daily stresses caused by repetitive twisting motions that needed to be performed when shaping along the length and rails of each new surfboard. Greg explained how his health issues were caused by unsafe work practices, which he mistakenly followed for years, until severe pain and the body, eventually, responded:

I basically need surgery on my back. I've tried a new treatment called decompression and that has really helped me. But my back was so painful a month ago that I couldn't sleep on that side of my body. It was completely fucked. My back is basically out of line, from doing this for 40 years [twists with the planer in his hand] I have caused my spine to twist. The other thing you do is this [turns over to the side of his body to reach for a tool from a bench top] and you don't realise that, hey, 30 years of that and your body will be fucking wrecked. This is a pretty common thing for shapers but...it is really quite a serious problem. (Greg, guided work tour, southern California)

In discussing the impacts of hand-shaping surfboards on his body over a twenty-five year career, Stuart also demonstrated how such repeated movements placed painful stress and strain on his body:

See, when I walk like this along the length of the board with a heavy planer [walks side-to-side] you can see how my legs cross over and my hip locks up. It's really unnatural to move your body like this [demonstrates along the

surfboard again]...My doctor said I need a hip replacement, it's that bad. (Stuart, guided work tour, Gold Coast)

Greg and Stuart had both personally made more than 35,000 surfboards over their long careers. But the continual contortion of backs and spines, along with lifting and standing on the feet, day after day, had taken a significant toll on older workers' bodies. Greg's back pain had impacted on his quality of life; he had difficulty sleeping because of the aching, could not surf everyday and as he put it 'struggled to keep up with my wife'. Not an isolated experience, similar pain and physical discomfort was encountered by Kimo working on the North Shore of O`ahu:

I have had some treatment for a sciatic nerve problem in my lower back near the top of the hip. It shoots pain down my leg and it goes quite numb and starts to twitch. It is really quite excruciating. I look after my body now as much as I can and do things more carefully, but the damage has been done from the years of not following the correct way of moving, lifting and shaping, you know. It's easy to get into bad positions and you don't realise you're doing yourself harm. (Ken, interview, O`ahu)

Until problems with the body became felt or visible, workers did not realise that daily duties were adversely impacting on their physical well-being. Health problems were not restricted to one group of worker more than the other – both shapers and glassers spoke of their encounters with persistent health troubles.

The second category of bodily health problems for surfboards makers related to working with or in close proximity to dangerous chemicals and materials, including resins, catalyst (chemicals added to the liquefied resin to make it set hard), glues, paints, acetones (often used to clean and polish boards) and the inevitable clouds of foam dust



that permeated the shaping bays of all surfboard workshops toured. These substances were inhaled in small quantities or came into direct contact with the body (Figure 7.5 and 7.6). Asthma and respiratory complaints were the most frequently discussed ailments and were considered to be the result of extended exposure to the fumes released by resins, hardeners (catalysts) and acetones.



Figure 7.5: Mick Carabine in the Illawarra showing a drying room at CSD. The chemical fumes emitting from the room were overpowering. (source: Author)



Figure 7.6: Greg from Sauritch Surfboards shaping a custom board using a respirator mask to ensure he doesn't inhale foam particles, southern California. (source: Author)

A number of dangerous behaviours and practices magnified the health risks of the work. Until fifteen years ago many shapers and glassers did not wear dust or breathing masks when working and were inhaling pungent chemical fumes for the duration of the working day. This was typical in the era when surfboard-making was highly informal, unregulated and operated out of backyard sheds and garages. Using these chemicals on a regular daily basis also meant the frequency of exposure was high. Tony, a glasser in the Illawarra, summed up a sense of being oblivious to the dangers of these practices:

It was stupidity when I think about it now, and I get angry at myself. But you know, you were busy glassing away and after a while you don't even smell the

fumes. Resin has no odour to me anymore and I have become totally desensitised. It took someone to walk in here one day and their eyes started watering because the resin is that thick and strong. They said ‘put a fucking mask on’, and I said I don’t notice it. And that was the problem, my sense of smell is gone and I get breathing problems from time to time and start coughing. (Tony, interview, Illawarra)

Safe work practices in surfboard workshops often took a back seat to the time demands of finishing a new board:

Back when I started you wouldn’t always bother putting a face mask or a respirator on when you were glassing, you were just thinking about getting the board done, you know? Inhaling all those chemicals; I mean even the resin we applied we found out was made using formaldehyde. When you got it on you [came in contact] you would get a burning sensation around your eyes and it made your throat sore to breathe it. Where it touched your skin would be all red spots. Fuck, I mean that is pretty serious signs you’re doing some damage isn’t it? And here we were with it covered all of us, breathing it in. (Jim, interview, Illawarra)

Jim’s previous employer sourced their resin from a supply company in Sydney that used formaldehyde as an active ingredient to help the resin absorb deeply into the fibreglass cloth. Over the last decade several medical studies which have examined the exposure of workers to formaldehyde across a number of different industries (including funeral workers who use formaldehyde to embalm bodies) have found some alarming health problems resulting from regular exposure (Hauptmann et al. 2009). Among workers using the chemical was an increased frequency in cases and mortality from

myeloid forms of leukaemia (Beane-Freeman et al. 2009; Hauptmann et al. 2009).

According to Beane-Freeman et al (2009) prolonged exposure to formaldehyde heightened the risk of contracting cancers of the hematopoietic and lymphatic systems – particularly myeloid leukaemia, which affects the bone marrow. While resins used were no longer produced using formaldehyde as an active ingredient, Jim and the workshop he was initially employed at for twelve years did use a formaldehyde-based resin. The link between the chemical and forms of cancer deeply worried Jim:

I can't help but think about it [getting sick]. It worries me quite a lot actually I feel like the clock is ticking; you've got to try and put it out of your mind but I've read things on the Internet that explained the chances of getting with cancer and that does really play on my mind. It's just the reality of it, being so naive to the dangers of what you're doing. (Jim, interview, Illawarra)

Over the course of long careers as shapers and glassers, the surfboard industry had lacked clear occupational safety guidelines to help create a healthier workplace. While inspections were now carried on workshops by safe work inspectors and local environmental protection agencies in each case study region, the safety standards observed varied considerably. At one business in the Illawarra large drums of resin and two drums of acetone lied near the feet of glassers seemingly waiting to be knocked over. Ironically the owner explained how the business had been ordered by *Work Cover* Australia to better ventilate the glassing room and construct a quarantined space where the chemicals could be stored. The *Work Cover* inspector was a friend of the owner and had informed him of the next inspection date, meaning the job was not a priority. In another example of the hazards exposed to workers in surfboard workshops, a young employee in their early twenties on O`ahu who was responsible for polishing and

preparing boards before collection by customers had to abruptly leave his job under doctor's advice because the regular exposure to polyurethane foam dust and strong resin fumes (which was inevitable whenever a person entered a workshop) severely inflamed his asthma.

The complaints outlined by shapers and glassers included severe neck stiffness, body aches, reduced respiratory function, dermatitis and problems with migraine and regular nausea. These issues were the result of inhaling fumes from resin (and not wearing appropriate protective face masks), coming into contact with acetone and moving in repetitive and unnatural bodily positions that placed stress on bones, nerves and muscles. While 'old' work routines were changed as shapers and glassers had become aware of the way certain techniques and practices could affect health, in some cases significant damage had already been done to bodies. In touring through workshops most workers wore respirator masks whether glassing or shaping and ventilation systems in workshops quickly removed the pungent odours and dust from the air. This had become a priority amongst workshop owners. In some workshops the use of hazardous chemicals had been phased out and replaced by more environmentally friendly alternatives including the use of a bamboo-based coating cloth in place of fibreglass. This, however, was not a widely enacted change and most workshops continued to use harmful resins, catalyst and acetone chemicals in production.

The implementation of safer practices and working space across the industry aimed to improve the health and safety of workers. Still, lingering habits and the higher costs for alternative materials meant the uptake of safer work practices varied. In Hawai'i workshops were very loosely inspected, especially those operated in home garage set-ups. This meant workshop owners had a relaxed attitude towards changing

procedures for production. In Australia the onus was on individual workers to wear protective masks and equipment, with policing of the workshop space relying on a vigilant owner. Meanwhile Californian workshops were more strictly inspected and regulated by state health and occupational safety guidelines. Yet even in southern California there were a number of worrying trends, as described at length by one highly experienced shaper:

Vapour from most epoxies [newest type of hard setting resin] is much lower than its polyester [traditional resin used since the 1960s] counterparts. The resins we produce (Resin Research Epoxies) are all high solids and have 1/50th the vapour of polyester surfboard resins. In our shop (which is well ventilated) we don't even wear masks. Epoxy is also not a carcinogen. That has been well proven by the [U.S.] Occupational Safety and Health Administration [OSHA] and many others in industry. What epoxy is, is a skin sensitizer. This [sensitisation] varies greatly between different epoxy systems depending on different company's formulations. Most older epoxy hardeners are formulated with a chemical known as TETA [Triethylenetetramine]. These base hardeners are in the aliphatic amine family, are very reactive, somewhat unstable, quite toxic and easily can cause sensitisation of the skin or dermatitis. Most of these hardeners are also modified with phenol and formaldehyde. Phenol is what dermatologist use for chemical skin peels and increases TETAs toxicity to the skin dramatically. Many of these older hardeners are up to 50 percent phenol. Formaldehyde is also no picnic as it also increases risk because of its ability to act as a vehicle for the phenol and amines through the skin and into the blood

system. By the way, the reason these epoxy hardeners are still used today is because they're cheap. (Surfboard shaper, interview southern, California).

This conversation spoke of the continued use of dangerous chemicals at surfboard workshops, where the lower cost of certain resins made them favoured, despite the obvious health risks for workers having to use them. While regulation of the surfboard industry and its work safety standards remained, on the whole, quite lax, there had been significant steps made in California by the State Fire Department and Environmental Protection Agency (EPA) to restrict the use of phenol and Formaldehyde as ingredients in the manufacturing of resin, along with a toxic chemical used in polyurethane production called Toluene Di Isocyanine (TDI). TDI has been used in surfboard blank production since the 1960s. In 2005 the closure of Clark Foam – the world's largest surfboard blank supplier at the time – was attributed by owner Gordon Clark to the tightening environmental and safety restrictions placed on TDI use in the blank casting process. The abrupt closure of the factory in Orange County, California led to a wave of experimentation with alternative materials including carbon fibre blanks (Kampion 2007). While such measures were a positive step in ensuring the health and safety of future workers in the industry, awareness and regulation had come too late for others who were suffering a number of health problems due to improper work practices and unsafe shop environments.

The other serious anxiety facing participants was their ability to access care for their health problems. This also varied drastically across the different regions. In Australia, workers in the industry that suffered poor health resulting from their jobs had access to a universal health care system, *Medicare*, which provided free treatment and state-subsidised visits to doctors. However in southern California and Hawai`i, 85

percent of workers (thirty-two of thirty-eight) in the surfboard workshops making just above minimum wage, did not have healthcare insurance. This made access to health treatment unaffordable for most workers and meant they put up with pains and aches, with some telling how they medicated themselves on low cost temporary pain relief. One hand-shaper in southern California shared his thoughts on the health-related problems that affected the wider surfboard industry:

You have guys [names removed] and a host of other great shapers and they have created the most amazing surfboards for these big companies, who never gave them proper credit for it, besides a shitty pay cheque. So now it's a part of this billion dollar worldwide industry that would never have been started without these guys and they don't even have health insurance. They make just above minimum fucking wage, for creating the most beautiful objects in the world. Yeah fuck all those big companies, you know. They were made off the surfboard. I mean I know guys who need hip replacements but they can't afford it, it's crazy. (Tim, guided work tour, southern California)

The health impacts experienced by some hand-makers threatened their ability to continue making surfboards as a livelihood. John and Mick in the Illawarra had recently retired, while Ben Aipa, Kimo, Eric, Phil, Greg, Tim, Terry and Stuart were approaching a critical age nearing retirement. Each of these men referred to noticeable health troubles with their body, which they felt had been caused by their surfboard-making. The monotonous movements of performing the work dramatically shaped participants' bodies, while the continued breathing of resin, foam dust, catalyst and acetone fumes caused respiratory problems for others.



There was a distressing irony to the physical health implications of this form of cultural work in the long term. While surfboard-makers on O`ahu and the Gold Coast and in the Illawarra and southern California discussed their jobs as a lifelong passion and soulful pursuit, guided by embodied knowledge and emotional attachments to surfboards, tools, waves and customers – the work had severely affected their material bodies and beyond a paid livelihood threatened (or had already impacted on) their quality of life. Less a concern about future work outlooks, participants faced the prospects of nearing retirement and having to overcome severe health complaints and bodies that had begun to break down.

## **7.6 Conclusions**

Surfboard-making is a form of artistic labour dominated by men. These workers draw on forms of embodied creative and cultural knowledge to customise for individual surfers. While displays of emotion in western society have been traditionally assigned a female gender, the surfboard industry in O`ahu, southern California, Gold Coast and Illawarra was clearly an emotionally loaded form of work (Anderson and Smith 2001), taking place across an emotional industry terrain. Defying common gender prescriptions for emotion in surfing culture, male surfboard-makers openly discussed their work, performances and social networks in explicitly emotional ways. Their work became signified as a ‘passion’, ‘love’ and ‘soulful’ occupation. Given that most workers were aged in the 40s, 50s and 60s it is perhaps not so surprising that they were more willing to articulate an understanding of their work in emotional ways, compared with younger men. Their masculine identities were perhaps less threatened by surfing hierarchies and gendered norms that promote shame onto men who ‘surf like chicks’ or display too

much irrational bodily feeling (Waite and Warren 2008; Evers 2009). Their talking and displaying of emotions on bodies allowed for reading and making sense of participants' motivations, attachments and alternative pay-offs beyond purely political economic approaches that take human motives towards work as solely determined by a wage. It became clear that careers in the surfboard industry were not glamorous, like those stereotyped in film, music and fashion are made out to be (indeed the same could be said of the realities of those industries too – see Gibson 2003). Surfboard-makers are also not highly paid, relative to the embodied knowledge and skills that are essential for the work.

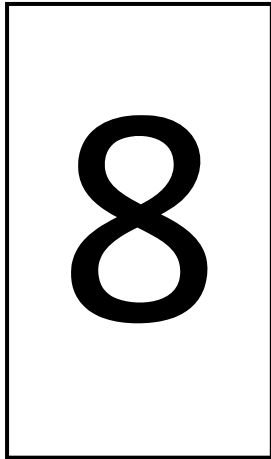
What a career as a surfboard-maker provided and enabled for workers was pride in making functional, high quality and artful things that they saw being used, and a unique sense of social mateship and cultural membership. This was an occupational group, dominated by male workers that maintained both real and imagined links to past generations of surfers and makers, who also shared full-time surfing lives. Added to this were the flexible and colourful working conditions that surfboard-makers enjoyed, where workplaces were often emotionally extroverted and filled with bright colours, girls, loud music and busy social interaction. There was a side to this industry that was accommodating and easy-going; workers could structure their own working hours within certain limits, with ample 'leisure' time to go surfing. There were also deeply pleasurable feelings that workers expressed towards their work as shapers and glassers. Taking delight in their identity, they had the responsibility and pressure to create boards that matched customer expectations and the exclusive character of prized local breaks. At times these pressures got too much for workers, who became frustrated and dissatisfied. Nevertheless these feelings were usually overcome with breaks away from

the shaping bay or glassing room – another luxury perhaps not afforded to other manufacturing workers. But like other manufacturing workers, they ran perennial health risks and accumulated injuries. Hand-makers expressed sincere passion and emotional attachment to their jobs, and their bodies marked a physical toll of manual work using dangerous chemicals and substances.

While sharing such a love for work, participants felt a desire and responsibility to continue with hand-shaping practices. But there were growing anxieties. As working hours dwindled, along with the once more secure and continuous tenure of their employment, hand-shapers in particular found themselves in a precarious position. While motivations to pursue work in the surfboard industry never exclusively involved making lots of money, this was nonetheless an essential part of their work. Thus many hand-shapers expressed the problems they had in scraping together a sustainable wage, often juggling other jobs with their real passion for surfboard-making. In this way flexibility really became a façade for increasing labour force exploitation. Workers were hired around temporal schedules that suited businesses and paid according to the number of boards they could finish each week. Work too quickly and there was the potential to run out of work, yet working too slowly meant not making much money for such skilled labour. The casual and flexible nature of hand-shaping labour suited workshop owners above individual workers. At the same time, workshops were also being squeezed by mass importation from cheaper labour settings and the capital-intensive agendas pushed by transnational corporations. Most of these workshops were struggling to survive amidst such competition.

In the Illawarra, Gold Coast, Hawai`i and southern California markets endured for hand-shaped custom boards with links established between iconic local workshops

and surfing communities that stretched back to the countercultural surf movements of the 1960s and 1970s. This helped to make the surfboard industry a distinctive cultural industry. How long these markets can endure amidst growth and spread in the sales of cheaper imported surfboards remains moot. The point for the time being is, however, that hand-makers have sought to persist with custom manufacturing – which over the course of long careers was frequently detrimental to health and well-being – for reasons other than commercial returns. Rather than solely focus on quantitative analysis of surfboard-making in each case study region, this chapter has attempted to develop an understanding of the emotional terrain of a unique form of cultural production. This emotional sensitivity is not taking a ‘soft’ approach to cultural production but instead about seeking opportunities to better appreciate the cultural and social meanings of surfboard-making beyond a purely economic rationale.



## Conclusions

### 8.1 What makes surfboard-making a distinctive cultural industry?

In this final chapter I aim to synthesise the contributions of this thesis in light of the wider body of cultural industries research. I want to do this by initially focusing in a broad fashion on the things that make surfboard-making a distinctive cultural industry, before considering the stories of the industry's cultural workers more narrowly. As discussed in Chapter 2, since the 1990s cultural industries research in geography has conceptualised the striking agglomeration tendencies of cultural production (Scott 1996; Coe 2001; Pratt 2004a; Watson 2008). The argument spanning a large chunk of the literature is that under conditions of advanced capitalism, cultural industries remain firmly anchored in specific locations – especially large cities in the developed world (Scott 2000). Such places (New York, London, Paris, Tokyo, and Los Angeles) act as platforms from which cultural producers can pursue strategies to access global markets (Lorenzen et al. 2008). Despite having the potential to shift around geographically, cultural producers and institutions cluster in large cities because they provide the necessary built infrastructure (transport, buildings, entertainment precincts etc), access

to human capital and enable competitors to keep a close eye on each other as they benefit from the work of cultural intermediaries (Scott 2000; Coe 2001; Pratt 2004a; 2004b). Indeed, so much is the magnetic pull of agglomeration tendencies that cultural industries typically cluster into specified precincts or clusters within such cities, in ways that generate spill over benefits of proximity and surveillance of competitors (Bathelt et al. 2005). On the surface of things, some element of this dynamic also shaped surfboard-making: in each of the regions profiled in this thesis there were what could be called clusters of workshops, often found within close proximity to key suppliers (especially of PU foam blanks) and sometimes within the same light industrial estates. A point of departure from previous work on urban clusters in cultural industries was that each of the regions profiled here – which cumulatively could be said to encompass the world’s premier custom surfboard-making locations – were decentralised, post-suburban coastal strips. The pattern was of smaller hubs of workshops within striking distance of key beaches (Chapter 4), around which were constituted the local markets that made custom surfboard-making viable.

Beyond this broad geographical pattern, what is it that makes surfboard-making distinctive as a cultural industry?

The first point to emphasise is the unique link between the physical environment and practice of making surfboards. I outlined in Chapter 1 the historical legacies of surfing and surfboard-making in each of the four case study regions, to show how the two are intrinsically linked. Surfing and surfboards represent ancient cultural practices emerging from coastal settings in Polynesia and since spreading internationally. Both these activities remain concentrated in wave exposed locations by the sea, and in regions where prevailing climate makes surfing a comfortable rather than chilling

experience. This means the geography of surfboard-making does not neatly fit with a typical blue print of cultural industry production. Surfboard-making is linked to and defined by coastal geomorphology. The world's most talented and regarded surfboard businesses have tended to be independent and informal workshops located in places where the waves are of high quality and surfing has become a culturally ingrained leisure pursuit. The best surf breaks signify the fortuitous coming together of physical environmental factors: consistency of offshore winds, the right exposure to swells, suitable bathymetry and relative accessibility. Access to labour, suppliers and consumption markets matter, but for this industry they are combined with a dependence on the right underlying coastal conditions.

The world's busiest and most prestigious surfing locations are coastal regions like those featured in this thesis: Hawai`i, southern California and Australia's Gold Coast and Illawarra regions. Surfboard-making began there when their populations were modest, and as they grew in population and all but the Illawarra became tourist destinations, the industry formalised – but again, still tightly defined by proximity to local markets and waves. As bustling surfing places these have also become the sites for artistic surfboard-making. A contribution of the thesis is to therefore theorise the importance of physical environmental factors in organising and shaping this form of cultural production. In the case of surfboard-making this includes influencing where businesses locate and the types of products they become expert at designing and making. In the customisation of surfboards, design must be suited to local wave types. Hawai`i is known for large, hollow and powerful reef breaks, which require a very different design of surfboard (guns) to those needed to surf the longer, current-driven spilling point breaks common to Australia's Gold Coast region. Inconsistent across

space, waves break uniquely depending on the prevailing environmental factors and surfboard-making must be perceptive to these differences.

Second, surfboard-making is driven by the craft skills, creativity and specialised knowledge of key individuals who share an enthusiasm for surfing. These are the artisans whose passion for riding waves has been turned into a creative way of making a living. Individual skills were developed informally as the challenges of local surfing breaks and commitment of keen surfers compel experimentation with board design, the trial of different materials and tools for performing quality work. Board-makers are concerned with coming up with a responsive, smoother and faster design to provide a better wave riding experience for their customers. This means work is strongly entangled with local surfing communities, upon whom hand-makers become dependent for their patronage.

In turn surfboard-shapers provide a unique customised experience where the consumer meets with and gets to know the cultural producer. Not detached from the capitalist market, as something which exists externally to their work, hand-based surfboard-makers progress their work in tandem with customer's subcultural and sporting aspirations and desires, scraping a living along the way, while staying in touch with a surfing way of life. Customised boards are designed and crafted via personal exchanges where each customer meets with their maker to converse about the needs and wants for their next surfboard. Through repeated visits and orders, and by even surfing alongside consumers, board-makers are engaged in an ongoing search for improved design and performance. Rather than a dominant aspiration to generate large sums of money surfboard-makers talked more about maintaining a customised hand-based system of production, which focused on high quality workmanship. The motivations to



innovate and invent new designs are therefore much less driven by profit seeking and instead by surfing's subcultural relationships, rituals and traditions. I therefore argue that cultural industries research can greatly benefit from paying closer empirical attention to subcultural factors (social relations, exchanges and motivations), which influence decisions, artistic skills, drive knowledge and the tangible manufacture of cultural products.

Third, as the international growth in surfing participation intensified from the 1950s, surfboard-making has undergone a number of important changes in the way products are made and sold to surfers. The globalisation of surfing has not occurred in isolation but rather relied on immersion and convergence with other popular culture and media industries. In Chapter 5, I outlined the roles of film, fashion, television reporting, music and the legitimisation of surfing as a professional sport via its World Championship Tour. This coverage enabled surfing subculture to diffuse across new spaces of participation, bringing with it fresh opportunities for board-makers. The exponential growth of surfing has brought with it an increase in the market for surfboards and surf-related products. At the same time the labour-intensive nature of custom hand-making means it does not suit entry level surfers wanting to take quick possession of a board to learn the activity. These surfers compose an increasing proportion of the surfing population. In several workshops customised boards took up to eight weeks to deliver and makers often prioritised more skilled, knowledgeable customers. It is these factors that helped initiate the development of an automated system of surfboard production, which businesses began to use during the late 1990s (Chapter 5).

With its increasing international status, comparable to other cultural industries like film, television and music production, the wider surf industry has become dominated by a small number of large companies. Billabong, Quiksilver and Rip Curl (the former two starting out as surfboard businesses based in southern Australia) underscore the oligopolised nature of surfing as an image-producing industry (cf. Lash and Urry 1994). The giant surfing corporations grew so large on the back of selling surf-related clothing, footwear, sunglasses and apparel – not surfboards. Only later, utilising new technologies for successfully speeding and scaling-up production, larger surfboard labels began subcontracting with factories based in low-cost labour settings like China, Thailand and Indonesia. By mass producing surfboards, such labels can import via nationwide retail networks (such as Costco in the United States) and set up their own surf megastores located close to popular surf destinations (as on the Gold Coast). While larger surf labels now make most of their money from selling surf based fashion and apparel, surfboard production is maintained to legitimise brands amongst surf consumers. This means that smaller, independent labels focused only on surfboards face intensified levels of competition to maintain market share. Although surfboard-making is, as I argued in Chapters 6 and 7, a form of craft work motivated by the subcultural field of surfing more than profit generation, this did not mean it was unaffected by the machinations of corporate capitalism. Surfboard-making is, after all, also a form of manufacturing with processes transforming its mode of industrial organisation in ways parallel to those for clothing, footwear, toys, electronics and a host of other domestic commodity types. Hence the shift from a labour-intensive system of craft production to a capital-intensive automated system, which prioritised market reach and profitability over artistic flair and customisation, has been profound. Whereas craft-

based custom production relies on rich social exchanges between workers and customers to drive creativity, automated production severs such relationships as businesses battle for low price-points, brand recognition, wider market access and retail presence.

Notwithstanding the spread of automated shaping technologies in surfboard-making, this thesis also showed how the advent of mass production heightened the sense amongst makers that they were involved in producing quality over quantity. The point was to create boards of a superior standard, not to produce the greatest number possible. In light of this I have sought to focus on the distinct meanings and value created around surfboards as physical items, as individuals design and produce boards in a customised fashion for people they know and who they will even see using them. While automated, mass production in the surfboard industry has challenged the viability of hand-shapers many continue to specialise in making boards for ‘serious’ and ‘discerning’ surfers. The onset of technologies for mass production has actually heightened the sense amongst these workers that they create ‘soulful’ products that are a cut above copied, generic computer-shaped models. With no two hand-made surfboards ever identical in their symmetry, profile shape, feel or ride they acquire a rarity value, contain subcultural capital and occupy a distinct niche market. Hand-made custom surfboards provide a symbolic legitimacy to local surfers, projected through material form and the inscribed signature of its hand-maker.

In light of shifts to automated, computerised production custom surfboard-making requires skilled craftsmanship, artistic flair, precise environmental knowledge of local wave types, a sense of pride in the quality of the completed product and a personal relationship with the customer who will be using and paying for it. The

argument is that innovation, creativity and knowledge are therefore not separate from the manufacturing of physical products (as implied in a focus on intellectual property as the key site of value), but rather deeply embedded in them (Gibson 2012a). While much of the work on the cultural and creative economy has focused on intellectual or design content (what can be called intangibles) rather than material fabrication (see Scott 1997; Florida 2002; Power and Scott 2004; Kloosterman 2010), this thesis suggests a re-think of such emphasis and conceptual division. To better understand value, meaning and ensure the succession of craft skills – the tangible products they create and connections maintained with consumers who use them – requires a greater sensitivity to the qualitative dimensions of cultural industries and their tangible products. This is where in-depth ethnographic work becomes vital.

Under a customised system of cultural production hand-shapers not only design personalised surfboards to suit local breaks and surfing styles but also carry out a large part of their material production. Glassers waterproof each surfboard using resins, hardeners and fibreglass sheeting, while hand-shapers design and craft the profile of surfboards. In other cultural industries including architecture (Kloosterman 2010) or video gaming design (Aoyama and Izushi 2003) the roles of those who create an immaterial concept and the workers who turn the design into tradable, physical product are quite separate. Builders, carpentry and construction workers are responsible for transforming an architect's sketch or image into a physical building or structure. With emphasis on the individual creativity and haptic skills of iconic individuals, surfboard-making is more a combination of artistic mode of production and cottage production, with closer parallels to, say, making fine musical instruments than to other design-based products.

A final distinctive feature of this cultural industry relates to the gendered nature of the work. Chapter 7 showed how surfboard production across each of the four case study regions – both shaping and glassing specialisations – was work dominated by men, with the majority aged in their 50s. Many of these ‘blokes’ first started surfing in the 1960s and early 1970s, surfing’s counter-cultural era. Each had aspired to maintain a surfing lifestyle based in idyllic coastal regions, rather find a ‘normal job’. I argue that this gendering of a form of cultural production is the outcome or extension of the highly gendered surfing subculture (Stedman 1997; Henderson 2001). Emerging alongside surfing’s growth in western cultures has been the cementing of pervasive gender discourses about sporting performance and legitimacy. Male surfers are seen to sit at the top of the surfing hierarchy, while most women, and homosexual men, are relegated and de-legitimised. This sort of thinking was also at play in the surfboard industry. Participant narratives concerning gendered divisions of work confirmed social stereotypes concerning suitability to the job: where women were employed within a workshop, it tended to be in front of shop, administration and clerical roles. These were the duties seen to best suit women. The work of shapers and glassers was physical, dirty and reliant on high levels of surfing knowledge. Despite such knowledge being embodied in an individual, women were implicitly positioned as unsuited to such a type of manual work. In conclusion I argue that cultural industries research could do more, in this manner, to examine the inequalities entrenched in forms of work, especially in relation to work conditions, tenures, access and wages.

## **8.2 The cultural work of surfboard-makers**

While I have sought to show how surfboard-making represents a unique cultural industry and reflect on what insights can be gained for the wider cultural industries literature, this thesis also extends analysis to consider the experiences of its workers. These craftsmen comprise a rare form of individualised, custom production, inherently linked to local markets, in an era otherwise dominated by up-scaled mass production. Under advanced capitalist conditions I have pointed out how surfboard-makers are also precarious cultural workers, defined by their discontinuous, insecure, temporal and erratic working tenures (cf. Gill and Pratt 2008). This situation has arisen from the mid-1990s as intensive technological change, corporatisation and global popularity of surfing have re-organised the process for surfboard-making. These changes were hardest felt by hand-shapers, in being reduced to what Burawoy (1983) refers to as ‘appendages’ of mechanised production. Automation of production creates a flashpoint between labour (surfboard-makers) and capital (workshops employing them). In each case study region workshops explained how there was a growing quantity of imported surfboards flooding local markets, which were being made by large, resourceful foreign manufacturers. The tactic taken by local business owners in response to this was to adopt similar strategies of mechanical reproduction, maintaining ‘traditions’ only through a greatly reduced level of hand-shaping – to add credibility and to maintain ‘tradition’.

This scenario is in some ways a parallel to the experiences of musicians and orchestras during the early twentieth-century (Kraft 1996). The introduction of recording and broadcasting technologies (phonographs, radio and sound films) during the 1920s and 1930s put 25 percent of practicing musicians out of work. Their live

performance and touring opportunities were hamstrung by mechanical reproduction for radio broadcast. Just like the ensuing struggles to find live performance gigs and make a living from playing music after the spread of recording technologies, hand-based surfboard-makers face similar problems with making a living following the explosion of automated shaping technologies.

It is ironic then that computerised-shaping continues to rely on replicating designs that were created by hand-shapers for previous customers, often high profile professional surfers. Blanks were accurately reproduced on the CNC machine by copying designs in the CAD program – called ‘master shapes’ – which were innovated at one point or another by a hand-shaper completing their next custom job. Looked at differently there was an inherent lack of intellectual protection of surfboard designs within the industry. In direct parallel to other cultural industries such as music (Gibson 2003) the employees of a workshop who created designs (the board’s shape, length, curvature, rails and fin system) and then crafted the design from blank foam effectively turned their intellectual capital over to the workshop for replication under the CAD/CNC system. But, unlike in the music industry where individuals were paid for their recordings (even if they did not subsequently own the rights to the master tapes) the original creators of surfboard designs did not receive royalties for their creativity. A lack of due credit or reward for their skills demonstrates how workers have been further reduced to appendages of machine reproduction and due to fear for their jobs did not feel in a position to complain or make a fuss.

In thinking about the changes for workers that new production technologies have brought with them I have in parts of this thesis re-visited Adorno and Horkheimer’s (1977) much-maligned culture industry concept. Their culture industry thesis relied

heavily on a crude form of technological determinism that focused on the degree or level of integration in production, distribution and consumption. Their thesis does not neatly apply to surfboard-making, because both custom and automated systems of surfboard production rely on technology in some form or other. The Hawaiian *adze*, modern electric jigsaw and CNC machine are all technologies used and organised to make surfboards at various points in time. Rather than focusing on the 'level' of new technological integration in the production, distribution or consumption of surfboards, I re-interpret Adorno and Horkheimer by focusing on understanding the *changing relationships* between workers, customers and the technologies being used to make material goods.

Here the broader contribution made by this thesis to cultural industries research relates to the impact of computerised technologies on the social relations imbued within a form of work. While customisation was organised around a manual, craft-based system of production where makers and consumers came to know each other personally, computerised-shaping disconnected the maker from the customer in order to produce a cheaper, faster and replicated product. Most computer-shaped boards were distributed and sold through large retail surf shops, where the sales person had not been involved in making the actual board they were selling. Rather than a personalised exchange, the customer buys a surfboard for which many other identical designs exist. While both systems utilise technologies, one can be considered labour-intensive by aiming to make things that are high quality and unique, while the other is capital-driven, making things for the purpose of mass consumption, capturing greater market share and meeting demand for instantaneous product. The mechanisation of the surfboard industry has speeded-up the time taken to shape a surfboard (a matter of minutes as opposed to hours



using hand-based techniques) and at the same time diluted the need for expensive master-craftsman. Automation has also resulted in concerns for working futures (and the future of such craft skills), a loss of income and professional creative identity.

Added to this, the situation for surfboard-makers was made more tenuous because of a lack of collective organisation. While musicians and orchestras in the early twentieth-century were represented by the American Federation of Musicians (see Kraft 1996), surfboard-makers have always eschewed formality. As cultural workers they lacked any form of union representation. They had little collective solidarity to organise, resist or strike against employers who offered them dwindling hours, no chance of real wage increase or reduced security of employment. While computerised-shaping generated new market opportunities for independent workshops it also subjected craft-based custom work to processes of fragmentation, dissipation and mechanisation. From a Marxist perspective such transformation in the system of production leads to the breaking down or re-orientation of skills and specialised knowledge as a basis and cornerstone of workplace solidarity and power. This was the case for an ageing group of highly-skilled male artisans for whom hand-shaping talents and abilities were being slowly phased out by passing time and the mechanised control over the means of production (Burawoy 1983). With no union representation hand-shapers felt there was little that could be done about their precarious situation.

Following Gibson (2003) I therefore argue that surfboard-making as a cultural industry produces a particular kind of industrial relations climate. Again, the subcultural origins of the work played a crucial role in configuring these relations. Surfboard-makers were in the industry because of their passion for surfing and interest in crafting tangible things that were used by surfers to connect with breaking waves. For the

workshops employing them it meant that owners/managers expected workers to feel a sense of gratitude for being able to do something they loved, while also being paid. Participants saw surfboard-making as a creative profession but simultaneously a means to continue enjoyment of the subculture (McRobbie 1998). It was not just about the pay cheque for these workers and this was recognised and often exploited by businesses who engaged workers on a contract, casual basis when it best suited their bottom line. This also confirms Gibson's (2003) argument for how cultural industries develop particular kinds of industrial politics where social constructions (class, gender, race etc.) come to mediate working relationships and shape workplaces. I contest that understanding an industry's (sub)cultural logics is therefore essential to uncover what makes it tick and how relations of power shift the balance between labour and capital.

Related to the designation of surfboard-making as a cultural industry was the informal manner in which workers learned their requisite skills. In Chapters 6 and 7, I showed how a lack of professional training, skills recognition and standard rates of pay meant problems with hand-shaping succession have emerged as a further factor challenging the sustainability of a custom system of production. The casual and informal nature of surfboard-making as a skilled profession originally suited the subculture's laid-back ethos during the 1960s and 1970s. Ironically, this is now a critical factor threatening its future as a craft-based cultural industry. In the Illawarra, Gold Coast, southern California and O`ahu there was therefore a human capital problem within the regional setting, magnified by an ageing workforce, lack of succession planning and pervasive informality. Some workshops talked about the need to better promote and organise the industry, including the need for technical training programs, which could be organised with local trade colleges or workplace training institutions.

These could offer accredited training courses and link businesses with apprenticeships inside the surfboard industry. Such moves would bring surfboard-making in line with the organisation of training for other highly-specialised cultural work such as sound engineering (Leyshon 2009), film editing and production (Scott 1996) and dress-making/fashion design (Rantisi 2004). The requisite skills for performing these jobs are mostly learnt at technical colleges and for the surfboard industry this too could potentially ensure the transition of skills and knowledge to subsequent generations of artisanal workers, who can see a clearer pathway into an interesting and unique industry. At the time of writing, key actors in the surfboard-making scene on the Gold Coast were negotiating with local and state authorities to fund exactly this kind of professional industry training, under the umbrella of an organised industry lobby group.

Notwithstanding important contributions from Pratt (1997; 2004a; 2005; 2009a), Gibson (2003; 2010), Banks (2009; 2010) and Leyshon (2009), in cultural and media industries and regional studies literatures such workforce issues have been largely under-emphasised. This is surprising given the acknowledgement that embedding and transferring skills and knowledge across generations of workers can be crucial for regional economic prosperity (Morgan 1997; Yeung 2005). The problems outlined in this thesis relating to succession, skills and knowledge transfer extend well beyond surfboard-making, relevant to other cultural economic contexts. This includes where technological change has rendered analogue craft skills increasingly obsolete (as in sound engineering – see Leyshon 2009), where designs with regional origins form the basis of offshore production or where vernacular, every-day creativity coalesces around workshops, festivals and other quasi-informal spaces of production (Edensor et al. 2009), without formal industry organisation or professional training schemes to help

enable knowledge retention (Gibson et al. 2010). At the risk of ‘selling out’ surfing’s quasi-anarchic subcultural roots, professionalisation would provide some measure of legitimacy to hand-making skills amidst increasingly voluminous trade in mass-produced, standardised boards.

Some participants would actually contest such a move, and would bemoan the loss of the laid-back appeal and informality of the job. Surfboard-making as cultural work was learned in a process of trial and error, where creative surfing enthusiasts spent years ‘paying their dues’, refining skills, and collecting snippets of advice from more experienced shapers until they had build up their own expertise and skills set. Such views are in danger of romanticising a form of cultural work once viable as an informal, subcultural pursuit only prior to commercialisation, automation and the advent of mass production. Research on the regional experiences of cultural work needs to become more attentive to issues of skills transfer, subculture and succession planning with the aim of ensuring industries such as surfboard-making maintain regional connections and harness useful artistic skills. Without these surfers may not have a choice but to buy and consume cheaper, poorer quality mass produced surfboards that perform less well on local waves and that need replacing more often. In an age of concern about the environment and economic uncertainty the world arguably needs people to be making and cherishing durable, higher-quality things – not accelerating production and consumption of cheaper disposable goods. Hand-made custom surfboards represent such quality things. The fate of the people who make them is therefore not just an issue of the precarity of one type of cultural worker but a fable for the wider manner in which we transform material resources into useful things, and reward (or neglect) those who do it well.

What a focus on surfboard-makers as unique but precarious cultural workers contributes to the broader field of cultural industries research is thus an insight into the way informality, flexibility and attachments to cultural work can prevent or inhibit certain industries from renewing themselves. This in turn can constitute a loss of intangible cultural heritage (as in the case of traditional hand-shaping skills, abilities and knowledge) and a loss of unique, well-made customised things with distinctive human dimensions.

### **8.3 The emotional terrain of surfboard-making**

A final contribution of this thesis is to extend analysis of cultural industries, and the forms of cultural work they generate, by exploring the emotional terrain upon which surfboard-making takes place. In the Illawarra, Gold Coast, Hawai`i and southern California markets endure for hand-shaped custom boards, with links established between iconic local workshops and surfing communities dating back to countercultural surf movements of the 1960s. How long these markets will survive amidst growth in sales of cheaper imported surfboards remains moot, but certainly hand-shapers profiled in this thesis sought to persist with custom manufacturing for reasons other than commercial returns. There will most likely always be a market for high-quality boards for local surfers to use on local waves, so long as there are artisans with the necessary skills and personal passions to make them.

In this thesis political economy only told part of the story about the work of surfboard-makers and their experiences in dealing with the rapidly changing dynamics of the industry. Other cultural industries like film, visual art, theatre and music, rely on the emotions for both production and consumption and it is the emotional dimensions of

these activities which make them culturally and economically valuable (Davidson et al. 2004; Davidson and Milligan 2004; Wood and Smith 2004; Waitt and Duffy 2010). This was especially so for surfboard-making.

To analyse and understand the work performed by surfboard-makers, along with their motivations, interactions, skills and problems, this thesis paid attention to the emotional engagements that took place in developing, designing and producing surfboards in each local setting. The overarching focus here reflected a growing sensitivity in cultural economic research – and across the social sciences – towards the importance of ‘emotional’ inputs in the doing of a job and creation of symbolic value (Power and Scott 2004; Christopherson 2008). This was uncovered in the analysis of surfboard shapers, who used their felt, haptic and embodied senses as skills for crafting blanks, shaping rails and achieving symmetry. While outlining the economics of the surf industry was important to the story – outputs, profits, wages and labour conditions for example – so too were the cultural and emotional dimensions of the job, which should not be taken as absent or suppressed from capitalist activity. Emotions helped to gauge and reflect on the quality of a job and were omnipresent in each workshop setting.

Beyond the doing of the work, the emotions also cemented relationships between fellow workers and customers. Workshops were spaces of heightened social activity, which took on multiple forms of expression. They bore witness to the coming and going of keen surfers-turned-customers, were sites of economic exchange, places of work and creativity, while also spaces of coercion, precarity, exploitation and danger. They were also spaces of mateship, hyper-masculinity, joy and frustration. The workshop itself was not simply a restricted or enclosed container for work, but was

spatially fluid, encompassing popular local surf breaks or hang-outs in each case study region. Conversations observed and recorded in everyday surfing subculture commonly influenced the material production of surfboards back in the confines of the shop.

Often laborious, exhausting, messy and dirty, employment in the industry brought with it problems, constraints and struggles. Several hand-shapers found themselves needing to find a second job to make ends meet or managed to accrue enough savings during the busy periods to last them through quiet spells. Under such conditions being a surfboard shaper or glasser was not a career respondents entered into or persevered with for the promise of large financial rewards. There were other important motivations at play and these could not be explained through economic rationalities. Focusing on the emotions of cultural work revealed the deeper attachments to the job and what were the alternative pay-offs beyond a pay-cheque. Board-making was an occupation like any other under a capitalist mode of production – a way to earn a wage and pay the bills. However surfboard-making as a practice was deeply embodied and emotional performance. Emotions coalesced around a unique artistic form of gendered labour; through networks and relationships with other workers, tools and customers; in surf oriented spaces of work and display. Scrutiny of surfboard-making's embodied and emotional dimensions disclosed how makers became motivated to pursue careers in the industry and went about building up the requisite embodied skills, sense of touch and design knowledge. Enthusiasm and motivation towards the job was expressed by workers as emotional attachments. This was illustrated as each described their work as being a 'soulful pursuit', 'passion' or 'love'.

At the same time, positive emotional attachments to the work jostled with negative emotions such as anger, frustration, fear and worry – emotions typically

overlooked in the analysis of cultural production (cf. Gill and Pratt 2008). Hand-shapers in particular expressed worry and anger about reduced working hours and wages. At times the passions for an artistic, cultural form of work and a desire to maintain hand-shaping connections made these workers more vulnerable to exploitation (cf. Gibson 2003). Hand-shapers felt responsible for the survival of artisanal skills and worried about future uncertainties.

While some participants blamed workshop owners for the precarious nature of their work, this was not always the case. Given workshops participating in the research were small, independent operators that were themselves being squeezed by the lowering of prices caused by the mass-importation of boards, they were also battling to stay afloat, with the small margins on surfboards keeping profits small. Simultaneously, workshop owners at Cheater 5 and Aipa Surfboards in Hawai'i, Carabine Surf Designs and Skipp Surfboards in the Illawarra, D'Arcy and Mt Woodgee on the Gold Coast, Sauritch, Barker and Bessell Surfboards in southern California explained their aspirations to maintain hand-shaping. These workshop owners wanted to continue the legacies of the craft and ensure local surfers could source desired types and styles of boards. Custom design also differentiated their product and gave credence to their brands. In short, there was a complex mixture of emotions and economic processes at play which determined how much work hand-shapers received, and the capacity of workshops to offer decent wages and conditions to experienced hand-shapers. This was a scenario witnessed across each of the case study locations.

When examining changing working conditions under advanced capitalism scholars have often emphasised capital's power in transforming the processes, habits, responsibilities and behaviours of workers towards their work (see for example



Lazzarato 1996; Hardt and Negri 2000; Morini 2007; Gill and Pratt 2008). I have sought here to take this point further by analysing the way emotional responses and energies saturate the processes of cultural production. As specialised artefacts surfboards were designed, produced and sold for profit, but when hand-made were also imbued with feelings and sensory responses that added symbolic value. Not only did emotional responses permeate the social relationships between makers and surfers, they were also fundamental features of the work being performed inside each shop (cf. Amin and Thrift 2004; Davidson et al. 2004; Christie et al. 2008). Shapers and glassers visualised, designed, worked on and brought to life surfboards. Pride in their work shaped participation in the industry and how surfboards as material objects were being made.

Hence, to analyse surfboard-making as an industry it was necessary to adopt an epistemological viewpoint that resisted the urge to categorise observed phenomena as ‘cultural’ or ‘economic’, to box people, things and processes into conceptual prisons. Surfboard-making is a capitalist mode of production *but* the industry stems from and is utterly shaped by unique cultural pursuits, desires and actions, which in turn are entangled with emotions. More than mere niche form of manufacturing, surfboard-making is a culturally-rich and meaningful form of craft work – a vernacular tradition emblematic of coastal life in four parallel parts of the world. Established craft techniques, artistic traditions, customs and rituals combine with fabrication and design skills to create commodities that are also high value, personalised cultural goods. In the face of globalisation and corporatisation, hand-makers remain true to the mythology and creativity of surfboard production, an allegiance that did not deliver financial rewards but was satisfying and enabled a rich social life in surfing.

## **8.4 Unresolved tensions and missing threads**

This thesis has sought to present what is at times a complex, ethnographic and critical analysis of the surfboard industry, showing how it enrolls place, cultures, emotions and workers. There are some unresolved tensions, partially catalysed arguments and potential threads that warrant future investigation. There is undoubtedly much more room for future work in geography and cognate disciplines to explore both the cultural economic dimensions of the surf industry and the experiences of workers in the cultural industries more broadly. Such analysis will need both a strong conceptual footing and a rigorous empirical base that should not be limited in scope to the experiences of entrepreneurial, middle class, white, male workers – so frequently valorised as ‘the creative class’ (cf. Gill and Pratt 2008; Warren and Gibson in press). Through a reflection on the limitations and specificities of the thesis, I wish finally to pose some directions for future work that would constructively build upon and advance the findings and narratives developed through this thesis.

This research was geographically specific in its focus on four popular surfing locations, which are each within advanced westernised economies. While the four case study areas were shown to be comparatively unique in terms of their surfing histories, breaks, wages, labour organisation and market scale each nonetheless remains a privileged site in the development of surfing industry. They are each well connected to the corporate surf world and are perhaps the best known surf regions globally. Each saw a grass-roots surfboard-making industry emerge in the 1950s and 1960s when the subculture boomed, but before global mass production and corporatisation took hold. While this made them obvious places to start the study of the surfboard industry’s dynamics, it by default makes my arguments about the precarity of workers, their

struggles, attachments and social relations dependent on characteristics of this kind of region within advanced, post-industrial nations.

Future research would benefit from focusing on developing regions, where surf culture arrived more recently, is likely to be practiced and followed differently and where the surfboard-making has grown in the image of Hawaiian, Californian and Australian precedents. We know that the popularity of surfing has taken it to every inhabited continent, and commercial industry has likely followed. In parts of South and Central America for example, surfing has become big business, based around catering for large numbers of western surf tourists. Work by cultural studies scholar Jess Ponting (2009) in Indonesia has studied surf tourism in that context, showing how the local community in the Mentawai Islands were impacted by the influx of boat charters, surf camps and hotels – but there remains further scope to research new, vernacular surfboard-making industries that may have emerged around these tourist destinations. Here, the experiences of those making boards may parallel the optimistic early days of surfboard-making in Hawai`i, southern California, the Gold Coast and Illawarra, *or*, conditions may be far worse. Such research would logically include critical analysis of employment conditions, the spatial flows of capital within and outside of local regions, questions of community/labour exploitation, emotion and exclusion.

Here too lies an opportunity to extend the current geographic focus of cultural industries research, which has only recently sought to branch out from large cities, and their concentrated and highly visible agglomerations of film, fashion and music industries (see for example: Scott 1996; 2000; Rantisi 2002; 2004; Currid and Connolly 2008). Work that examines the illusions and disillusion of workers and participants within other forms of vernacular and grass roots cultural production (see Edensor et al.

2009; Gibson 2010; Warren and Gibson in press) would provide a blueprint for important comparative work about the emotional and social terrain of different economic transactions – including in the developing world.

A further direction for future research relates to extending Marxist interpretation of experiences of work – which implicitly assume labour motives are solely entrenched in the need to sell their labour power to gain a subsistence wage, to examination of the multiple logics and rationalities informing cultural work. As this thesis has argued, cultural work can be exploitative and emotional pay-offs are intermingled with frustrations and concerns (cf. Ettlinger 2004; Gill and Pratt 2008). In the case of the surfboard industry such felt, emotional attachments to forms of work can also lead to distressing financial and lifestyle outcomes as workers hang onto precarious jobs in an environment that becomes persuasive and coercive. At the same time the emotional pay-offs of the work are powerful: they connect, stimulate and provide pleasurable experiences for cultural workers that make the otherwise precarious work worth doing.

The gendered dimensions of cultural production are another theme warranting further investigation. This thesis explained the gendered nature of surfboard-making, where only men were engaged in the higher profile glassing and shaping roles and women worked in clerical and administrative duties (cf. Massey 1984; McDowell and Court 1994; McDowell 1997; 2001). Still more can be done in the analysis of the surf industry and cultural industries more generally to explore and understand the gendered dimensions of work, especially given that in some parts of the surfing world female surfers make up 30 percent of the surfing population.

A related thread of future research could also connect with Indigenous labour geographies and participation in a variety of cultural production industries. While there

is a large body of work on Indigenous art, music and cultural performance more generally in Australia (see Gibson and Dunbar-Hall 2004; Warren and Evitt 2010) the theme of post-colonial politics and how it permeates surfing was not able to be explored within the scope of this thesis. And yet, surfing's origins are obviously Polynesian, and a number of participants working in the surfboard industry on O`ahu were native Hawaiian. Much more can be learnt about the skills development, attitudes, working conditions and participation of Indigenous workers in cultural industries. Surfing is one relevant example, where despite its heritage in ancient Polynesia there is a lack of empirical engagement with issues of Indigenous involvement and participation in the surf industry, especially amongst *Kānaka Maoli*. While Finney and Houston (1996), Walker (2008; 2011) and others have outlined the history and significance of surfing for Hawaiian culture, questions about ongoing Indigenous roles in the selling of the surf remain open: how do Indigenous Hawaiians engage with, benefit from or become exploited by the corporatised world of surfing? Do *Kānaka Maoli* continue with ritualistic forms of production? Where are and how have the markets for their products been generated? How, if at all, are cultural practices, skills and knowledge transferred across different generations? What about surf culture in Tahiti? The answers to such questions can potentially assist with the development of an agenda that addresses inequalities and vulnerability for Indigenous workers.

A final thread of future research could also engage more overtly with the high end of the surf industry. While the spotlight in this thesis was on smaller, independent surfboard workshops at the symbolic heart of surfing industry, scope remains for a research project that interrogates the transnational surf giants (Billabong, Quiksilver, Rip Curl). Questions about the offshoring of production in a 'race to the bottom' of

cheap production, ethical business practices, experiences of workers making their products and the conditions of their employment remain un-answered. This sort of empirical research is needed to compliment the focus here on the industry's grass-roots.

As the thesis started out by stating, surfing is an ancient human-environment interaction now engulfed by a complex mix of cultures, people, icons, styles, tensions, workers, emotions, products, businesses, brands and markets. Cultural forms of production like surfboard-making are complexly organised and draw into focus many challenges for future geographical research. Listening to the experiences of cultural workers further enriches our understandings of the dynamics of cultural forms of production. The surf industry exemplifies this, especially in the context of a shifting and unstable phase of advanced capitalism where workers are being expected to do more, in less time, while receiving less financial reward for their labour. Hand-based surfboard-makers are one such small group of precarious cultural workers, but have here provided important stories and lessons about the contemporary experiences of labour within the cultural industries. As the writing for this thesis was coming to an end, successive announcements were made within a short period of time publicising the closing down of two well known workshops on the Gold Coast. This meant more than fifty local makers lost their jobs. But contrasted against this, there is still an incredibly persistent drive by makers to produce materially valuable surfboards for custom market, made by hand. For surfboard-makers aching bodies and precarious employment were the long-term conditions of their creativity. But lifetimes of labour, love and pride are found in hand-made boards – qualities worth better recognition and respect.

## References

- Abu-Lughod, J. L. and Lutz, C. A. 1990. Introduction: emotion, discourse, and the politics of everyday life. In C. Lutz and L. J. Abu-Lughod (Eds) *Language and the Politics of Emotion*. Cambridge University Press: Cambridge, pp 1-23
- Abu-Lughod, J. L. 1999. *New York, Chicago, Los Angeles: America's Global Cities*. University of Minnesota Press: Minnesota
- Adorno, T. W. and Horkheimer, M. 1977. The culture industry: enlightenment as mass deception. In J. Curran., M. Gurevitch and J. Wollacott (Eds) *Mass Communication and Society* Eds. Verso: London, pp 349-383
- Adorno, T. W. 1980. *Letters to Walter Benjamin*. In T. Adorno, W. Benjamin, E. Bloch (Eds). NLB Publishing: London
- Adorno, T. W. 2004. Culture industry reconsidered. In M. Miles, T. Hall and I. Borden (Eds) *The city cultures reader*. Routledge: New York, pp 163-168
- Ahmed, S. 2004. *The cultural politics of emotion*. Routledge: New York
- Amin, A. 1994. *Post-Fordism*. Blackwell: Oxford
- Amin, A. and Thrift, N. (Eds) 2004. *The cultural economy reader*. Blackwell: Oxford
- Amin A. and Thrift N. 2007. Cultural economy and cities. *Progress in Human Geography* **31** pp 143-161
- Andersen, L. 2010. Magic Light, Silver City: the business of culture in Broken Hill. *Australian Geographer* **41**(1) pp 71-85
- Anderson, K. Smith, S. J. 2001. Emotional Geographies. *Transactions of the Institute of British Geographers* **26**(1) pp 7-10

- Aoyama, Y. and Izushi, H. 2003. Hardware gimmick or cultural innovation? Technological, cultural, and social foundations of the Japanese video game industry. *Research Policy* **32**(3) pp 423-444
- Appadurai, A. 1990. Disjuncture and Difference in the Global Cultural economy. *Public Culture* **2** pp 1-24
- Aprhys, A. 2008. Rip Curl executives happy to be wet behind the ears. *The Age*: Melbourne 24<sup>th</sup> March. Available: <http://business.theage.com.au/business/rip-curl-executives-happy-to-be-wet-behind-the-ears-20080323-213x.html>
- Avery, C. and Zemsky, P. 1998. Multidimensional uncertainty and herd behaviour in financial markets. *The American Economic Review* **88**(4) pp 724-748
- Ball, D. 1946. *California Surfriders*. Mountain and Sea Books: Los Angeles
- Banks, M. 2009. Fit and working again? The instrumental leisure of the 'creative class'. *Environment and Planning A* **41** pp 668-681
- Banks, M. 2010. Craft Labour and Creative Industries. *International Journal of Cultural Policy* **16**(3) pp 305-321
- Barnes, T. J. 2001. Retheorising Economic Geography: From the Quantitative Revolution to the 'Cultural' Turn. *Annals of the Association of American Geographers* **91**(3) pp 546-565
- Bartholomew, W. and Baker, T. 2002. *Bustin' Down the Door*. Water Sports Books: Sydney
- Bathelt, H. 2003. Toward a relational economic geography. *Journal of Economic Geography* **3**(2) pp 117-144



- Bathelt, H. and Graf, A. 2008. Internal and external dynamics of the Munich film and TV industry Cluster, and Limitations for future growth. *Environment and Planning A* **40**(8) pp 1944-1965
- Bathelt, H., Malmberg, A. and Maskell, P. 2005. Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation. *Progress in Human Geography* **28**(1) pp 31–56
- Baxter, J. and Eyles, J. 1997. Evaluating Qualitative Research in Social Geography: Establishing ‘Rigour’ in Interview Analysis. *Transactions of the Institute of British Geographers* **22**(4) pp 505-525
- Beane Freeman, L. E., Blair, A., Lubin, J. H., Stewart, P. A., Hayes, R. B., Hoover, R. N. and Hauptmann, M. 2009. Mortality From Lymphohematopoietic Malignancies Among Workers in Formaldehyde Industries: The National Cancer Institute Cohort. *Journal of the National Cancer Institute* **101**(10) pp 751-761
- Beck, U. 2000. *The Brave New World of Work*. Polity Press: Cambridge
- Becker, G. S. 1976. *The Economic Approach to Human Behavior*. University of Chicago Press: Chicago
- Bell, D. 1973. *The coming of post-industrial society*. Basic: New York
- Billabong. 2009. *Annual Report*, Burleigh Heads (Aus): Billabong Pty Ltd
- Billabong. 2010. *Annual Report*, Burleigh Heads (Aus): Billabong Pty Ltd
- Bishop Museum. 2011. *Archived library records*. Bishop Museum Press: Honolulu
- Blake, T. 1935. *Hawaiian surfboard*. Paradise of the Pacific Press: Honolulu
- Boggs, J. S. and Rantisi N. M. 2003. The relational turn in economic geography. *Journal of Economic Geography* **3** pp 109-116

- Clarke, P., Carroll, N. and Appel, G. 2009. *Bombora: the story of Australian surfing*. ABC Television: Sydney
- Bondi, L. 2005. Making connections and thinking through emotions: between geography and psychotherapy. *Transactions of the Institute of British Geographers* **30** pp 433–348
- Bondi, L., Davison, J. and Smith, M. 2004. Introduction: Geography's Emotional Turn. In J. Davidson., L. Bondi and M. Smith (Eds) *Emotional Geographies*. Ashgate: Aldershot, pp 1-18
- Booth, D. 1994. A case study in the history of pleasure and discipline. *Australian Historical Studies* **26** pp 262-279
- Booth, D. 1995. Ambiguities in Pleasure and Discipline: the Development of Competitive Surfing. *Journal of Sport History* **22** pp 189-206
- Booth, D. 2001. *Australian Beach Cultures: The History of Sun, Sand and Surf*. University of Otago: London
- Bourdieu, P. 1983. The field of Cultural Production, or: The Economic World Revisited. *Poetics* **12** pp 311-356
- Bourdieu, P. 1984. *Distinction: a social critique of the judgement of taste*. Routledge: London
- Bourdieu, P. 1986. The Forms of Capital. In J. G. Richardson (Ed) *Handbook of Theory and Research for the Sociology of Education*. Greenwood Press: New York, pp 241-258
- Bourdieu, P. 1990. *The Logic of Practice*. Polity Press: Cambridge
- Brennan-Horley, C. 2007. Work and play: vagaries surrounding contemporary cultural production in Sydney's dance music culture. *Media International Australia* **123** pp 123-137

- Brennan-Horley, C. 2010. Multiple Work Sites and city Wide Networks: A Topological Approach to Understanding Creative Work. *Australian Geographer* **41**(1) pp 39-56
- Brisick, J. 2006. Requiem for Surfing's Black Knight: The sanctioned Miki Dora. *LA Weekly* 2<sup>nd</sup> March
- Britton, J. N. H. 2003. Network structure of an industrial cluster: electronics in Toronto. *Environment and Planning A* **35**(6) pp 983-1006
- Brophy, E. and de Peuter, G. 2007. Immaterial labour, precarity and recomposition. In C. McKercher and V. Mosco (Eds) *Knowledge Workers in the Information Society*. Lexington: Lanham
- Bryman, A. 2004. *Social Research Methods*. Oxford University Press: New York
- Buckley, R. 2003. Adventure tourism and the clothing, fashion and entertainment industries. *Journal of Ecotourism* **2** pp 126-134
- Burawoy, M. 1979. *Manufacturing consent: changes in the labour process under monopoly capitalism*. University of Chicago Press: Chicago
- Burawoy, M. 1983. Between the labour process and the state: the changing face of factory regimes under advanced capitalism. *American Sociological Review* **48**(5) pp 587-605
- Burawoy, M. 1986. *The Politics of Production: Factory Regimes under Capitalism and Socialism*. Verso: London
- Butler, J. 1990. *Gender Trouble: Feminism and the Subversion of Identity*. London: Routledge
- Castree, N. 2007. Labour geography: a work in progress. *International Journal of Urban and Regional Research* **31** pp 853-862

- Christie, H., S. Smith, and M. Munro. 2008. The emotional economy of housing. *Environment and Planning A* **40**(10) pp 2296-2212
- Christopherson, S. 2006. Behind the scenes: How transnational firms are constructing a new international division of labour in media work. *Geoforum* **37**(5) pp 739-751
- Christopherson, S. 2008. Beyond the self-expressive creative worker. *Theory, Culture and Society* **25** pp 73-95
- Christopherson, S. and Storper, M. 1986. The city as studio; the world as back lot: the impact of vertical disintegration on the location of the motion picture industry. *Environment and Planning D: Society and Space* **4**(3) pp 305-320
- Clark, J. R. K. 2011. *Hawaiian surfing: traditions from the past*. University of Hawai'i Press: Honolulu
- Cloke, P., Crang, P. and Goodwin, M. (Eds) 2004. *Envisioning Human Geographies*. Arnold: London
- Coe, N. M. 2001. A Hybrid Agglomeration? The Development of a Satellite-Marshallian Industrial District in Vancouver's Film Industry. *Urban Studies* **38**(10) pp 1756-1775
- Cohen, S. 1991. *Rock Culture in Liverpool: Popular Music in the Making*. Oxford University Press: Oxford
- Connell, R. W. 1995. *Masculinities*. Allen and Unwin: Sydney
- Connell, R. W. 2000. *The Men and the Boys*. Allen and Unwin: Sydney
- Connell, J. and Gibson, C. 2008. No passport necessary: music, record covers and vicarious tourism in post-war Hawai'i. *Journal of Pacific History* **43** pp 51-75

- Crang, M. 1997. Introduction: cultural turns and the (re)construction of economic geography. In R. Lee and J. Wills (Eds) *Geographies of Economies*. Arnold: London, pp 3-15
- Crang, M. 2003. Qualitative Methods: Touchy, Feely, Look-see? *Progress in Human Geography* **27**(4) pp 494-504
- Crang, M. 2005. Qualitative methods: there is nothing outside the text? *Progress in Human Geography* **29** pp 225-233
- Currid, E. and Connolly, J. 2008. Patterns of knowledge: the geography of advanced services and the case of art and culture. *Annals of the Association of American Geographers* **98** pp 414-434
- Davidson, J. and Milligan, C. 2004. Embodying emotion, sensing space: introducing emotional geographies. *Social and cultural Geography* **5**(4) pp 523-532
- Davidson, J., Bondi, L. and Smith, M. (Eds) 2004. *Emotional Geographies*. Ashgate: Aldershot
- Deakins, D. and Freel, M. 2009. *Entrepreneurship and Small Firms*. McGraw Hill (e-book)
- Dewalt, K. M. and Dewalt, B. R. 2002. *Participant Observation: A guide for Fieldworkers*. AltaMira Press: California
- Drake, G. 2003. 'This place gives me space': place and creativity in the creative industries'. *Geoforum* **34** pp 511-524
- Dunbar-Hall, P. and Gibson, C. 2004. *Deadly Sounds, Deadly Places: Contemporary Aboriginal Music in Australia*. University of New South Wales Press: Sydney
- Earle, T. C. 2009. Trust, Confidence, and the 2008 Global Financial Crisis. *Risk, Contingency and Crisis Management* **29** pp 785-792

- Edensor, T., Leslie, D., Millington, S and Rantisi, N. (Eds) 2009. *Spaces of vernacular creativity: rethinking the cultural economy*. Routledge: London
- Ellis, W. 1831. *Polynesian Researches I-IV*, London
- Emerson, N. B. 1892. Causes of Decline of Ancient Polynesian Sports. *The Friend* **L**(viii) pp 57-60
- Essex, S.J. and Brown, G.P. 1997. The emergence of post-suburban landscapes on the North Coast of New South Wales: a case study of contested space. *International Journal of Urban and Regional Research* **21** pp 259-285
- Ettlinger, N. 2004. Cultural economic geography and a relational and micro space approach to trusts, rationalities, networks and change in collaborative workplaces. *Journal of Economic Geography* **3**(1) pp 145-171
- Ettlinger, N. 2010. Bringing the everyday into the culture/creativity discourse. *Human Geography* **3**(1) pp 49-59
- Evers, C. 2004. Men who surf. *Cultural Studies Review* **10** pp 27-41
- Evers, C. 2005. *Becoming Man - Becoming Wave*. Doctoral Thesis. University of Sydney: Sydney
- Evers, C. 2009. The Point: surfing, geography and a sensual life of men and masculinity on the Gold Coast, Australia. *Social and Cultural Geography* **10**(8) pp 893-908
- Featherstone M. 1991. *Consumer Culture and Postmodernism*. Sage: London
- Feinberg, R. 1988. Spiritual and natural etiologies on a Polynesian outlier in Papua New Guinea. *Social Science and Medicine* **30**(3) pp 311-323
- Fielding, N. G. 1993. *Mediating the message: affinity and hostility in research on sensitive topics*. Sage: Newbury Park

- Finney, B. 1959. Surfing in ancient Hawai'i. *Journal of the Polynesian Society* **68**(4) pp 327-347
- Finney, B. R. and Houston, J. D. 1996. *Surfing: a history of the ancient Hawaiian sport*. Pomegranate: San Francisco
- Fiske, J., Hodge, B. and Turner, G. 1987. *Myths of 02*. Allen and Unwin: Sydney
- Flanagan, J. R. and Lederman, S. J. 2001. Neurobiology: Feeling bumps and holes, News and Views. *Nature* **412**(6845) pp 389-391
- Fletcher, J. K. 1998. Relational practice: A feminist reconstruction of work. *Journal of Management Inquiry* **7** pp 163-187
- Fletcher, J. K. 1999. *Disappearing acts: gender, power, and relational practice at work*. MIT Press: Cambridge
- Florida, R. 2002. *The Rise of the Creative Class: and how it's Transforming Work, Leisure, Community and Everyday Life*. Basic Books: New York
- Florida, R. 2005. *The flight of the creative class: The new global competition for talent*. New York: Harper Business
- Ford, N., and D, Brown. 2006. *Surfing and social theory: experience, embodiment and narrative of the dream glide*. Routledge: London
- Fornander, A. 1965. *Selections from Fornander's Hawaiian Antiquities and Folk-lore*. University of Hawai'i Press: Honolulu
- Garnham, N. 2005. From Cultural to creative industries: An analysis of the implications of the 'creative industries' approach to arts and media policy making in the United Kingdom, *International Journal of Cultural Policy* **11**(1) pp 117-128
- Gault-Williams, M. 2005. *Legendary Surfers Volume 1, 2500 B.C. to 1910 A.D.*  
Available: [www.legendarysurfers.com](http://www.legendarysurfers.com)

- Gibson, J. J. 1966. *The sense considered as perceptual systems*. Houghton Mifflin: Oxford
- Gibson, C. 2002. Rural transformation and cultural industries: popular music on the New South Wales Far North Coast. *Australian Geographical Studies* **40** pp 336-356
- Gibson, C. 2003. Cultures at Work: Why culture matters in research on the Cultural Industries. *Social and Cultural Geography* **4**(2) pp 201-215
- Gibson, C. and Connell, J. 2005. *Music and Tourism*. Channel View: Clevedon
- Gibson, C. 2010. Creativity in Peripheral Places: Redefining the Creative Industries. *Australian Geographer* **41**(1) pp 1-10
- Gibson, C. 2012a. Cultural economy: Achievements, Divergences, Future Prospects. Forthcoming in the 50<sup>th</sup> Anniversary special edition of *Geographical Research*
- Gibson, C. (Ed) 2012b. *Creativity in Peripheral Places: Redefining the Creative Industries*. Routledge: London and New York
- Gibson, C. and Kong, L. 2005. Cultural economy: a critical review. *Progress in Human Geography* **29** pp 541-561
- Gibson, C., Brennan-Horley, C. and Walmsley, J. 2010. Mapping Vernacular Creativity: The Extent and Diversity of Rural Festivals in Australia. In T. Edensor., D. Leslie., S. Millington., and N. Rantisi (Eds) *Spaces of vernacular creativity: rethinking the cultural economy*. Routledge: London, pp 89-105
- Giddens, A. 2002. *Where now for new labour?* Polity Press: Cambridge
- Gill, R. and A. Pratt. 2008. In the social factory? Immaterial labour, precariousness and Cultural Work. *Theory, Culture and Society* **25** pp 1-30
- Goldie, P. 2000. *The Emotions: A Philosophical Exploration*. Oxford University Press: Oxford



- Goldsmith, B. and O'Regan, T. 2003. *Cinema Cities, Media Cities: The Contemporary International Studio Complex*. Australian Film Commission: Sydney
- Goldsmith, B., Ward, S. and O'Regan, T. 2010. *Local Hollywood: Global Film Production and the Gold Coast*. University of Queensland Press: Brisbane
- Gorman-Murray, A. 2006. Homeboys: Uses of Home by Gay Australian Men. *Social and Cultural Geography* **7**(1) pp 53- 69
- Gorman-Murray, A. 2008. Queering the family home: narratives from gay, lesbian and bisexual youth coming out in supportive family homes in Australia. *Gender, Place and Culture* **15**(1) pp 31-44
- Gorman-Murray, A. 2012. *Geographies of sexualities Down Under: lesbian and gay spatialities in Australia*. Ashgate: Farnham
- Gough, J. 2010. Workers' strategies to secure jobs, their uses of scale, and competing economic moralities: rethinking the 'geography of justice'. *Political Geography* **29** pp 130-139
- Gramsci, A. 1971. Selections from the Prison Notebooks. International Publishers: New York
- Gregg, M. 2011. *Work's intimacy*. Polity Books: Sydney
- Grindstaff, L. 2002. *The money shot: trash, class, and the making of TV talk shows*. University of Chicago Press: Chicago
- Hammersley, M. and Atkinson, P. 1995. *Ethnography: Principles in Practice*. Routledge: London
- Hamanaka, K. 2011. Quiksilver Comeback: New Stores Planned. *Orange County Business Journal* **34**(24) pp 64-65
- Hanson, S. and Pratt, G. 1995. *Gender, Work and Space*. Routledge: New York

- Hardt, M. and Negri, A. 2000. *Empire*. Harvard University Press: Cambridge
- Hartley, J. 2004. The new economy, creativity and consumption. *International Journal of Cultural Studies* **7**(1) pp 5-7
- Hartley, J. 2005. *Creative Industries*. Blackwell Publishing: London
- Harvey, D. 1989. *The condition of post-modernity: an enquiry into the origins of cultural change*. Blackwell: London
- Harvey, D. 2005. *Spaces of Global Capitalism: Towards a Theory of Uneven geographical Development*. Verso: London
- Harvey, D. 2006. Neo-liberalism as Creative Destruction. *Geografiska Annaler: Series B, Human Geography* **88**(2) pp 145-158
- Harvey, D. 2010. *The enigma of capital: and the crisis of capitalism*. Oxford University Press: Oxford
- Hauptmann M., Stewart P. A., Lubin J. H., Beane Freeman, L. E., Hornung, R. W., Herrick, R. F., Hoover, R. N., Fraumeni, J. F Jr., Blair, A. and Hayes, R. B. 2009. Mortality from lymphohematopoietic malignancies and brain cancer among embalmers exposed to formaldehyde. *Journal of the National Cancer Institute* **101**(24) pp 1696-708
- Hay, I. 2005. *Qualitative Research Methods in Human Geography*. Oxford University Press: Melbourne
- Heelas, P. 1996. Emotion talk across cultures. In R. Harré and W. Gerrod-Parrott (Eds) *The emotions: social, cultural and biological*. London: Sage publication, pp 171-199
- Henderson, M. 2001. A shifting line up: men, women, and *Tracks* surfing magazine. *Journal of Media and Cultural Studies* **15** pp 319-332
- Henry, T. 1928. *Ancient Tahiti*. Bishop Museum Bulletin **48**: Honolulu

- Herod, A. 1997. From a geography of labour to a labour geography. *Antipode* **29** pp 1-31
- Herod, A. 2001. *Labour geographies*. Guilford: New York
- Herod, A., Rainnie, A. and S. McGrath-Champ. 2007. Working space: why incorporating the geographical is central to theorising work and employment practices. *Work, Employment and Society* **21** pp 247-264
- Hesmondhalgh, D. 2007. Cultural and Creative Industries. In I. Bennett (Ed) *The Sage Handbook of Cultural Analysis*. Sage Publications: London, pp 552-569
- Hesmondhalgh, D. and Pratt, A. C. 2005. Cultural industries and cultural policy. *Journal of Cultural Policy* **11**(1) pp 1-13
- Hesmondhalgh, D. and S. Baker. 2008. Creative work and emotional labour in the television industry. *Theory, Culture and Society* **25** pp 97-118
- Hetherington, K. 2002. The unsightly: Touching the Parthenon Frieze. *Theory, Culture and Society* **19** pp 187-205
- Hochschild, A. R. 1983. *The managed heart: Commercialisation of human feeling*. University of California Press: Berkeley
- Hoggart, K., Lees, L. and Davies, A. 2001. *Researching Human Geography*. Arnold: New York
- Holt, L. 2008. Embodied social capital and geographic perspectives: performing the habitus. *Progress in Human Geography* **32**(2) pp 227-246
- Hough, R. A. 1996. *Captain James Cook: A Biography*. WW Norton and Company: London
- Hull, S. W. 1976. A Sociological study of the surfing subculture in the Santa Cruz area. Master's Thesis. San Jose University: San Jose

- Hunter, P. 1911. July skiing in Australia. *Mid-Pacific Magazine* January, p 12
- Jarratt, P. 2010. *Salts and Suits: How a Bunch of Surf Bums Created a Multi-billion Dollar industry...and almost lost it*. Hardie Grant Books: Melbourne
- Jayne, M. 2004. Culture that works? Creative industries development in a working-class city. *Capital and Class* **28**(3) pp 199-210
- Jeffcutt, P. and Pratt, A. C. 2002. Managing creativity in the cultural industries. *Creativity and Innovation Management* **11** pp 225–233
- Kahanamoku, D. P. and Brennan, J. 1972. *World of Surfing*. Angus and Robertson: Sydney
- Kampion, D. 2007. *Greg Noll: The Art of the Surfboard*. Gibbs Smith: Santa Barbara
- Kanahele, G. S. 1996. *Waikīkī, 100 B.C. to 1900 A.D.: an untold story*. University of Hawai`i Press: Honolulu
- Kaplan, M. 2010. Hayden Cox Rides his Surfboard into Global Markets. *The Australian* 6<sup>th</sup> February
- Karp, D. A. 1996. *Speaking of Sadness: Depression, Disconnection, and the Meaning of Illness*. Oxford University Press: New York
- Keynes, J. M. 2008. *The General Theory of Employment, Interest and Money*. Atlantic Publishers: New Delhi
- Kloosterman, R. C. 2010. Building a career: labour practices and cluster reproduction in Dutch architectural design. *Regional Studies* **44** pp 859-871
- Kraft, J. P. 1996. *Stage to Studio: Musicians and the Sound Revolution, 1890-1950*. John Hopkins University Press: Baltimore

- Kuntsman, A. 2003. Double Homecoming: Sexuality, Ethnicity, and Place in Immigration Stories of Russian Lesbians in Israel. *Women's Studies International Forum* **26**(4) pp 299-311
- Kusenbach, M. 2003. Street phenomenology: the go-along as ethnographic research tool. *Ethnography* **4** pp 455–85
- Lanagan, D. 2002. Surfing in the third millennium: commodifying the visual argot. *The Australian Journal of Anthropology* **13** pp 283-291
- Landry, C. 2000. *The creative city: a tool kit for urban innovators*. Earthscan Publications: London
- Landry, C. and Bianchini, F. 1995. *The Creative City*. Demos: London
- Lash, S. and Urry, J. 1994. *Economies of Signs and Space*. London: Sage Publications
- Latham, A. 2003. Research, performance, and doing human geography: some reflections on the diary-photograph, diary interview method. *Environment and Planning A* **35** pp 1993-2018
- Law, L. 2004. Negotiating the bar: sex, money and the uneasy politics of third space. In A. Amin and N. Thrift (Eds) *The cultural economy reader*. Blackwell: Oxford, pp 352-267
- Lawler, K. 2011. *The American Surfer: Radical Culture and Capitalism*. Routledge Advances in Sociology: New York
- Lazarow, N. 2007. The value of coastal recreation resources: a case study approach to examine the value of recreational surfing to specific locales. *Journal of Coastal Research* **50** pp 12-20

- Lazzarato, M. 1996. Immaterial Labour. In P. Virno and M. Hardt (Eds) *Radical thought in Italy: a potential politics*. University of Minnesota Press: Minneapolis, pp 133-150
- Lewis, N., Larner, W. and Le Heron, R. 2008 The New Zealand designer fashion industry: making industries and co-constituting political projects. *Transactions of the Institute of British Geographers* **33**(1) pp 42-59
- Ley, D. 2003. Artists, aestheticisation and the field of gentrification. *Urban Studies* **40**(12) pp 2527– 2544
- Leyshon A. 2009. The Software Slump? Digital music, the democratisation of technology, and the decline of the recording studio sector within the musical economy. *Environment and Planning A* **41** pp 1309-1331
- Lincoln, Y. S. and Guba, E. G. 1985. *Naturalistic Enquiry*. Sage Publications: London
- Lorenzen, M., Scott, A. J. and Vang, J. 2008. Editorial: Geography and the Cultural Economy. *Journal of Economic Geography* **8** pp 589-592
- Lupton, D. 1998. *The emotional self*. Sage: London
- Mackian, S. 2004. Mapping reflexive communities: visualizing the geographies of emotion. *Social and Cultural Geography* **5** pp 615-631
- Malecki, E. 2010. Global Knowledge and Creativity: New Challenges for Firms and Regions. *Regional Studies* **44** pp 1033-1052
- Malmberg, A. and P. Maskell. 2002. The elusive concept of localisation economies: towards a knowledge-based theory of spatial clustering. *Environment and Planning A* **34** pp 429-449
- Marcus, B. 2007. *The Surfboard: Art, Style, Stoke*. MBI Publishing: Minneapolis

- Massey, D. 1984. *Spatial Divisions of Labour: Social Structures and the Geography of Production*. MacMillan: London
- Marx, K. 1962. *Capital Volume 1*. J. M. Dent and Sons: London. Translated from the fourth German Edition
- Marx, K. 1972. *Grundrisse: Foundations of the critique of Political Economy*. Penguin: London
- May, K. G. 2002. *Golden State, Golden Youth: The California Image in Popular Culture, 1995-1966*. University of North Carolina Press: Chapel Hill
- Mayes, R. 2010. Postcards from Somewhere: 'marginal' cultural production, creativity and community. *Australian Geographer* **41**(1) pp 11-23
- McDowell, L. and Court, G. 1994. Missing Subjects: Gender, Power and Sexuality in Merchant Banking. *Economic Geography* **70**(3) pp 229-251
- McDowell, L. 1997. *Capital Culture: Gender at Work in the City*. Blackwell: Oxford
- McDowell, L. 2001. Father and Ford revisited: gender, class and employment change in the new millennium. *Transactions of the Institute of British Geographers* **26** pp 448-464
- McRobbie, A. 2002. Clubs to companies: notes on the decline of political culture in speeded-up creative worlds. *Cultural Studies* **16** pp 516-531
- McRobbie, A. 2004. A Mixed Economy of Fashion Design. In A. Amin and N. Thrift (Eds) *The Oxford Cultural Economy Reader*. Oxford University Press: Oxford, pp 3–14
- Mitchell, D. 1996. *The Lie of the land: Migrant Workers and the California Landscape*. University of Minnesota Press: Minneapolis
- Mitchell, T. 1995. There's no such things as culture: towards a re-conceptualisation of the idea of culture in geography. *Transactions of the Institute of British Geographers* **20**(1) pp 102-116

- Mitchell, T. 2008. Rethinking economy. *Geoforum* **39** pp 1116-1121
- Molotch, H. 2002. Place in product. *International Journal of Urban and Regional Research* **26** pp 665-88
- Morgan, K. 1997. The learning region: institutions, innovation and regional renewal, *Regional Studies* **31** pp 491-503
- Morini, C. 2007. The feminisation of labour in cognitive capitalism. *Feminist Review* **87** pp 40-59
- Moser, P. 2008. *Pacific passages: an anthology of surf writing*. University of Hawai'i Press: Honolulu
- Moss, P. 1997. Negotiating Spaces in Home Environments: Older Women Living with Arthritis. *Social Science and Medicine* **45**(1) pp 23-33
- Moss, P. 2001. *Placing Autobiography in Geography*. Syracuse University Press: New York
- Nash Information Services. 2011. U.S. Movie Market Summary 1995-2010. Available: <http://www.the-numbers.com/market>
- Negus, 2002. The Work of Cultural Intermediaries and the Enduring Distance Between Production and Consumption. *Cultural Studies* **16**(4) pp 501-515
- O'Connor, J. 2007. *The cultural and creative industries: a review of the literature*. A report for Creative Partnerships: Arts Council England
- Oakley, K. and A. C. Pratt 2010. Brick Lane: community-driven innovation. In *Local Knowledge: Case studies of four innovative places*. NESTA. London, National Endowment for Science, Technology and the Arts, pp 28-39
- Osmond, G. 2010. Myth-making in Australian Sport History: Re-evaluating Duke Kahanamoku's Contribution to Surfing. *Australian Historical Studies* **42**(2) pp 260-276



- Paterson, M. 2009. Haptic geographies: ethnography, haptic knowledge and sensuous dispositions. *Progress in Human Geography* **33**(6) pp 766-788
- Pearson, K. 1979. *Surfing Subcultures of Australia and New Zealand*. University of Queensland Press: St Lucia
- Peck, J. 1995. *Workplace*. Guilford: New York
- Peck, J. 2004. Geography and public policy: constructions of neoliberalism. *Progress in Human Geography* **28**(3) pp 392-405
- Peck, J. 2011. Zombie neoliberalism and the ambidextrous state. *Theoretical Criminology* **14** pp 104-110
- Peet, R. 1997. The cultural production of economic forms. In R. Lee and J. Wills (Eds) *Geographies of Economies*. Edward Arnold: London, pp 37-46
- Peet, R. 2000. Culture, imaginary, and rationality in regional economic development. *Environment and Planning A* **32** pp 1215-1234
- Pile, S. 2010. Emotions and affect in recent human geography. *Transactions of the Institute of British Geographers* **35** pp 5-20
- Pollard, J. S. 2003. Small firm finance and economic geography. *Journal of Economic Geography* **3** pp 429-452
- Ponting, J. 2009. Projecting paradise: the surf media and the hermeneutic circle in surfing tourism. *Tourism Analysis* **14** pp 175-185
- Power, D. and Hellencreutz, D. 2010 Competitiveness, Local Production Systems and Global Commodity Chains in the Music Industry: Entering the US Market. *Regional Studies* **41** pp 337-389
- Power, D. and Scott, A. (Eds) 2004. *Cultural industries and the production of culture*. London: Routledge

- Pratt, A. C. 1997. *The cultural industries production system: a case study of employment change in Britain 1984-1991*. *Environment and Planning A* **27** pp 1953-1974
- Pratt, A. C. 2004a. Creative clusters: towards the governance of the creative industries production system? *Media International Australia* **112** pp 50-66
- Pratt, A. C. 2004b. The Cultural economy: A Call for Spatialised Production of Culture Perspectives. *International Journal of Cultural Studies* **7**(1) pp 117-128
- Pratt, A. C. 2005. Cultural industries and public policy: an oxymoron? *International Journal of Cultural Policy* **11**(1) pp 31-44
- Pratt, A. C., Gill, R. C. and Spelthann, V. 2007. Work and the City in E-Society: A critical Investigation of the Socio-spatially Situated Character of Economic Production in the Digital content Industries, UK. *Information, Communication and Society* **10**(6) pp 921-941
- Pratt, A. C. 2009a. The Creative and Cultural Economy and the recession. *Geoforum* **40**(4) pp 495-496
- Pratt, A.C. 2009b. Cultural economy. In R. Kitchen and N. Thrift (Eds) *International Encyclopedia of Human Geography*. Elsevier: Oxford, pp 407-410
- Pratt, A. C. 2011a. An economic geography of the cultural industries. In A. Leyshon., L. McDowell and R. Lee (Eds) *The Sage Compendium of Economic Geography*. Sage: London, pp 323-338
- Pratt, A. C. 2011b. Clustering of the media industries in London. In R. G. Picard and C. Karlsson (Eds) *Media Clusters*. Edward Elgar: Cheltenham

- Pratt, A.C. and Jeffcutt, P. 2009. Creativity, Innovation and the Cultural economy: Snake Oil for the 21<sup>st</sup> Century? In A.C. Pratt and P. Jeffcutt (Eds) *Creativity, innovation in the cultural economy*. Routledge: London, pp 1-20
- Preston-Whyte, R. 2002. Constructions of surfing space at Durban, South Africa. *Tourism Geographies* 4 pp 307-328
- Quiksilver. 2010. *Annual Report* (including SEC Form 10-K). New York: US Securities and Exchange Commission
- Rantisi, N. 2002. The local innovation system as a source of ‘variety’: openness and adaptability in New York’s garment district. *Regional Studies* 36 pp 587-602
- Rantisi, N. M. 2004. The designer in the city and the city in the designer. In D. Power and A. J. Scott (Eds) *Cultural industries and the production of culture*. London: Routledge, pp 91-109
- Rice, P. L. And Ezzy, D. 1999. *Qualitative Research Methods: A Health focus*. Oxford University Press: Melbourne
- Richards, M. 2011. *Surfboard Design*. Swellnet Surf Politik. Available: <http://www.swellnet.com.au/forums>
- Riessman, C. K. 1994. *Narrative Analysis*. Sage: London
- Rip Curl. 1997. *Riding Change and the International Wave* [Video]. Video education Australia: Bendigo
- Rizzo, P. 2010. U.S. surfboard-makers thrive in choppy waters: cheap boards from Asia change an industry, maybe for the better? *MSNBC Business Report*. Available: [www.msnbc.com/id/38472495/ns/business-us](http://www.msnbc.com/id/38472495/ns/business-us)
- Rodgers, J. (Ed) 1989. *Precarious jobs in labour market regulation: the growth of atypical employment in Western Europe*. Free University of Brussels Press: Brussels

- Rose, G. 1997. Situating knowledges: positionality, reflexivities and other tactics. *Progress in Human Geography* **21** pp 305-320
- Ross, A. 2003. *No-collar: The Humane Workplace and its Hidden Costs*. Basic Books: New York
- Ross, A. 2006. Nice work if you can get it: the mercurial career of creative industries policy. *Work Organisation, Labour and Globalisation* **1**(1) pp 13-30
- Ross, A. 2009. *'Nice work if you can get it': life and labour in precarious times*. New York University Press: New York
- Santa Cruz Daily. 1885. *Hawaiian Princes' Surf-Swimming Exhibition in Santa Cruz*. Monday 20<sup>th</sup> July p 2
- Schultz, T. C. 2009. *The Surfboard Cradle to Grave Project*. Master's Thesis. University of California: Berkeley
- Schumpeter, J. A. 1934. *The Theory of Economic Development*. Harvard University Press: New York
- Scott, A. J. 1984. 'Territorial reproduction and transformation in a local labour-market: the animated film workers of Los Angeles'. *Environment and Planning D: Society and Space* **2**(2) pp 277-307
- Scott, A.J. 1988. *New Industrial Spaces*. Pion: London
- Scott, A. J. 1996. The craft, fashion, and cultural-products industries of Los Angeles: competitive dynamics and policy dilemmas in a multi-sectoral image producing complex. *Annals of the Association of American Geographers* **86** pp 306-323
- Scott, A. J. 1997. The cultural economy of cities. *Journal of Urban and Regional Research* **21** pp 323-339

- Scott, A. J. 1999. The US recorded music industry: on the relations between organization, location, and creativity in the cultural economy. *Environment and Planning A* **31** pp 1965-1984
- Scott, A. J. 2000. *The cultural economy of cities*. Sage: London
- Scott, A. J. 2002. A new map of Hollywood: the production and distribution of American motion pictures. *Regional Studies* **36**(9) pp 957-975
- Scott, A. J. 2004. Hollywood and the world: the geography of motion-picture distribution and marketing. *Review of International Political Economy* **11** pp 33-61
- Scott, A. J. 2006. Creative cities: conceptual issues and policy questions. *Journal of Urban Affairs* **28**(1) pp 1-17
- Sharp, J. 2009. Geography and gender: what belongs to feminist geography? Emotion, power and change. *Progress in Human Geography* **33** pp 74–80
- Skelton, T. and Valentine, G. 2005. Exploring Notions of Masculinity and Fatherhood: When Gay Sons Come Out to Heterosexual Fathers. In B. Van Hoven and K. Horschelmann (Eds) *Spaces of Masculinities*. Routledge: London, pp 207- 221
- Smith, A. 2005. Conceptualising City Image Change: The 'Re-Imaging' of Barcelona. *Tourism Geographies* **7**(4) pp 398-423
- Smith, M., Davidson, J., Cameron, L. and Bondi, L. (Eds) 2009. *Emotion, place and culture*. Ashgate: Aldershot
- Stedman, L. 1997. From Gidget to Gonad Man: Surfers, Feminists and Post Modernisation. *Australian and New Zealand Journal of Sociology* **33**(1) pp 75-90
- Stern, D. H. and Cleary, W. S. 1963. *Surfing Guide to Southern California*. The Fitzpatrick Company: Malibu

- Stewart, R., Skinner, S., and Edwards, A. 2008. Cluster theory and competitive advantage: the Torquay surfing experience. *International Journal of Sport Management and Marketing* **3**(3) pp 201-220
- Surf Industry Manufacturers Association (SIMA). 2008. *Retail distribution study custom data request*. Boulder: Leisure Trends Group
- Surfing Australia. 2010. *Annual Report on Surfing Participation*. Available: [www.surfindustry.com.au](http://www.surfindustry.com.au)
- Thien, D. 2005. After or beyond feeling? A consideration of affect and emotion in geography. *Area* **37** pp 450-456
- Thornton, S. 1995. *Club cultures: music, media and subcultural capital*. Wesleyan University Press: Middletown
- Thrift, N. 2004. Intensities of feeling: towards a spatial politics of affect. *Geografiska Annaler Series B: Human Geography* **86**(1) pp 57-78
- Throsby, D. 2008. The concentric circles model of the cultural industries. *Cultural Trends* **17** pp 147-164
- Time Magazine Inc. Author unknown. *LIFE*. Time Inc. 28<sup>th</sup> August p 116
- Tourism Research Australia. 2011. *International and Domestic Visitor Survey*, year ending June 2011: Gold Coast, Queensland
- Trask, H. K. 1993. *From a Native Daughter: Colonialism and Sovereignty in Hawai`i*. University of Hawai`i Press: Honolulu
- Urry, J. 1995. *Consuming places*. Routledge: New York
- Wacquant, L. 2004. *Body and Soul: Ethnographic Notebooks of an Apprentice Boxer*. Oxford University Press: New York
- Wacquant, L. 2005. *Pierre Bourdieu and Democratic Politics*. Cambridge: Polity Press

- Waite, G. and Duffy, M. 2010. Listening and tourism Studies. *Annals of Tourism Research* **37**(2) pp 457-477
- Waite, G., and Warren, A. 2008. Talking shit over a brew after a good session with your mates: surfing, space and masculinity. *Australian Geographer* **39** pp 353-365
- Walker, I. H. 2008. Hui nalu, beach boys and the surfing border-lands of Hawai`i. *The Contemporary Pacific* **20**(1) pp 89-113
- Walker, I. H. 2011. *Waves of Resistance: Surfing and History in Twentieth-Century Hawai`i*. Honolulu: University of Hawai`i Press
- Warren, A. and Evitt, R. 2010. Indigenous hip hop: overcoming marginality, encountering constraints. *Australian Geographer* **41**(1) pp 141-158
- Warren, A. and Gibson, C. in press. Blue-collar creativity: re-framing custom car culture in the imperilled industrial city. Forthcoming in *Environment and Planning A*
- Warshaw, M. 2005. *The encyclopaedia of surfing*. Harcourt: Orlando
- Watson, A. 2008. Global music city: knowledge and geographical proximity in London's recorded music industry. *Area* **40** pp 12-23
- Weber, M. 1947. *The Theory of Social and Economic Organisation*. Oxford University Press: Oxford
- Weber, M. 1958. *The Protestant Ethic and the Spirit of Capitalism*. Charles Scribner's Sons: New York
- Wiles, J. L. and Rosenberg, M. W. 2005. Narrative Analysis as a Strategy for Understanding Interview Talk in Geographic Research. *Area* **37**(1) pp 89-99
- Williams, L. 1976. Bob Simmons Malibu Circa 1947. *Surfer Magazine* **17**(2) p 46
- Williams, R. 1977. *Marxism and literature*. Oxford: Oxford University Press

- Williams, S. J. 2001. *Emotion and social theory: corporeal reflections on the (ir)rational*. London: Sage
- Willis, P. 1990. *Common Culture: Symbolic Work at Play in the Everyday Cultures of the Young*. Westview Press: Boulder
- Wood, N. and Smith, S. J. 2004. Instrumental routes to emotional geographies. *Social and cultural Geography* 5(4) pp 533-548
- Yeung, H. 2005. Rethinking Relational Economic Geography. *Transactions of the Institute of British Geographers* 30(1) pp 37-51
- Young, N. 2008. *The Complete History of Surfing: From Water to Snow*. Gibbs Smith: Utah
- Zukin, S. 1988. *Loft Living: Culture and Capital in Urban Change*. London: Radius
- Zukin, S. and Braslow, L. 2011. The life cycle of New York's creative districts: Reflections on the unanticipated consequences of unplanned cultural zones. *City Culture and Society* 2(3) pp 131-140

### **List of websites:**

- Association of Surfing Professionals: <http://www.aspworldtour.com/>
- Australian Heritage Council: <http://www.environment.gov.au/heritage/ahc/index.html>
- Australian Surf Business Magazine: <http://www.asbmag.com//>
- Bishop Museum of Polynesian Cultural Heritage: <http://www.bishopmuseum.org/>
- Cultural Asset Mapping in Regional Australia (CAMRA): <http://culturemap.org.au>
- Surf and Soul Chinese Manufacturers: <http://www.surfandsoul.com>
- Surf Industry Manufacturers Association: <http://www.sima.com/>
- Surf World Museum: <http://www.surfworld.org.au/>
- Surfer Magazine: <http://www.surfermag.com/>



Surfer's Journal: <http://www.surfersjournal.com/>

Surfing Australia: <http://www.surfindustralia.com/>

Surfing Heritage Foundation: <http://www.surfindheritance.org/>

Swaylocks Shaping forum: [www.swaylocks.com](http://www.swaylocks.com)

Swellnet Surf Politics forum: <http://www.swellnet.com.au/news/surfpolitik>

The Surf Research Organisation: [www.surfresearch.com.au](http://www.surfresearch.com.au)

Tracks Magazine: <http://www.tracksmag.com/>



The Scott Dillon surfboard factory in Bondi, circa 1957 (Source: Scott Dillon collection)

There has got to be a time when you've got everything done and you can just go surf. But failing that ideal condition - you just go surf anyway and at the end of the day you stride home, head clear, cares washed away. (Californian surfer/shaper Phil Edwards)