

Livestock Livelihoods:
Growers' Perspectives on the Production and Sale of Australian Wool

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ABSTRACT

The wool industry in Australia is illustrative of clashes of the nation's paradoxes: ecological stewardship is coupled with degradation, on-farm traditions are blended with an ability to adapt to changing markets, and sheep are subject to ethically-questionable procedures while simultaneously being held as a symbol of pride, resilience, and national identity. All of these paradoxes exist on what is the production side of the wool industry. Yet there's more to the story of wool once it's grown and shorn. Wool has a spatially and temporarily extensive commodity chain, with production, processing, and marketing literally spanning the globe from Australia to China to the United States and other countries. This paper constructs a political ecology of the Australian wool industry focusing on woolgrower and marketing narratives as well as economic and animal rights controversies. It examines the myriad of processes that define and are defined by wool as a cultural object. This paper argues that the alignment of unique social, cultural, and economic conditions resulted in the semi-success of one particular consumer driven animal rights campaign. It cautions that consumers should be wary of market-based improvements to certain industries and remain critical of changes within those industries.

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Introduction

Australia is a nation of paradoxes. With a culture concurrently seeded in British history and a created Australian identity, Australian society mingles ideas of tradition and innovation. Boasting one of the largest economies in the world, Australian economics revolves around the service industry and agriculture. At the forefront of Australian agriculture is wool, with Australia, until recently, contributing the largest amount of wool to the global market (Henry 2012). Geographically speaking, although isolated, Australia has access to strategic markets in East Asia and the Middle East, particularly for wool processing and “live export” markets in which live animals are exported to countries in order to allow for in-country slaughter. The vast amounts of undeveloped drought-stricken land in Australia, and the unique climatic conditions, provide an ideal space for large-scale animal agriculture, particularly for animals as resilient as sheep.

The wool industry illustrates clashes in Australia’s cultural paradoxes. On the one hand, it’s rooted in tradition, as sheep came to the continent with the first Europeans. Sheep are an icon, from the 50-foot tall Merino statue in New South Wales, to the quintessential Australian meal of lamb, to the prominently featured “jumbuck” in Australia’s most famous bush ballad, “Waltzing Matilda.” Many Australians embrace these symbols with pride, but at the same time the wool industry has been the focus of key animal welfare controversies. Farmers, or woolgrowers, are stuck in the clash between appreciation of tradition and social progressiveness. Voter and lawmaker disputes cause the status of the wool industry to flip-flop between stringent regulations for on-farm practices and woolgrower autonomy. So how do the woolgrowers feel about all of these issues? Where do Australians stand on traditional growing and marketing methods? How

do they respond to controversies? How do they make moral tradeoffs when it comes to growing techniques involving live animals?

This paper attempts to tackle these and other questions by looking at Australia's history as a wool power, cultural symbols surrounding woolgrowing, the unique aspects of the Australian geography, Australia's role in the international wool trade, and animal welfare issues within the industry. The main framing question for this paper was: How effective are market-based solutions to ecological and social problems? Situating my research in this concept led to the following focused question: What are the cultural politics of wool, including the processes and forces shaping wool as a commodity and how do woolgrowers in Australia cope with and respond to global concerns locally?

Through my analysis of the *Fibre of our Nation* competition (The Woolmark Company 2012) and the interviews I conducted, I've found that there are several key topics repeatedly emphasized by the woolgrowers, wool marketers, and people otherwise involved in the industry that I interacted with. These topics are: emphasis on the generational aspects of wool farming and the inheritance of farms through multiple generations, a unique farmer relationship to the Australian biophysical environment, and the intrinsic value of wool as a product. This paper confronts these topics and how they relate to the wool industry in light of its commodity chain, working within the framework of political ecology.

Political Ecology as a Framework

Broad and interdisciplinary, the framework of political ecology does not have a strict definition. Roughly, it examines the intersections of various forces: political, ecological, economic, social, and cultural. Political ecology looks at each of these

dynamisms and sees how they affect and are affected by each other. For instance, it studies how cultural forces affect an area that is simultaneously affected by ecological trends. Political ecology deals with complexities of relationships between humans and natural environments (Minch 2011). Furthermore, political ecology operates with “an understanding that nature and society are produced *together* in a political economy that includes humans and non-humans,” (Robbins et al. 2011, 6). That is to say, nature and society are both subject to social constructions and are fashioned simultaneously, with each critically impacting the meaning of the other.

A political ecology focuses on both human and non-human actors, which are shaped not by individual choice, but rather by their relation to each other (Murdoch 1997). The interplay between these actors is what Latour (2005) defines as a network: a process with its own momentum that connects these actors in which the actors don't have free agency but are given the capacity to act by their position in a web of connections.

The ways that this paper works with political ecology are by examining some of the actors involved in the web of connections that make up the industry. It assesses forces influencing and molding the wool industry: a long history of Australian fine wool production, woolgrowing as a cultural symbol amongst both Australia as a nation and for woolgrowers on an individual level, the unique aspects of the Australian climate, international trade and marketing, animal welfare issues and animal rights groups, and animal and land ethics. Each of these forces affect and are affected by each other, resulting in a distinctive industry that is difficult to compare to other industrial animal agricultural operations.

As Don Mitchell explains, “cultural objects are actively made, and this process furthers political and economic effects and purposes” (2000, 82). I argue that woolgrowing and its interactions with various forces create a wool producing identity and define wool as a cultural object. Outsiders’ views of these producers, and producers’ personal identity, are impacted by the history of woolgrowing and the processes of production as part of the wool commodity chain.

Woolgrower identity is as much a cultural symbol as wool itself. The labor they do as well as how they interact with sheep, the land, and animal welfare groups creates their identity. Producers want to be perceived as producing highest quality wool and they take pride in the years of breeding they have completed to achieve their sheep breeds. The processes they use to produce wool are intrinsic to their identity.

A big force acting on the wool industry is globalization and a separation of product from these processes. The majority of the wool produced in Australia is not consumed there, and consumers may find it difficult to get information on the source of their wool products due to spatial and temporal challenges of a wool market that exists on a global scale. As Prudham notes, “One of the most commonly noted features of commodities in the contemporary world is that it is by no means obvious to curious consumers where commodities originate and what kinds of social and environmental inputs went into their production and circulation,” (2009, 133). This is especially true in the merino wool industry as wool is produced in Australia, processed in China, and sold in the United States and other countries. The spatial and temporal time scales of wool make it difficult for consumers to interact with or be aware of the production of wool commodities. Because wool is processed and sold abroad, the power to construct the narrative of its production is

in the hands of the marketers of the wool rather than the growers or processors. There is no direct link between grower and consumer.

I argue that the wool industry is currently in a state of flux with consumers desiring more information about their products. It is also a period of increasing transparency because of animal rights campaigns. Animal rights groups like PETA provide critiques of the woolgrowing process that encourage consumers to seek more information about their products. Consumers are attempting to persuade woolgrowing groups to make changes that lessen the negative impacts the industry has on animal welfare. The impacts they have had to date on the industry show that consumer advocacy can, in some specific instances, impact large industry. Yet I say this with caution. Changes achieved are not always exactly what consumers desired and these changes can have unforeseen impacts on the industry.

Nation-State Focus

I've chosen to study issues on a national and global level, with the nation being the unit of focus. Although some of the controversies I explore span multiple wool producing nations, the distinctive spatial and climatic challenges that Australian woolgrowers deal with are something that is unique to the Australian experience. Additionally, many of the laws and policies for wool are set at a national level. Viewing the geographic and political Australia as a whole allows for a broader investigation of national policy, ecological impacts of the industry, and characteristics of the national economy.

To view the industry through a political-ecologic lens using nation-states as actors is only one unit of analysis. There is the potential to do this analysis at other levels, but the nation-state level is the one I am most interested in. The main nation-actors of focus in this

study are Australia, the United States, and China. They have separate, autonomous governments and participate in global trade with each other as nation-state units.

While this paper covers a broad range of topics, it is in no way comprehensive. There are several key issues that I will not attempt to assess in depth because of the nature of this thesis. These topics are namely gender and race issues in the wool industry and issues surrounding indigenous land rights. These topics are substantial enough to warrant separate treatment that is beyond the scope of the current work.

Methods

I primarily used anthropological methods including participant observation and informal interviews to conduct research for this project. Participant observation and interviews were conducted on four different farms across Australia in New South Wales, Western Australia, and South Australia. These farms varied in size from 1,000 acres to 500,000 acres. All of them were run and maintained by married couples. Farms were chosen through the Australian Willing Workers on Organic Farms organization. I tried to select farms that represented a variety of management practices, climatic conditions, and levels of integrated farming techniques. Couples owned two of the farms, one was recently inherited, and one was rented. I chose farms in multiple states in order to assess differences across state lines that could be due to varying levels of accessibility and isolation as well as differences in state laws and climate. I kept a field journal throughout my stay in Australia.

I used narrative and content analysis to examine the interviews and coding for field notes from participant observation. Additionally I performed a narrative analysis on videos submitted for an Australian Wool Innovation contest called *Fibre of Our Nation* (The

Woolmark Company 2012). I also used informational interviews with PETA Australia and the Jondaryan Historic Woolshed, Queensland's oldest operating woolshed, to supplement my study.

A Note on Methods

Before doing farm visits, I lived and studied in Sydney and Brisbane for three months as part of a study-abroad program. This allowed me to experience Australian city culture, as well as take several trips into rural and outback areas.

On all of the farms I visited, I worked as a farm hand (also known as a jillaroo) for one week. I shared meals and housing with the families that owned the farms. Sometimes there were other workers at the farms where I stayed; other times I was the only non-family worker. The owner of one of the farms I worked on also worked as a shearing contractor, so I was able to travel with a group of five shearers to visit other farms for shearing. This let me see the shearing side of the industry from an interesting perspective. I was also able to work with a wool classer with decades of experience at the wool table. One farmer let me tag along to a lamb auction where I saw how lambs and adult sheep are bought and traded. The last farm I was working on was shearing during the second half of my visit, so I experienced the busiest time of the year for the farm and participated in shearing from the farmer management side. At almost all of the farms I worked on I was able to visit neighboring farms and chat with community members.

I mustered on foot, from the backs of trucks, on ATVS, dirt bikes, and even from a small plane. I learned to drive a manual transmission truck and got lost in the vast paddocks more than once. I ate kangaroo tail and mutton and spent nights in local pubs filled with woolgrowers. Not all of my experiences were pretty. I saw mulesing and tail

clipping in action and I went to the local butcher to pick up five “processed” sheep that had been taken in earlier in the week. Afterwards, I was up to my elbows in innards, chopping up three-pound sheep livers to feed to the sheepdogs. I saw suffering fly-struck sheep and abandoned lambs and had to assist in disposing of dead sheep carcasses more than once.

I feel it’s necessary to mention these experiences because the phrases “participant observation” and “informal interviews” don’t fully capture the gamut of experiences that I found on my travels in Australia. By being a part of both the beautiful and horrifying parts of the industry and immersing myself in the Australian wool growing experience yet maintaining my “researcher’s eye,” I was able to gain a unique perspective on the industry that I feel gives me the authority to speak on some of the issues this paper addresses. The stories, experiences, people, and places were rich and diverse, and I hope that this paper represents that accurately.

My methodology was hardly conventional: I combined very specific, ethnographic research with a large political ecology analysis that focused on cultural politics. In other words, I took the rich, qualitative data I obtained from interviews, participant observation, and content analysis and situated it within my larger body of research of history, economics, and social conditions. I viewed my qualitative data as one piece of a much larger web of interactions of a complex system.

My decision to use a political ecology framework reflects a desire to be more comprehensive than ethnography alone. By situating ethnographic data within such a framework, my study becomes more applicable to other instances of animal agriculture, industrial farming, advocacy campaigns, and global commodity trade because the framework outlines a specific way of thinking. It outlines a relevant approach to thinking

about large systems of interaction that are intimately seeded in identity and cultural politics as well as the relations consumers have with their products and their producers.

History of the Industry: Australia as a Wool Power

To understand how the wool industry in Australia has gotten to be what it is today, it's necessary to understand how and why settlers first turned to woolgrowing in Australia. Sheep were brought to Australia with the first European settlers in 1788 (Keneally 2007, Massy 2007). These would be the first of many sheep to come to Australia from South Africa and India during colonization. Wool and wheat were some of the only agricultural products the British could successfully produce because of the harsh Australian soil and climate and are therefore often given credit for the survival of early colonists (Keneally 2007). By the 1830s, Australia dominated the global wool industry and Australia's wool exports helped sustain the Australian economy (Massy 2007, Sneddon and Rollin 2010). It's interesting to note here that wool has always been an export-oriented product. Even in the early 19th century, wool was being exported due to the large amount of production and low levels of domestic demand.

The climatic conditions that made wool growing successful in Australia, combined with growing demand in markets overseas, drove Australian woolgrowers to selectively breed to produce the finest wool possible using the fewest sheep in order to maximize profits and minimize costs.

Sheep have been selectively bred for hundreds of years. They were the third animals to be domesticated by humans and initially had hair-like coats that they shed with an undercoat of wool. It was selective breeding that resulted in a wool coat that could be shorn, spun, and woven for textile purposes (Massy 2007).

By 1910, Australian breeders had successfully created a “bastard” sheep, with the genes of over twenty different sheep breeds, which was well adapted to the climate of Australia and the needs of woolgrowers (Massy 2007). Thus begins the story of the Australian Merino industry. As Charles Massy, a noted historian of the wool industry and a wool farmer himself, explains, it was a unique combination of climatic factors, people, and economic conditions that created the wool industry that is still so prominent today. He says,

“My experiences and research have revealed that the three key ingredients involved in the creation of the Australian Merino—first, an ancient land of vast extent and unreliable rainfall, in which drought and economic recession are recurring events; second, men and women of vision, big hearts and creative hands and minds; and third, an animal of mixed genetic background—all had one thing in common: they were indeed as hard as warrigals,” (Massy 2007, xxi). [A warrigal is an Australian slang term referring to a wild dingo or horse].

As Massy explains, the land, the workers, and the sheep were all tough and resilient, allowing for the evolution of a successful industry. An interesting ingredient that Massy excludes from this recipe is the global demand for wool, particularly merino wool. Without the heavy demand for wool outside of Australia and the ability to transport that wool, the industry never would have developed in the way that it did.

Australia today has about 71.7 million sheep (AWI 2015) and over 30,000 woolgrowers (AWEX 2014), although these numbers have been declining pretty steadily since the 1990s (Curtis 2009). Sheep occupy about 40% of all agricultural land in Australia

and in 2006, the wool industry contributed \$2.7 billion to the Australian economy (Cottle 2010).

As Massy indicates, it was the resilience of farmers, a new and unique land, and specialized animals that birthed the industry. Indeed, it is the conquering of obstacles and images of toughness that characterize the industry today. Overcoming climatic challenges and dealing with international trade and economic demand have defined the wool industry. These and other forces have contributed to the formation of wool as a cultural symbol.

Woolgrowing as a Cultural Symbol

The act of woolgrowing in Australia, from its colonial roots to its existence in today's modern society, heavily impacts and is impacted by specific imagery, symbols, and identity surrounding wool. To construct a political ecology of wool, it is crucial to understand these concepts and how they fit into a larger Australian identity.

Images of Australian woolgrowers and woolsheds fall seamlessly into the collection of Australia's symbolic history and identity. In his article for "The Australian," historian Massy explains, "Until 1991, wool had been the backbone of the nation's economy for 150 years. The industry had helped shape much of modern Australia, its national character and distinctive culture. A merino ram's head had adorned the shilling coin and industry notables stared out from decimal notes," (2013). Because Australia had such a great economic reliance on wool and sheep, particularly in times of recession, wool has become a great symbol of nationhood and pride, and is often depicted as just that: a symbolic and romanticized resonance of the past that lives on in today's culture.

Woolsheds

The term “woolshed” is used to describe a barn-like structure on a farm, often located close to the residence, where wool is shorn. The woolshed is surrounded by fenced yards, divided into sections and connected via gates that provide a holding and sorting area for sheep that are brought in from the paddocks for shearing. The layout of these yards is often very complicated, with certain yards only accessible via other yards. In my time as a jillaroo, I never completely mastered an understanding of any of the yards I was working in. The farmer would shout directions to other workers and me, instructing us on how to direct and organize the sheep most efficiently. Mistakes led to hours of extra sorting of the sheep or additional mustering. Properly designed woolsheds and yards are the product of good management operations. If organized well, these components lead to a better flow of sheep through the woolshed, better-organized operations, and maximum efficiency.

Woolsheds are depicted in a romantic, legend-like way, as in the book by Australian photographer Andrew Chapman titled *Woolsheds* (2011). The inside cover of *Woolsheds* demonstrates the role of these iconic buildings in the shaping the national identity of resilience and overcoming hardship. It says,

“The Australian woolshed is quintessential Australian architecture, steeped in our history and folklore. Blown by ferocious seasonal winds, bleached bare by hot summer sun, survivors of flood, pests and fire, these buildings are synonymous with the harshness of the surrounding landscape and a testament to farmers’ ingenuity, courage and resourcefulness,” (Chapman 2011).

Woolsheds contribute to the woolgrowing and national identities alongside woolgrowers and wool itself. Because of isolation and the difficulty of transporting materials, most woolsheds were built from local timber and sod. Australian climatic factors as well as

shearing techniques adapted from England led to the development of a distinct Australian architecture (Sowden 1972).

The symbolic nature of the woolshed and its contribution to Australian identity is seen in the preservation of the Jondaryan Woolshed. As a sign outside the entrance to the historic site proclaims, “The historic 142-year-old building is being conserved as a workable woolshed. Exhibition and interpretation methods will be employed to maintain the romantic character of the woolshed and entertain and inform visitors about the woolshed’s special qualities and the fabulous history of the sheep and wool industries.” Not only does this passage emphasize the process of romanticizing woolsheds, it also boasts the uniqueness of the wool industry and its “fabulous” history. Wool and woolsheds are clearly a source of pride for Australia. Soon after entering the premises, visitors are greeted by a large bronze statue depicted a shearmer and a sheep, which serves as a monument to the hard work of both actors. Wool, sheep, and woolsheds are essential non-human symbols for Australian identity. The people involved, namely shearers and woolgrowers, are also key elements.

The Bush Legend

An understanding of the Australian Bush Legend helps to illuminate the role of shearers and woolgrowers in the wool industry. As Robbins (2012) explains, personal identity and the way people view themselves as members of their communities is a product and a driver of their actions (15). A close look at the Bush Legend reveals some of the complexities of the processes forming woolgrowing identity.

Many Australian cultural artifacts depict the harshness of the Australian biophysical environment and the resilience of Australians. These are two elements that are key to

what's known as the "Bush Legend," but they also align with imagery specific to the wool industry. The Bush Legend is a stark contrast to urban life in England in the late 19th century, despite the fact that many Australians were living in urban areas at the time. Shaped by poets Henry Lawson and Banjo Paterson, the Bush Legend emerged as Australia sought to define itself by a unique national identity (White 1981). The legend has a masculine ethos and evokes themes of struggle to overcome environmental challenges and deal with the hardships of the Australian outback. The bushman himself sleeps outdoors, fights bushfires, and is resourceful and independent. Despite this independence, there is a distinct idea of egalitarianism and mateship (White 1981).

The woolgrower, much like the bushman, is brave, hard working, and enduring of the harshness of the Australian climate. As Butzer and Helgren explain, "The early Australian graziers and farmers loved their 'sunburnt land,' despite its 'flood and fire and famine,'" (Butzer and Helgren 2005, 102). The woolgrower also has a keen knowledge of his sheep and wool, knowing when to breed what sheep and when to shear in order to get the highest quantity of high quality wool. As described earlier, he also knows the ins and outs of his farm, navigating the yards, paddocks, and woolshed in the most efficient manner because of his knowledge of these components of his operation. The similarities between the bush legend and woolgrowers shape woolgrower identity on both an individual and a national level. Woolgrowers don't only self-identify within their industry, they identify with the very folk tales that shape Australian national identity and contribute to a modern representation of those legends.

The shearer, like the woolgrower, is depicted as similarly tough. As one farmer explained to me, "Shearers are different than most men." Historically, strong communities

were created between large groups of shearers at shearing time as groups traveled and endured the hardships of seasonal work across the vastness of the Australian continent (Hobson 2002). Often shearers would walk many miles, carrying their belongings and searching for work at woolsheds in the harsh heat and sun. They shared meals together and were away from home for months at a time. The vast amounts of time shearers spent together led to the development of a distinctive shearing culture, with its own traditions and even language (Sowden 1972). This aligns with ideas of “mateship” that characterize an Australian national identity.

Today, shearing isn't as extreme. Many shearers live in rural towns and aren't as nomadic. Shearers provide their own meals and equipment and return home to families and communities outside of shearing (Hobson 2002). Yet mateship is still a key part of shearing. Many of the shearers I worked with were parts of longstanding teams, always working together. They had their own jargon and inside jokes, and spent time together after the workday was over. Additionally, at a farm I worked on in South Australia, shearers did travel to the farm for one to two week periods during shearing time and slept on site.

Shearers play an interesting role in the wool commodity chain because they provide the labor that takes the wool from the sheep's back and turns it into a raw product. As Hobson explains, “Shearers were the most important link in the wool industry chain; once removed from the sheep, wool became a commodity and had a value,” (2002, 13). Furthermore, the shearing process is one of the most mechanized parts of woolgrowing before processing. Again, Hobson puts it well, saying,

“Shearing is a cyclic and repetitive process. The sheep are mustered and shorn each year and shearers arrive each season to remove the wool. Each day is divided into

regular work periods. The same work pattern is followed day-by-day, sheep by sheep, week after week throughout the year. The whole process is repeated year after year" (2002, 10).

Shearing as a profession is characterized by its repetitive nature. Woolsheds are designed to maximize efficiency of shearing, organizing what would otherwise be a nearly impossible task: shearing thousands of sheep within the span of less than a week (Sowden 1972).

The mechanized aspects of shearing are only worsened by the fact that shearers don't get hourly wages. Instead, they get paid by the number of sheep they shear. For the shearers I was working with, that wage was Australian\$3.75 per sheep. An incredibly talented shearer could make about \$300 per day, shearing around 80 sheep in one workday. Although this sounds like a lot, shearing is classified as casual work, meaning that shearers don't qualify for benefits or paid vacations under the Australian system. One farmer I worked with explained that the individual financial boom and bust in terms of payment throughout the year for an individual shearer could be very challenging for people. Oftentimes, it leads to a culture of partying with little planning for the future in terms of savings, with alcoholism being a major problem amongst shearers.

The Australian wool industry, with its woolsheds and shearers, contribute to stories of Australian rural history of the bushman and the outback. These concepts help shape and are shaped by a unique wool-related and national identity. Notably, these stories are directly tied to the Australian biophysical environment, and the unique aspects and challenges of the climate have been key factors shaping Australian identity. Thus, it is

necessary to examine the aspects of the Australian biophysical environment that contribute to the shaping of these identities and symbols.

Australian Biophysical Environment

The unique geography of the landmass that is Australia, coupled with the climatic conditions of the region pose interesting challenges and provide surprising benefits for agriculturists living there. The basis of many cultural symbols from art to music to film, the Australian climate has played a major role in shaping culture, industry, and environmental policy of the nation (White 1981).

The 2.97 million square miles that make up the Australian continent are incredibly geographically diverse. Australia has areas of temperate, subtropical, and tropical rainforest, desert, and grassland. It is the globe's oldest continent currently being inhabited and has vast, flat land and salty ancient soils. The characteristic red sand and rocks that make up the iconic landscape are iron oxides resulting from thousands of years of weathering. The arid nature of the majority of the continent has led to most development occurring in coastal areas. Interior Australia is heavily reliant on groundwater, as many rivers and streams are slow flowing due to the small amounts of rainfall (Blewett 2012).

One of the main aspects of the Australian climate is the frequent occurrence of intense droughts, which lead to erosion and biotic degradation. Many Australian ecosystems are classified as metastable with high resilience (Butzer and Helgren 2005). These ecosystems are not very stable but have a strong tendency to recover from perturbations. Australia is also subject to the effects of the El Niño Southern Oscillation which occurs every two to seven years and leads to drier conditions and increasing occurrence of bushfires in parts of Australia (Partridge 1994).

Fire is a key actor in determining Australian land cover. Many of the plants and animals native to Australia are drought tolerant and pyrophilic, with adaptations that allow them to prosper despite or even due to fire and drought. Aboriginal people practiced fire management before colonization for hunting purposes and to encourage the growth of certain grasses (Butzer and Helgren 2005). European settlement coincides with fire suppression that led to fuel buildup and more intense fires (Butzer and Helgren 2005).

Woolgrowers and the Australian Biophysical Environment

Woolgrowers have always had a unique relationship with the Australian biophysical environment because it demands ingenuity and resilience of agriculturalists. Many of the settlers who practiced early sheep farming were ex-convicts who were shepherds in England, and convicts were selected to work as shearers if they had similar professions in England (Sowden 1972). However, because of the stark land and climatic differences between Britain and Australia, woolgrowers were forced to experiment with stocking rates, which possibly led to overgrazing (Butzer and Helgren 2005). Indeed, early grazing was characterized by trial and error. As mentioned earlier, generational farming is very important to the wool industry. Many techniques that were established early on have been passed down for generations with sometimes little modification.

Overgrazing and subsequent desertification, which is defined as “moderate or severe land degradation in relatively dry areas as a result of human activities as well as adverse climatic trends or periodicities,” have been key focus areas for assessing the ecological impacts of the wool industry in Australia (Butzer and Helgren 2005, 82).

However, the extent of this degradation is still up for debate. One notable aspect of grazing

in Australia is that ruminant livestock is oftentimes grazed on arid and semi-arid land that would otherwise be unfit for other forms of agricultural production (Henry 2012).

From 2002-2007, the Australian Government implemented a program in conjunction with Australian Wool Innovation Ltd. (AWI) of research and development programming directed towards managing natural resources “sustainably and profitably,” (Land & Water Australia 2009). This was a \$40 million program that included research on making saline land profitable, increasing biodiversity on grazing land, and managing climate challenges. In a study funded by AWI within this program, researchers found that the key ecological risks posed by the production of wool was methane emissions that contribute to global climate change. This study explained that overall land was not being degraded and that “Low stocking rate extensive grazing in the pastoral zone can have little if any negative impact and represents a sustainable use of land not suitable for other productive purposes,” (Henry 2012, 43). Notably, this statement presupposes a low stocking rate, something that is difficult to insure all farmers are complying with. Furthermore, this study explained that water use was difficult to measure in the industry because of the reliance on rainwater, natural creeks, and dams (Henry 2012).

Yet even if we accept the above study as absolute truth, there is a serious problem with using it as a measure of the industry’s ecological impacts. The main issue is that this study, and others like it, only assesses the woolgrowing side of the industry. Indeed, there is a lot that goes on after the wool is grown and shorn: it’s transported to auction in Australia, transported overseas, and then undergoes an intense scouring process. Even after that, it still needs to be processed further (spun into yarn, woven, etc.) before it is shipped overseas again to be sold as a final product. And herein lie the real ecological

impacts of the industry. AWI currently markets wool as a “natural” product, running on “air, water, and grass,” (AWI 2015), yet it’s clear that AWI is not accounting for the negative ecological externalities of wool that are essentially shipped off to China, not to mention the fossil fuel reliance in transport of wool within Australia to auctions and overseas.

This is an instance when the power of constructing the current wool narrative has been given to the group representing Australian woolgrowers, AWI. Their marketing of wool as a “natural” product with few inputs is limited in scope and skips the processing link in the production chain. It is here where consumers must look hard to see what’s omitted from the wool narrative of production.

A study by Butzer and Helgren found that many Australians are concerned with and supportive of beneficial land management policies (2005, 102). Woolgrowers and other agriculturalists have to be particularly concerned with the wellbeing of the land, at least locally, because they rely on it for their livelihoods. One farmer explained, “It’s all about management and it has to do with making a living off the land if you rely on the land for an income.”

Some farmers I worked with expressed frustrations at the farming practices of their neighbors. One female woolgrower I spoke with comically summed up some of the challenges that a farmer who is unwilling to adapt his practices can pose to the farming community. She said, “The only thing you can do with a bad farmer is hope he dies. Because he’s not gonna change his ways.” She said this in reference to her father-in-law who was running the station before she inherited it with her husband. One of her major complaints about his management was that it wasn’t changing and adapting with the times. She said, “He was about 86 years old and he thought he was managing the station but he wasn’t. He

was just doing the same thing he'd been doing for 100 years." These statements imply that some woolgrowers believe that a reliance on the land for a living comes coupled with the responsibility to adapt to changes in order to be successful.

Woolgrowers in Australia have to be particularly attuned to the weather on as much as a decadal scale in order to plan flock sizes and account for feed availability. A grower who is unprepared for drought can risk losing all of his flock. One of the woolgrowers I worked with explained that many droughts could be predicted far enough in advance to allow for growers to sell off appropriate amounts of stock. He explained that downsizing for drought can be a good way for growers to get rid of their smaller animals and create a herd with a better gene pool. This seems to imply that growers with good management practices can deal with some droughts and other weather issues that an Australian grower would face. However, it does leave a lot of room for suffering on the part of the sheep in the case of poor management practices or unpredictable droughts. If growers can't afford to buy supplemental feed in times of drought or don't sell off enough stock, their animals could be left to starve.

I spoke with one grandson of a farmer who noted weather-related challenges as one of the main reasons he wouldn't be willing to farm as a career. He explained, "There are too many varying factors that can go wrong, and varying startup costs as well. It's like the weather, the weather can just ruin you completely pretty much...and then you have nothing."

The harshness of the Australian climate can cause destruction to farmers with poor management practices and is one of the major risks associated with the wool industry. Farmers are aware of this and thus adopt varying degrees of ecological stewardship. Many

of the farmers I worked with used integrated farming techniques that allowed for few or no fertilizer and pesticide inputs and more organic forms of pest management. Examples of this include breeding sheep that aren't as susceptible to disease and infestation and planting various herbs that the sheep can eat to prevent certain pest infestations. The farms I worked with relied heavily on native vegetation for feed and did not use irrigation techniques. Water for sheep was sourced from natural springs and rivers as well as rainwater collection. Indeed, many of the farmers I was working with were actively working to improve the state of the land they owned in order to ensure the longevity of their operations.

Yet the on-farm practices of woolgrowers are not impacted solely by human and non-human actors within Australia. The wool industry is very much impacted by actors on a global level, which requires an understanding of the international wool commodity chain.

International Trade

Although sheep are bred, raised, and shorn in Australia, the wool leaves the borders shortly after shearing. The long process that consists of gene selection and breeding, wool growth, shearing, classing, and packing is only the beginning of a much larger, global commodity chain. Around 95% of wool grown in Australia enters international trade (Cottle 2010). Once the wool has gone through these processes on-farm and been packed into 140-200kg bales, most of it is auctioned off through a selling broker. Only about 5-15% of wool is bought privately from the farm via private merchant sales (AWEX 2014) whereas about 85% is sold at auctions (Jackson et al. 2009).

There are a variety of reasons for the emphasis on auction selling of wool. For one, it's a relatively simple concept: farmers send their packed wool to auction where it is sold

to one of a handful of brokers who then take the wool to be processed elsewhere. For farmers, although they are not involved in the direct auctioning of their wool, this system is considered less risky than other methods of selling, such as forward contracts (Jackson et al. 2009). A system of forward contracts involves an agreement between producer and buyer with amounts and prices set in advance. Farmers interviewed said they preferred the auction system because they are less likely to be taken advantage of and also because it has years of infrastructure (Jackson et al. 2009). Reasons why farmers trust this system and mistrust other methods of sale could be linked to the failure of the reserve price scheme, which I explain later, and growers' valuing of long-standing, loyal relationships, linked to the generational tendencies of woolgrowing in Australia.

From Australia, most wool exports are sent to China for cleaning, processing, and the production of yarn (Cottle 2010, Henry 2012, WoolProducers Australia Ltd. 2015). Historically, it was English tradition to clean wool by having the sheep swim across a stream (Sowden 1972). Nowadays, industrialized methods of cleaning post-shearing are used to clean the fleeces. Currently, China is the wool-processing center of the world, importing mostly "greasy" wool that is raw and hasn't been cleaned at all (AWEX 2014, Land & Water Australia 2006). Other classifications are considered semi-processed and include scoured wool which is washed to remove grease and dust and accounted for 5% of exports, carbonized which is washed with the chemical removal of vegetable matter (6%), and tops which is washed, carded, and combed (0.01%) (AWEX 2014). Because it is the main processor of wool, China presumably contributes a large portion of the pollution that results from the wool commodity chain.

The majority of Australian wool produced, historically, has been merino wool. Making up about 79% of the Australian flock, this fine wool is worth much more than merino blends. One way wool quality is quantitatively measured is by the diameter of the fibers in micrometers. Superfine merino wool is between 17 and 12 microns, where merino blends and non-merino sheep can yield wool with a diameter of around 28 microns (AWI 2015). To illustrate the price differentiation between the two, one bale (around 190kg) of 17-micron wool can go for as much as \$1,584, while a 28-micron bale is worth around \$727 (AWEX 2014).

After processing and manufacturing, wool products are exported mainly to developed countries, with the US being the largest export market for wool commodities (Cottle 2010). Historically, Australia has exported over 90% of its shorn wool (Australian Bureau of Statistics 2007). Therefore, the wool commodity chain is characterized by two key relationships for Australia: a dependence on China for demand of raw product, and a dependence on developed countries for a demand of manufactured product. Australia's reliance on China in the wool industry is illustrated by the fact that Australia has very few processing facilities of its own. Furthermore, very little of Australia's shorn wool is "consumed" domestically (Cottle 2010) and therefore a reliance on wool commodity importing nations is a key characteristic of the wool trade. A decrease in demand for wool in a country like the US could lead to a decrease in purchases of manufactured wool commodities from China which would then lead to China offering lower prices to woolgrowers in Australia for their wool. Because of this relationship, groups like AWI that represent woolgrowers, must be attuned to the patterns of international demand for wool.

The export-oriented nature of its wool industry demands that Australian economic policy be tailored to allow for the maximization of wool exports. Similarly, wool must be marketed in a way that is successful in a global market.

Australian Economic Policy

Wool was vital to the growth of Australia as an early nation. Historian Charles Massy refers to wool farming and merino sheep as the backbone in developing Australia's economy and society, because from 1860 and for the next 100 years, Australia's economy was dependent on its wool exports for economic growth (2007, 2013). The global demand for wool has fluctuated through the decades, with a peak in the 1950s and 60s when there were large markets for formal outerwear and synthetic fibers were still new and expensive to produce (Australian Bureau of Statistics 2007, Richardson 2002). However, since the 1990s, there has been an overall decline in the global consumption of wool largely due to the rise in popularity of synthetic fibers. Additionally since the 90s, there has been a demand for lower quality wool and wool blends over high quality merino wool because wool blends are less expensive (Richardson 2002).

One of the biggest economic controversies in the history of the wool industry was the implementation of a reserve price scheme for wool. After World War II, the Australian Wool Board and the Australian Wool Conference were created to advise the government about the industry (Richardson 2002). Against woolgrower's desires, the Australian Wool Board created a floor price for wool. The board designed a system, known as a reserve price scheme, in which the government would purchase wool from farmers and then sell it at a base price (Massy 2013, Richardson 2002). It was believed that this system would provide more stable prices while allowing for international promotion and increased

research and development that would benefit the wool industry in the long run (Richardson 2002). By controlling the supply of wool available for sale, the Australian Wool Board could offset demand shifts.

Reserve price schemes in the past have often failed due to greed. The group in control usually ends up holding back stockpiles of the commodity in order to create artificially high prices, yet consumers are not willing to purchase the commodity at inflated prices and the system collapses (Massy 2013). And indeed, the shift of the wool industry from relying on market forces to relying on industry politics led to huge losses, the weight of which was borne by woolgrowers, taxpayers, and consumers in a market crash in February of 1991, amounting to about Australian\$1 billion in losses (Massy 2013, Richardson 2002). The 1991 collapse of the wool reserve price scheme was the biggest crash the Australian economy has ever experienced, and today the wool industry is only a third the size of what it was in 1990 (Massy 2013). Because of this failure, the wool industry today experiences much less governmental intervention and is more exposed to market forces (Richardson 2002).

Wool industry politics remain a hotly debated topic. On the one hand, the failure of the reserve price scheme created economic losses that woolgrowers still bear and perhaps may not be able to recover from. On the other hand, recent creative marketing campaigns spearheaded by Australian Wool Innovation (AWI) that are geared towards the versatility of wool, including its use in home furnishings and sportswear, have been arguably keeping the industry afloat (AWI 2015).

Other economic challenges for the industry have been caused by animal welfare campaigns against practices within the industry. These campaigns have had serious

impacts on demand for wool and have also led to changes in regulation of on-farm practices, particularly the practice of mulesing, which will be described below. Animal welfare groups have been another key actor in shaping the political ecology of the wool industry. Simultaneously interacting consumers, producers, and the sheep themselves, these groups affect and are affected by many of the actors that are a part of the web of relations within the wool industry.

Wool Farming, Ethics, and Moral Weighting

Day-to-Day Ethics

The moral decisions farmers must make on a daily basis, and the way they value other animals, are keys to defining woolgrower identity, and play a key role in shaping the political ecology of the industry.

In order to work in an industry that relies on living creatures for a profit, woolgrowers make multiple moral tradeoffs. Firstly, woolgrowers must decide how they value certain animals, namely the dogs they work with, the sheep who produce for them, the dingoes that prey on those sheep, and the kangaroos that compete with the sheep for food. How farmers view these animals morally leads to how they will make management decisions concerning the welfare of their sheep and how to deal with predators and pests.

These management decisions, made on an individual level, are influenced by a variety of factors in addition to moral weighting. Consumer preferences, other woolgrower perceptions, and societal norms, among other key influences, play a role in shaping management practices, too. Examining moral weighting is only a simplified look at one of the complexities of woolgrower identity.

Sheepdogs occupy an interesting space on a wool farm. Simultaneously workers and companions, these dogs are highly trained and bred to help muster sheep. Most farmers I worked with had a respect for their dogs and the work that they do, recognizing them as essential to farm operations. Yet sometimes farmers got frustrated with their dogs if they mustered too quickly or disobeyed in some other way. For the most part, however, dogs were treated as if they were another worker in the operation: they were given orders and praised when they did a good job.

It was interesting to see how the farmers viewed dingoes. The farmers I worked with recognized dingoes as a pest and using baiting, culling, and fencing to try and keep dingoes away from their property and sheep. It was ironic that dingoes were viewed as such a nuisance because many of the working dogs on a sheep farm are genetically similar to dingoes due to interbreeding. One farmer did recognize the potential for dingoes to work with farmers instead of against them. She said, "Some farmers are training them because they're the best dogs-they'll eat rabbits and foxes. You've just gotta train them not to eat your sheep. Other people don't bother, they just shoot them on site." Dingoes are also interesting because they fall somewhere between being native and introduced to Australia. They were certainly introduced, probably from Asia, but it was long before the time of European settlement and dingoes have since been free ranging and wild.

Kangaroos are also a unique case because they are simultaneously a national symbol and a national pest. Native to Australia, they are featured on the nation's crest beside the emu: two animals that are only found in Australia and can, interestingly, only move forward. The crest uses these animals to symbolize the progressiveness of Australia and the idea that, as a nation, Australia only moves forward (White 1981).

Many woolgrowers consider kangaroos to be overpopulated. I compare the pest-aspect of kangaroos to that of deer in the United States: their bodies litter roadsides, “therapeutic” hunting is a socially acceptable form of population control, and many people consume their meat and use their hides. The iconic Akubra hats and R.M. Williams boots were traditionally made from kangaroo hides. Many farmers I talked with had no problem with shooting kangaroos or bringing in an outsider to do the shooting. This implies that, although a national symbol, kangaroos rank pretty low on the moral scale in terms of possessing rights. While dingoes seemed to be somewhat respected because of their predator-status and were sometimes relocated rather than killed, kangaroos were almost always killed outright if perceived to be overpopulated.

Finally, woolgrowers have an interesting relationship with their sheep. On the one hand, the farmer’s wellbeing depends on the sheep’s wellbeing. In other words, woolgrowers profit more when they have sheep that are healthy, reproductive, and, obviously, alive. Sheep are a source of pride for many woolgrowers, illustrating the success of generations of selective breeding. Simultaneously, though, sheep are valued for the products they produce, namely wool and mutton.

Shearers that I worked with, on the other hand, seemed to view sheep strictly as commodities, which is perhaps due to the mechanized nature of their work as a shearer. Oftentimes shearers kicked or even punched animals that were particularly wiggly during the shearing process. When I let out a gasp the first time I saw this happen, one of the shearers assured me, “Don’t worry, they have a higher threshold for pain. It’s like 90% higher than a human’s.”

While I'm not sure about the validity of the shearer's statement, it is evident that sheep are resilient creatures. The first evidence of their resilience is their ability to survive and even flourish in a climate like that found in parts of Australia. Sheep "toughness" was evident in several of my on-farm experiences and in anecdotes from the interviews I conducted. Some stories, somewhat comically, involve instances when farmers thought a sheep was dead when it really wasn't. One farmer told me, "Once I had a sheep die in the shed and I threw her out the loading dock. Came back an hour later and she was gone! Walked right away!"

This perception of sheep resilience may cause farmers and shearers to use a somewhat rough ethic of care when handling sheep. In some of my experiences, farmers overestimated the stamina of individual sheep and overworked them to the point of exhaustion or death. As tough as the sheep seem, they can die fairly quickly during mustering. I saw this firsthand at one farm and also heard it through a story:

"One time I was bringing the sheep in and there was one staying behind. Was only about 500 meters from the shed so I thought, 'Oh I'll pull the dogs off her and let her go at her own pace.' She died right there in the middle of the gate. I was feeling pretty concerned at that point."

This kind of loss is not something that occurs often in a wool operation with good management. Good management includes breaking up long segments of mustering in order to let the sheep rest and mustering at an appropriate pace so that the sheep don't get over exhausted. This is an instance where animal welfare is in the woolgrowers hands and bad management can lead to unnecessary suffering and death of sheep.

Live Export

Woolgrowers and other livestock owners make an interesting moral decision if they decide to send their aging livestock to be live-exported to overseas meat markets. Each year, somewhere between 3 and 6 million sheep are live exported mainly to the Middle East where they are sold for their meat (Curtis 2009). The process of live-export is an aspect of the wool industry that has been targeted by the animal rights group PETA. Their main critique here is that that live-export has inhumane conditions of overcrowding (PETA 2015). One woolgrower explained to me that live export was outlawed in Western Australia for a brief period, resulting in the death and subsequent “waste” of millions of sheep within Australia.

Many woolgrowers I spoke with were aware of the questionable conditions on export ships and recognized that they were not ideal. However, these growers make the decision to export their sheep despite this in order to continue to make money off of those sheep and support their families. Live export is also a way for growers to control their stocking rates by getting rid of old sheep that are no longer productive.

One non-farmer Australian I spoke with explained,

“Ethically it’s wrong, morally it’s probably wrong, but what else can you do? I mean, you’ve got to support your family and you’ve got to keep the industry afloat cause it makes a lot of money or whatever. They’re trying to keep their costs low and it’s pretty bad. Personally I wouldn’t do it and I wouldn’t do as well as a farmer. I wouldn’t like to farm animals. I like to eat animals but I don’t like to think of where they come from.”

This segment illustrates a lot of themes I repeatedly encountered during my research. The first is the idea that moral sacrifices must be made in order to support your family. This

shows that family and human wellbeing trumps animal welfare in terms of priority for many Australians. The second major theme is the idea that farmers should do what it takes to “keep the industry afloat” because of its contributions to the national economy. This indicates a national reliance on livestock and agriculture industries as a whole. The last theme is the idea that people like to eat animals but don’t like to think of where they come from.

The separation of consumption from production in a global capitalist system allows a consumer this luxury. Consumers can purchase animal products without having to see animal suffering firsthand. However, the flip side of this is that consumers may experience anxiety about the lack of knowledge of where their products come from. Consumers that do seek this information may have trouble uncovering it. The larger the spatial and temporal scales of a commodity chain, the more separation a consumer has from the processes that produce their products.

In his book *Lawn People*, Paul Robbins explains that externalities of production are often ignored altogether. He says, “Costs including especially the costs potentially coming from risky production, must either be realized in corporate reinvestment, borne willingly by the broader public, or ignored altogether,” (2012, 10). Yet when consumers come face to face with vivid descriptions of these animal welfare costs, they become difficult to ignore.

A Close Look at The Mulesing Campaign

Sheep, as the main producers on the wool commodity chain, have been subject to a variety of management processes since the origins of the wool industry in Australia.

Breeding sheep for maximum production of high quality wool gained popularity in the late 1800s. This usually meant selecting for certain traits such as wrinkly skin with extra folds

in order to get the largest surface area of wool possible. However, sheep with these traits are more susceptible to an instance known as flystrike. Flystrike is an infestation in the sheep's hindquarters of fly larvae, usually the blowfly, *Lucilia cuprina*, which are attracted to fecal matter and urine that gets caught on the sheep's rear. The technical term for this occurrence is cutaneous myiasis, and it can lead to the slow death of the sheep if not treated (Sneddon and Rollin 2010).

Mulesing is the term given to the removal of skin from lamb's rear legs and is usually accompanied by tailing-the removal of the sheep's tail. The process is considered necessary for breeds of sheep with particularly wrinkly skin, namely merinos, which in 2013 made up about 79% of the Australian flock (AWEX 2014). The purpose of mulesing is to remove the folds of skin near the rear, where urine and fecal buildup can make sheep more prone to flystrike.

Mulesing originated in the 1920s, when JWH Mules in South Australia designed the procedure to reduce flystrike in his flock. Animal welfare committees approved "mulesing" in 1939. Although it was met with many objections upon its introduction, by 2000, about 84% of Australian merino sheep were mulesed. For many years, most farmers believed that mulesing was the best option because it is a less-painful alternative to flystrike (Sneddon and Rollin 2010).

The first major animal rights controversy to target the wool industry attacked the process of mulesing. The entire mulesing debate was summed up pretty succinctly by a farmer I was working with as we drove over to his neighbor's barn where the procedure was taking place. As we lumbered along the dirt road, he briefed me for the experience: "Now mulesing is something that the animal-libs, the animal groups like Greenpeace, don't

want Australian farmers to do. It's not that we like to do it, but we need to." This farmer didn't enjoy the process of mulesing, but he saw it as necessary to prevent future losses of the flock.

Some farmers I spoke with saw mulesing as necessary not only because of economic losses to the farm, but because it is perceived that an animal that dies from flystrike suffers much more and for much longer than an animal that has been mulesed. Mulesing is a quick procedure, flystrike is slow. On the first farm I worked on, I asked the farmer what exactly happens to a sheep that gets flystrike. He put down the medicines he had been holding, looked me in the eyes and said, "They literally get eaten alive." If I didn't fully understand the gravity of the situation then, I certainly did later on in my travels when I saw (and smelled) a sheep that was suffering from flystrike. To try and save her, the farmer and I sheared the wool from her affected areas, revealing about a square foot of maggots on her rear, accompanied by the terrible stench of wet wool and rotting skin. We applied a medicine to the area, and eventually the sheep recovered.

This type of treatment is difficult on a large-scale farm as many of the sheep are out in the paddocks for long periods of time. It is only in times of mustering or shearing that farmers may come upon a flystruck sheep and be able to treat it in this way. Therefore, because of the large spatial scale that many farms operate on, sheep that suffer from flystrike are likely to die in the paddocks.

Although it's difficult to know how these sheep experience pain and suffering, many farmers agree that flystrike causes more suffering than mulesing (Sneddon and Rollin 2010). I only saw a handful of flystruck sheep, and they were all on the same farm. Each experience was similar to the one I described above, although sometimes the sheep

declined in health during their treatment to the point where they couldn't walk. In some cases the farmer made the decision to shoot the sick sheep because it was his judgment that the sheep wasn't going to survive. This wasn't a task he took lightly and he justified the shooting by saying that it was a quick and painless alternative to slowly dying.

Mulesing, on the other hand, I only experienced once, very briefly. The first thing I noticed as we pulled up to the shed was how loud it was. Because mulesing is performed while lambs are still coupled with their mothers, both the mothers and lambs are mustered into the yards and then the lambs are separated from their mothers for the duration of the procedure. During this separation, both the lambs and the mothers call incessantly, trying to locate each other.

The procedure itself was, as the literature claims, quick. Lambs were loaded onto a round table that can be rotated and were laid on their backs in a seat-like contraption that revealed their hind legs and tails. Two snips on the backs of the legs and the mulesing was done. One more snip and the tail was off. The farmer I was watching used some sort of flame tool to sodder the artery in the tail and stop the bleeding. Next the lamb was plopped down using a lever on the seat-like contraption, and after looking dazed, walked away. It was obviously a very mechanized procedure, and the two farmers I watched were moving quickly and efficiently to mules all of their lambs.

This procedure would need to happen for all lambs on a farm that breeds sheep that are susceptible to flystrike, namely merinos with particularly wrinkly skin.

People for the Ethical Treatment of Animals, known as PETA, started a campaign against mulesing in 2004. PETA is a non-profit corporation that is the largest animal rights group in the world. Adopting the utilitarian philosophy of Peter Singer's *Animal Liberation*

(1975), the group rejects “speciesism” and uses the slogan, “Animals are not ours to eat, wear, experiment on, use for entertainment, or abuse in any way,” (PETA 2015). PETA’s 2004 campaign against woolgrowers was called *Save the Sheep* and claimed that mulesing causes unnecessary pain and suffering. It called for a phasing out of the procedure by 2010.

As a result of this campaign, some international apparel retailers, such as H&M, Perry Ellis, Hugo Boss, and Adidas moved away from using mulesed wool or implemented bans on wool from mulesed lambs, which was most of the wool coming from Australia (PETA 2015). The loss of the demand of these major retailers was seriously detrimental to the market for wool (Sneddon and Rollin 2010).

Save the Sheep came at a time when Australian citizens were increasingly concerned with animal welfare issues. Compared to the earlier half-century, the treatment of animals had earned significant attention (Sneddon and Rollin 2010). Around the time of the campaign, 31% of Australians surveyed supported PETA and 91% supported the animal welfare group RSPCA, the Royal Society for the Prevention of Cruelty to Animals (Franklin 2007). Additionally, one survey showed that 19% of people are motivated to purchase apparel that is labeled for animal welfare, and a concern for animals is a more powerful motivator for consumers than “environmental” concerns (Hustvedt et al. 2008). Consumers could directly illustrate their animal welfare concerns through the ceasing of purchasing mulesed wool, but it was the large apparel companies that had a bigger impact on the market. However, at the time, no labeling system for indicating mulesed wool existed, so avoiding mulesed wool meant avoiding Australian wool altogether.

The *Save the Sheep* campaign has been arguably more effective than other campaigns because of its success in convincing apparel retailers to cease buying mulesed

wool and the successful expression of societal and consumer concerns through decreased demand. As explained earlier, the wool industry is heavily reliant on its international consumers. The US is a key focus of marketing because it is the top importer of wool products. A campaign that can reach US consumers can have serious impacts on the industry.

Because of the export-oriented nature of the Australian wool industry, wool producers have to be attuned to the status of the market in a variety of countries. In a survey of 22 Western Australia wool producers and consultants, the majority of respondents believed that mulesing was the most effective, lowest costing, and quickest procedure to prevent flystrike. They said they felt little social pressure and believed that relatively few consumers were concerned about mulesing. Yet they also said that if the majority of consumer attitudes changed, they would likely change their pest management practices in order to keep the market (Wells et al. 2011). This attention to consumer concerns illustrates the heavy reliance woolgrowers have on consumers and therefore the potential power those consumers have in influencing woolgrowing practices.

The mulesing debate has pretty much boiled down to two sides: Australian Wool Innovation, AWI, a non-profit owned by woolgrowers that invests in research, development and marketing for Australian wool on a global scale, and PETA. These two sides technically came to an agreement that AWI would fund research and development of alternative flystrike control programs, create a labeling system for non-mulesed wool, and introduce an educational program for woolgrowers (Sneddon and Rollin 2010). Initially, the agreement said that mulesing would be phased out altogether by 2010, although this part of the agreement was not met.

The campaign also led to the development of a more comprehensive labeling system for wool that forces growers to declare the mulesing status of each bale of wool they sell. These declarations are subject to random audits and inspections (AWEX 2014). The implementation of this labeling system gives consumers more power, allowing them to specifically purchase non-mulesed wool instead of ceasing the purchase of wool altogether in order to avoid buying mulesed wool.

Ethically, a consumer willing to buy non-mulesed wool would not hold an Animal Liberationist view because they still support the use of sheep for wool. They hold an animal welfare view, believing that mulesing causes unnecessary suffering for a sentient creature.

Farmers surveyed (Sneddon and Rollin 2010) and farmers I interviewed repeatedly emphasized that dying from flystrike is worse than the process of mulesing. I heard, on multiple occasions from multiple farmers, the phrase, "I wish those animal rights folks could just come down and *see* an animal dying from flystrike." The fact that farmers are weighing what's best for reducing overall pain for the sheep indicates that they too have a sort of welfare perspective on animal rights. Although they may reconcile using animals for human benefit, they still desire to minimize unnecessary pain.

Perhaps the Animal Liberationist and woolgrower differ on the amount of livestock suffering that is considered necessary. Woolgrowers see some sheep suffering as necessary for maintaining a certain human lifestyle while animal liberationists have a zero-tolerance view when it comes to livestock suffering.

PETA provides a sort of conflicting narrative to wool production, although not always a 100% accurate one. By critiquing the industry, PETA is providing a narrative that contrasts AWI marketing narratives and encourages consumers to take a second look at

their products, which then forces producers to re-evaluate their practices. Additionally, campaigns by PETA and other groups force AWI and woolgrowers to defend or improve their practices and provide more transparency in order to hold their consumer base.

The information PETA provided in its mulesing campaign allowed consumers to make a purchasing decision based on knowledge of the moral cost of mulesing. Decreased consumer demand for mulesed wool illustrated that consumers were not concerned with the ethics of wool production, forcing research on alternative methods to mulesing in order to maintain the Australian wool industry.

PETA has continued its campaigns against the wool industry. Today, their website advertises donating in the name of sheep. A page titled “Year of the Sheep: Time to Stop the Cruel Wool Industry,” offers the following blurb:

“In Australia—the world's top wool exporter—many lambs will endure "mulesing," a painful and barbaric practice in which workers cut chunks of tender skin and flesh from sheep's backsides with instruments resembling gardening shears. During shearing, lambs and sheep may be punched and cut and then have their wounds crudely sewn up with a needle and thread. When sheep are no longer wanted, many will be shipped on long, often deadly voyages to crude slaughterhouses in Egypt and other countries,” (2015).

Here, PETA critiques several wool industry practices that are vital to the industry, namely mulesing, shearing, and live export. While woolgrowers may be able to make animal welfare improvements in each of these areas and eliminate the need for mulesing they cannot eliminate their use of sheep altogether because their livelihoods depend on it. Despite improvements and changes the industry might implement, the differing of the

fundamental ethical values of animal rights groups and woolgrowers may prevent any sort of compromise from enduring.

Still, PETA has played a vital role in the production side of the wool commodity chain. The mulesing campaign initiated changes of practices within the wool industry, as the campaign sparked a debate that led to increased funding for new alternate options for mulesing and has resulted in a decrease in the practice of mulesing with many farmers breeding merinos that don't require the procedure at all.

By demanding changes in practices and labeling by negatively impacting wool sales, PETA has provided an avenue for consumer voice. Providing information to consumers that may have otherwise been hidden due to the separation of product and process within the industry, groups like PETA contribute a different narrative than the one provided by groups that market Australian wool such as AWI, and they continue to critique the industry even after some changes have been implemented.

Thus, the presence of these groups and their ongoing critique of the industry provide an alternative narrative that ultimately results in more consumer knowledge and subsequent power in driving the industry, albeit limited. It is important that groups like AWI and PETA coexist and provide conflicting narratives, encouraging consumers to take a closer look at their products to see the tradeoffs they make when they purchase a product.

Yet one must remain wary of the mulesing campaign's success. It is key to note that the campaign came at a time when woolgrowers were still recovering from the economic crash of the 90's and were likely very economically vulnerable to shifts in market demand. Likewise, as the surveys explored above explain, social conditions were just right for an animal rights campaign featuring a fuzzy, charismatic animal.

Furthermore, many woolgrowers were never fully satisfied with the practice of mulesing. Although they constantly referred to it as a better alternative than flystrike, many woolgrowers stated that if other flystrike treatments were available and feasible, they would gladly abandon mulesing. While PETA painted the campaign as consumers vs. woolgrowers and clothing companies, woolgrowers were siding with consumers: they too desired a better alternative to mulesing. It is important to note that the changes within the wool industry, partially as a result of the mulesing campaign, were directly linked to a moral imperative. This likely gave the campaign more momentum than if it addressed a purely ecological issue.

Conclusion

Since the crash of the Reserve Price Scheme in the 1990's, the future of the wool industry has been uncertain. Despite the growing population and subsequent growing demand for fiber, the demand for wool has been steadily declining in the past decades (Henry 2012). However, there has been an evidence of increased demand for "natural" fibers over synthetic ones in very recent years, and AWI's marketing of wool as a product produced on "grass and water" may allow Australian wool to satisfy that demand.

The wool industry is full of paradoxes: simultaneous ecological degradation and stewardship, respect and abuse of animals, and strongholds on tradition yet flexibility to adapt to changing markets. One of the most interesting paradoxes is that the wool industry is made up of family farmers. Although operating on huge industrial scales over vast amounts of space, the majority of farms are still run by couples or families. Because of this, these farmers may be more likely to adapt and change practices that are subject to critique because of how they identify amongst other woolgrowers, neighbors, and their

communities. This is because identity and how people perceive themselves is a strong driver of actions (Robbins 2012). Woolgrowing identity is shaped by a variety of complex factors, and because woolgrowers don't want to be perceived in a negative light, they are willing to adapt management practices to avoid a negative perception.

Consumer power has been demonstrated by the effects of the mulesing and other animal welfare campaigns that changed on-farm practices in the industry and show a connectedness of consumers to Australian wool. However it is important to situate this campaign within the larger economic, social, and cultural contexts in which it took place. Re-examining the campaign with this larger perspective, allows one to see that the campaign's success was not solely due to consumer action.

Furthermore, one could argue that one should not classify the campaign successful at all. Firstly, mulesing still happens; it hasn't been totally phased out. Secondly, mulesing was only a battle for PETA in the war against wool. PETA's ideal wool industry would be no wool industry, and the group has yet to influence other practices within the industry that may also involve animal cruelty including live-export, tagging, and the rough ethic of care common in shearing sheds.

The "success" of this campaign can be compared to other market-strategy campaigns, such as the "dolphin safe" tuna labeling campaign (Robbins et al. 2011). This was a campaign against the tuna industry, which was engaging in fishing practices that were damaging dolphin populations. Groups, made up of consumers, used the image of the dolphin, a "charismatic species" that people can easily empathize with, in order to pressure tuna fishing companies to improve their practices by negatively impacting demand for tuna. The result was a labeling regulation that led to a total restructuring of tuna

production (Robbins et al. 2011). Yet the campaign has had several unintended negative consequences including the overfishing of certain areas, damage to fish populations due to bycatch, and the assumption that tuna fishing is now 100% dolphin safe when in actuality some dolphins are still killed (Hall 1998).

The ability of this campaign and the mulesing campaign to seriously alter industry practices indicates that consumer advocacy can be impactful through market-based solutions. Yet they aren't perfect venues for change: the success of both campaigns is arguable. Neither campaign resulted in a total elimination of the problem each addressed, and it is difficult to assess whether the changes to the industries were improvements or simply changes.

With the rising popularity of the "educated consumer" in developed countries like the United States, more and more people want to know where their products come from. Because Australian wool production is so linked to the US consumer base, these consumers may have the power to demand high standards of the industry on the processing side of the chain. Due to technological advances in communications and social media, consumers are increasingly given access to information that was previously difficult to obtain. Furthermore, animal rights groups and the alternative narratives they provide take away some of the power of wool marketers to pen the wool production narrative.

The simultaneous increase in animal welfare-oriented consumers in nations that purchase wool and increase in willingness of farmers to adapt practices to meet consumer demands may allow the wool industry to subvert some of the negative ecological and social repercussions that result from a temporally and spatially vast commodity chain.

However, without the direct consumer pressure on a particular practice, one cannot rely on the capitalist system for social or ecological wellbeing. A narrative of the processing side of wool has not yet been crafted. If consumers are to have more disclosure about the ecological and social aspects of the wool industry, they need access to more than just the on-farm production narrative. This is not a narrative that critiques by animal rights campaigns can provide, but it is perhaps one that could be penned by other groups working for social or ecological change.

It is difficult to predict the impacts a narrative like this could have on the industry. As mentioned previously, animal welfare has been shown to be a more powerful motivator for consumer change than environmental concerns. Furthermore, consumers may find it morally difficult to negatively impact woolgrowers in Australia for processing that occurs elsewhere. It would be nearly impossible for consumers to pressure the processing side of the wool commodity chain without negatively impacting the growers of the wool.

Robbins et al. argue that consumers should be wary of any market-based solutions, as they are likely to provide a solution to a limited portion of a myriad of larger problems (2011). This is certainly true of the wool industry. Although animal rights campaigns have had some impacts on farm practices and production processes, consumer power is limited in scope. The wool commodity chain has negative ecological and social externalities that are difficult to assess through consumer advocacy. Because of the complex web of relations that make up the industry, actors cannot change on an individual level; rather they are constantly affected by and affect each other. It is difficult to predict how impacting one actor in the web will change all of the other actors.

Therefore, it is necessary to examine industry, welfare campaigns, and policy in a much larger context. By investigating the mulesing campaign and all of the factors that go into making the wool industry what it is, one can attain a better understanding of the workings of change within a large industrial agricultural system.

Although the scope of this particular project is limited in that it addresses a very nuanced industry that is closely tied to national identity, the conclusions are still broadly applicable to other global commodity industries. By examining the case of the Australian wool industry and the cultural politics surrounding it, one gets a clearer picture of the interactions of major actors in a network: producers, advocacy groups, governments, and consumers as well as non-human actors including the biophysical environment. It is through this understanding that one can recognize the scope and scale of market-based solutions driven by consumer action and formulate how to better impact change to large, seemingly unmovable global industries. The notion that consumer advocacy has made any change at all is hopeful, yet one must remain critical of the extent of that change.

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