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The Social Fabric: Deep Local to Pan Global

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The Fabric of War: Wool and Local Land Wars in a Global Context

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This paper examines one dimension of our larger collaboration: Fabric of War – The Global Wool Trade from Crimea to Korea. It will reference Indigenous peoples in many parts of the world. Respect is offered to those peoples and their elders past and present. While this short article examines only a few of the regions and nations affected by the wool trade, our wider exploratory research indicates that the connections we make and the political and economic logic linking these case studies are applicable across many cultures.

Original Artwork for U.S. Preparedness Poster, 1942.
(National Archives: ARC Identifier:7387468)

Introduction: During the nineteenth century, the massive expansion of sheep pastoralism in Australia, New Zealand, the western United States, South Africa, South America, and in less predictable locales such as the Sandwich Islands (Hawaii) and Rapa Nui (Easter Island), fueled the alienation of Indigenous peoples from their lands.¹ The sheep and their wool, at the heart of these ‘grass wars,’ fed a global industry that supported another kind of war—the mass, cold climate warfare characterizing the century between the Crimean and Korean wars. This paper presents four case studies of what the spread of sheep pastoralism meant for First Peoples in

¹ See, for example: Heather Goodall, *Invasion to Embassy: Land in Aboriginal Politics in New South Wales, 1770-1972*, Allen & Unwin, 1996, 62-63; W.M. McKee, *South African Sheep and Wool*. Cape Town: T.M. Miller, 1913, 2; Edward N. Wentworth, *America's Sheep Trails: History, Personalities*. Iowa State College Press, 1948.

different locales. First, however, we will summarize and triangulate three linked phenomena: the industrialization of wool textile production; concomitant intensive sheep husbandry; and the aforementioned development of warfare on a scale previously unknown.

War's social and economic effects reach well beyond the wartime suffering and loss of life of combatants and civilians. Hundreds of wars, great and small, local, regional, and global, scarred the social fabric between the mid-nineteenth and mid-twentieth centuries.² The *scale* of many of those wars grew inexorably across the same period. Few parts of the globe were free from armed conflict, and in many cases repeated conflicts, during that hundred years, the same period that saw the emergence of a truly global wool trade.

Which came first? The industrialization of wool textile production, or the rapid spread of sheep farming through newly colonized lands enabled by new hybrid sheep breeds? This chicken and the egg quandary is further complicated by the wars of a new scale requiring a massive amount of woollen fabrics for military clothing and bedding? So, a chicken, an egg and a hatchling...

Display for Wool Sale, Brisbane, Queensland, Australia, ca. 1916.
(From Hart, *Wool*, 1917; Fig. 69. Philadelphia Commercial Museum)

Our research to date indicates that the huge growth in sheep pastoralism was both a response to and facilitator of the concomitant growth in the factory production of wool. While cotton textile production drove the Industrial Revolution from the mid-eighteenth century, not until the second quarter of the nineteenth century did the mechanization and factory organization of wool mesh with the efforts of sheep breeders to create long, springy staples that could be more easily factory

² Wikipedia: List of Wars by date [https://en.wikipedia.org/wiki/Category:Lists_of_wars_by_date_or Encyclopedia Britannica: List of Wars](https://en.wikipedia.org/wiki/Category:Lists_of_wars_by_date_or_Encyclopedia_Britannica:_List_of_Wars) <https://www.britannica.com/topic/list-of-wars-2031197>

processed. These twin developments transformed wool manufacturing in stages from a cottage industry to full industrialization.³

Britain established early dominance in both raw and manufactured wool production due to several linked factors. First, Britain had had a centuries old tradition of European leadership in both sheep pastoralism and in pre-industrial wool production, with the East Riding of Yorkshire its center. Secondly, its colonial territories, and other locations not necessarily British by nationality or sovereignty, but driven by British capital and production systems, provided plentiful land, cheap labor, and expertise in sheep husbandry that produced an enormous amount of woollen fiber. Thirdly, although far from the ‘mother country’, British dominance in shipping meant that this raw wool could get to English factories relatively efficiently. Finally, the city of Bradford in the West Riding of Yorkshire emerged as a leader in wool manufacturing of all kinds, from tops to yarns to finished textiles. Bradford’s population was 6,000 in 1800; by 1850 it had risen to 180,000 due to employment in the burgeoning woollen mills. The other important producers of woollen yarns and fabrics for the global markets—the U.S., Germany, France, and eventually Japan—could not rely on domestically raised fleece to fill their manufacturing needs, and without their own wool producing colonies, imported heavily from British-controlled wool markets. This would provoke a complex politics of wool during wartime.⁴

The starting point of our larger project, *The Fabric of War*, is that in an array of military uniforms from any and all combatant nations in the first six or 12 months of any war between Crimea in the 1850s and Korea in the 1950s, each of them might reasonably be expected to contain wool fibers imported from one or more of the newly important sheep and wool raising nations or regions. But at what cost on a local scale was this enormous global growth, both to various local populations and to the ecologies that they had previously inhabited?

The alienation of local populations from land in favor of sheep was not unknown before the industrialization of both wool and war began to take shape. Nor did it affect only the First Peoples of newly colonized regions. The Scottish Highland Clearances were a series of actions taken by absentee landlords for more than a century after 1750 to remove crofters from their farms and replace them with sheep. Donald MacLeod, who lived through the Sutherland clearances in the early 19th century, wrote in 1840, of the connection between the Napoleonic Wars (1803-1815) and the Clearances:

³ See: Alan Barnard, *The Australian Wool Market 1840 -1900*. Australian National University, 1958; John M. Carson, “The Wool Trade of the United States.” Section III. Trade and Transportation Between the United States and Latin America. *Executive Documents of the Senate of the United States for the First Session of the Fifty-First Congress, 1889-90*. Washington: GPO, 1890, 304-311; Norman L. Crockett, *The Woollen Industry of the Midwest*. Lexington: University Press of Kentucky, 1970; D.T. Jenkins and K.G. Ponting. *The British Wool Textile Industry, 1770-1914*. Pasold Studies in Textile History, 3. Scolar Press, 1987; James E. Nichols, *A Study of Empire Wool Production: Being a Survey of Conditions in New Zealand, Australia, South Africa, Southern Rhodesia, Kenya, Canada, Irish Free State, etc.* Leeds: Wool Industries Research Association, 1932.

⁴ See: Hiram Simmons Davis, *Wool and the War*. Wharton School of Finance and Commerce, Research Report No. 6. University of Pennsylvania, 1942; Kosmas Tsokhas, *Markets, Money, and Empire: The Political Economy of the Australian Wool Industry*. Melbourne University Press, 1990; Les White, *Wool in Wartime: a Study in Colonialism*. Sydney: Alternative Pub. Co-op., 1981.

...the late war and its consequences laid the foundation of the evil complained of. Great Britain with her immense naval and military establishments, being in a measure shut out from foreign supplies, and in a state of hostility or non-intercourse with all Europe and North America, almost all the necessities of life had to be drawn from our own soil... Hence also, all the speculations to get rid of human inhabitants of the Highlands, and replace them with cattle and sheep for the English market.⁵

McLeod stressed that the interruption of trade prompted landowners to prefer raising profitable animals for a national market to leasing small crofts focused on local self-sufficiency. As MacLeod explains, the exigencies of war threw Britain back on domestic resources, so that civilian needs got short shrift. Britain's response to this war foreshadows Germany's position actions regarding textiles, particularly wool, during the two world wars to come: building stockpiles, stripping occupied lands, and investigating substitutes.⁶ It may also explain why and how the United Kingdom would be hyper-aware of wool as a strategic resource in the globalized wars of the twentieth century.

As the woolen industry industrialized, the prospect of profit encouraged the introduction of sheep in new locales. Lands perceived by colonial powers or individual settlers as empty, or inhabited by cultures that were seen as powerless, or who treated land and its resources differently than Western European colonizers, were subsumed into pastoral activity—often sheep first, and then cattle, in a variety of modes of colonization—displacement, adaptation, exploitation. The Scots, over the decades of the clearances, became a first wave of colonists in many newly opened lands, displacing others in turn. And settlers brought with them the livestock they knew, adapting to the situations they found.

The open range sheep business required a lot of land, and a dearth of predators. Lightly inhabited islands were ideal. On mainland ranges sheep pastoralists often faced serious predator problems. In the American west, for example, one observer noted, "To be sure, when grazing forested areas the herder must keep his vigil, for such tracts generally afford a home for coyotes, grizzly, black and brown bear, wildcats, and lynx. The coyote is by far the most commonly met with, and is the most dreaded by the sheep men."⁷ The intersection with humans already living on the lands coveted would prove even more complex. This paper focuses on four case studies from the southern Pacific and the western part of the United States to examine what expanding sheep pastoralism meant for First Peoples.

Australia: European settlement in Australia began in the late 18th century, first as a convict colony around what is now the city of Sydney, and then a series of colonies, some of convicts,

⁵ Donald McLeod, *History of the destitution in Sutherlandshire. Being a series of letters published in the Edinburgh Weekly Chronicle ... with an appendix containing some additional information.* 1841.

⁶ Chauncey Depew Snow and J.J. Kral, *German Trade and the War: Commercial and Industrial Conditions in War Time and the Future Outlook.* Department of Commerce, Miscellaneous Series - No 65 Washington DC: GPO, 1918.

⁷ Arthur W. Sampson, A.M. "How the Forage Supply on Overgrazed Western Range Lands May be Increased." *Out West, A Magazine of the Old Pacific and the New.* Edited by Chas. F. Lummis. Vol. 30 Jan-June 1909. LA, Cal., 543.

some of free settlers. This European invasion was based on a concept of ‘*terra nullius*’/empty land. No treaties nor any form of native title were offered to the Aboriginal nations inhabiting the continent until much later.⁸

At first, these invading settlers viewed sheep more as meat than as sources of wool fiber. Samuel Marsden, arriving in 1794, combined missionary duties with sheep husbandry, breeding sheep to endure the Australian environment, feed a populace that would not eat kangaroo, and also provide wool. In 1809 Marsden—raised in the West Riding of Yorkshire, the bosom of the textile-based Industrial Revolution—sent the first Australian-grown commercial wool cargo back to Britain. Wool was the ideal commodity for Australia, far from European markets, as it could be transported without obvious deterioration. Within a few decades, economic prosperity based on wool was more important to Australia’s European colonists than food security or protecting the native ecology. It had quite a different impact on the Aboriginal peoples who had inhabited the continent with their own economy and cultures for tens of thousands of years.⁹

*Photograph: Corunna Downs Station, ca. 1905
Ailsa Smith, Claremont, Western Australia*

From the 1830s, so called ‘Squatters’ (white European settlers occupying land beyond the established boundaries of the various colonies) ‘took up’ vast swathes of the Australian continent, building immense sheep holdings. Frontier land wars, or ‘grass wars’ were often the result with Aboriginal people regularly ‘dispersed’ as a result. ‘Dispersed’ was a common euphemism on the Australian frontier for violent removal by various means, including murder, of Indigenous people.¹⁰ Aboriginal peoples suffered directly through this violence, but also through exposure to new diseases and interruption of their environment. Indigenous author Bruce Pascoe of the Kulin and Yuin nations, has documented, for example, the ecological devastation of sheep marching from the European colonies of Melbourne and Geelong, towards what would become the rich wool growing Western Districts of Victoria. The herds’ hard hooves and capacity to eat

⁸ The question of a treaty is still a live one in Australia today, though there is native title in limited circumstances.

⁹ See, for example, Bruce Pascoe, *Dark Emu – Black Seeds: Agriculture or Accident?* Magabala Books, 2014.

¹⁰ Goodall, op. cit., 46.

right to the ground destroyed the plant-based dimensions of the Aboriginal economy—yams and other food sources—in their wake.¹¹ The sheep husbandry of the time, which bred larger sheep more resilient to the extremes of the Australian climate, probably exacerbated this impact.

After the gold rushes of the 1850s left the land largely without a non-Aboriginal proletarian workforce, however, Aboriginal people became central to the success of sheep pastoralism.¹² As David Noakes's film, *How the West was Lost*, details, however, labor conditions were very poor for Aboriginal People—in many cases they worked for a combination of rations and a pittance in government trust funds. A strike by 800 Aboriginal pastoral workers in the Pilbara region of northwest West Australia, for example, began in 1945, went on for years, and was never satisfactorily resolved. The pattern of indigenous peoples moving from sovereignty to waged, partially waged, and even unpaid labor repeats in many of the regions under discussion.

Wool and sheep are deeply imprinted onto the Australian national psyche, and on both the urban and rural landscapes. Australia came to regard itself as the nation that 'rides on the sheep's back'.¹³ This notion, however, has rarely involved digging deeply into understanding how the 'wool industry,' construed overwhelmingly as a primary industry, related to a comprehensive industrial or commodity history, including the world's militaries as one vital client.

¹¹ (<https://c21ch.newcastle.edu.au/colonialmassacres/>). Note that many massacres were associated with beef cattle as well as sheep pastoralism. Pascoe, op. cit., 15-17.

¹² Heather Goodall, *Fabric of War*, interview transcript, 30th April, 2017.

¹³ See, for example, Charles Massy's two volumes, *The Australian Merino: The Story of a Nation*. North Sydney, N.S.W: Random House Australia, 2007 (2nd. ed.), and *Breaking the Sheep's Back: the Shocking True Story of the Decline and Fall of the Australian Wool Industry*. University of Queensland Press, 2011.

New Zealand: Differences in the environment, in human habitation patterns, and a later form of colonial settlement led to outcomes for New Zealand's First Peoples in relation to the wool and sheep industries distinct from Australia.

Sketches of a sheep station during the wool season.
Illustrated New Zealand News, 24 December, 1883.
 (Alexander Turnbull Library, Wellington, New Zealand)

The Polynesian Maori settled Aotearoa late in the thirteenth century CE. Their pattern of sedentary villages underpinned by hunting and contained vegetable gardens was more easily recognized by European settlers as a form of land tenure, unlike the Aboriginal economy in Australia. The islands' climate is also cooler and wetter than Australia's, necessitating a radically different sheep culture.¹⁴ Initially a part of the colony of New South Wales, New Zealand in a series of stages became its own nation.

The British government and many Maori chiefs signed the Treaty of Waitangi in 1840. There were innumerable problems with this treaty, and indeed New Zealand did suffer through years of wars related to land sale disputes in the 1860s and 70s. Even so, the Maori were generally better off than the Aboriginal nations of Australia. The wool industry in New Zealand is usually seen as beginning in the 1840s in the Wairarapa, a high plateau to the east of the first settlement in Wellington. Land for the purpose was leased from the Maori, which John MacGibbon, a historian of this wool industry, says that many Maori embraced and profited from.¹⁵

¹⁴ Bill Carter & John MacGibbon, *Wool: A History of New Zealand's Wool Industry*, Ngaio Press, 2003.

¹⁵ John MacGibbon, *Transcript of Fabric of War Interview* (unpublished), 29th April, 2017.

The merino sheep at the heart of the Australian industry—bred for fine wool and capacity to endure tough, dry conditions—were only ever suited to a small part of Aotearoa New Zealand.¹⁶ Rather, New Zealand’s industry had mixed farms, with both meat and wool as primary commodities, built on “strong-wooled” (longer, a bit coarser, and more lustrous fibers) English crossbreds. As in Australia, however, once sheep were established as basic to New Zealand’s economy, Maori labor became central to the wool industry, especially as shearers. In time, a number of Maori came to operate their own sheep runs, typically on a village/hapu basis.¹⁷

Pacific Islands: Not only the larger Southern Pacific land masses attracted the attention of sheep entrepreneurs. Before the 1840s, the Hawaiian Islands had few sheep, mostly descendants of those dropped off as food sources, more or less in passing, by explorers such as James Cook and George Vancouver, or by the whalers that used Hawaii for refitting and recreation during their three- to five-year voyages. Only after the Great Mahele of 1848—in which the system of land ownership was fundamentally changed, allowing individuals, including foreigners, to purchase land in the islands—did sheep ranching become a commercial interest. Oahu, Hawaii, Kauai, Maui, and Kahoolawe all saw the introduction of sheep. Wool became at best a secondary economic driver in the islands, but it was an export commodity that figured in tariff issues for several decades. Hawaiian wool, for example, was purchased during the American Civil War by the Stevens Woolen Mills in Massachusetts, engaged in manufacturing textiles for the Union Army.¹⁸

Perhaps the largest and longest-lived sheep ranch was the island of Niihau, purchased by the Sinclair family, emigrants from Scotland via New Zealand, in 1864. They introduced sheep, at the same time moving about half of the 500 native inhabitants, and the native dog population, off the island. This left the land clear for their flock of (by 1885) about 40,000 sheep. The extended Sinclair family (including Gays and Robinsons) and their descendants owned sheep runs on other Hawaiian islands, and ran sheep on Niihau until well into the 20th century.¹⁹

¹⁶ ‘Wool Production’ from *An Encyclopaedia of New Zealand*, edited by A. H. McLintock, 1966. *Te Ara - the Encyclopedia of New Zealand*. URL: <http://www.TeAra.govt.nz/en/1966/wool-production> (accessed 08 Jan 2018)

¹⁷ Personal communication, John MacGibbon to Trish FitzSimons, 2nd May, 2017.

¹⁸ See: Alfred L. Lomax, “Geographic Factors in Early Sheep Husbandry in the Hawaiian Islands (1791-1870),” in *Forty-Eighth Annual Report of the Hawaiian Historical Society*. Honolulu, Hawaii: June 1940; Gavan Daws, *A Shoal of Time: A History of the Hawaiian Islands*. Honolulu: University of Hawaii Press, 1968, 202. For Civil War wool sale see: Stevens Companies Collection: Stevens Woolen Mill, North Andover, MA. George Stevens Correspondence, Clark & Perkins, 1862-1865 (August 9, 1862; July 22, 1863; August 12, 1863; June 3, 1864; Aug 2, 1864.) Formerly Osborne Library, American Textile History Museum, Lowell, MA. Since 2017 at the Cornell University Library.

¹⁹ *Hawaii, The Hawaiian Exhibit at the World’s Exposition*, New Orleans. 1885, 6.; Gavan Daws and Timothy Head. “Niihau: A Shoal of Time.” *American Heritage*. 1963 / Vol. 14, No. 6. (<https://www.americanheritage.com/content/niihau-shoal-time>)

Niihau, 1885; photo by Francis Sinclair
(Auckland War Memorial Museum)

Other ventures were less long lived. The Parker Ranch on the ‘Big Island’ of Hawaii subsumed several smaller holdings and ran sheep until the 1920s. Kealapuali, also on the island of Hawaii, was started as a sheep station in 1873 and stayed in sheep through the 1880s before being turned to dairy cows and cattle. As the sheep herds grew, native plants were replaced by imported fodder species. And as in Australia and New Zealand, Indigenous peoples, as well as new immigrants of color, became the wool industry’s workforce.²⁰

On Rapa Nui (Easter Island), from the late 19th century, the Scottish-Chilean company Williamson-Balfour was the driving force. Leasing the island not from its inhabitants but from the Chilean government, the company’s commercial base in shipping was central to the profitability of this particular enterprise. The islanders had been severely reduced in number by slaving raids from Peru in the 1860s and by disease. This made it easy to confine them, when their labor was not required, in the fenced-in town of Huanga Roa, while the sheep roamed free. The island’s ecology was also drastically altered, with the native plants destroyed by the grazing sheep, and replaced by feed grasses from Australia.²¹

The western United States: Just as sheep followed European colonizers to the Eastern seaboard of North America, and up from South America to the North American southwest, settlers

²⁰ Improvement of Hawaiian sheep through imports of merino rams begin in the 1840s, according to documents in the Hawaiian State Archives. See also: Peter R. Mills, Carolyn L. White, and Benjamin Barna. “The Paradox of the Paniolo: An Archaeological Perspective of Hawaiian Ranching.” *Historical Archaeology*: 2013, 47 (2):110-132; Isabella Bird, *The Hawaiian Archipelago: Six Months Among the Palm Groves, Coral Reefs, and Volcanoes of the Sandwich Islands*. London: John Murray, 1875; L.A. Henke. *A Survey of Livestock in Hawaii*. University of Hawaii Research Publication No. 5. Honolulu: University of Hawaii, August, 1929.

²¹ See Grant McCall, “Easter Island.” *The Encyclopedia of Islands*. Rosemary G. Gillespie and D.A. Clague, eds. University of California Press, 2009, 244-251; *Rapanui: A Hidden History of Easter Island*. Java Films, 2015; and *La Compañía Explotadora de Isla de Pascua: Patrimonio, Memoria e Identidad en Rapa Nui*, Rapanui Press, 2011.

removing further west took sheep with them, the flocks growing in size and the scale of the land they required increasing with each move.

One of many relevant stories in the American West follows the introduction of sheep into Indian treaty lands in Oregon and Idaho. A combination of Manifest Destiny ideology and the discovery of gold in the 1860s led white settlers to move into the mountain country of eastern Oregon, and they brought their sheep and cattle with them. A disputed Treaty in 1863, which several bands of Nez Perce Indians refused to sign, diminished the reservation lands from 7.5 million to fewer than one million acres. The Nez Perce War of 1877 followed, and an influx of new settlers led eventually to the Nez Perce reservation dwindling to about 150,00 acres by 1890. In 1891 the US Congress passed the Forest Reserves Act, bringing many acres under federal control for the leasing of various rights, including grazing. Beginning in 1906 the remaining reservation Nez Perce, who had, by custom, used those lands for seasonal hunting and grazing, were required to apply for permits to do so.²²

Wood Engraving, "Emigrants to the West", W.M. Cary, 1880
(Library of Congress: LC-USZ62-101163)

The decades around 1900 saw the emergence of another kind of war in the American west, from Utah and New Mexico north to Oregon, Idaho, Montana, and Wyoming. Known as Range wars, they saw sheep men and cattlemen fighting bitterly over access to grazing lands. Interestingly, the cattlemen's argument that sheep ate the grass down too hard for cattle to share the pastures was one major bone of contention. Sheep and shepherds both suffered during these episodes of violence.²³

²² Jennifer Williams and Erin Melville. "The History of Grazing in Wallowa County." September 2005. http://extension.oregonstate.edu/wallowa/sites/default/files/in_Wallowa_County_Compilation_edited_4_2009.pdf; A compilation of many unpublished documents. See also Wentworth, 1948, op.cit.

²³ Wentworth, 1948, op. cit., Chapter 23, "Cattle-Sheep Wars."; D. Abraham, "Bloody Grass: Western Colorado Range Wars, 1881-1934: A Study of the Sheep Wars." *Journal of the Western Slope* 6 (2): 1-23

In the end, however, different challenges affected sheep raising in the American west. ‘Territory wools’, as they were known, even from merino sheep, were less desirable than those from Australia and New Zealand, countries that focused on improving shearing techniques and the meticulous preparation of the fleeces for market. In wartime, however, western sheepmen hoped that the price increases that followed hard on wool shortages would support their flocks. A 1941 photograph in the Library of Congress was captioned: “Oldtime sheepman who was visiting the sheep shearers' outfit for dinner. Ranch in Malheur County, Oregon. He predicted prosperous times for the sheepmen and had it figured out down to the last pound how much wool the Army would need for uniforms, clothing and blankets, etc.”²⁴ But overgrazing during the first war limited production, and in the second, the armed forces took away the manpower required to guard the sheep from mountain predators, drive the flocks across the ranges, and see to the shearing and shipping of the wool. As a result, Oregon wool production actually fell during World War II.²⁵

Oregon’s experience is just one example: American sheep did not support the nation’s wool consumption even in peacetime. In wartime, the demand for wool was high and procurement contentious. Supply lines to the lands that had wool to sell were long and hazardous, with attendant high costs and competition for cargo space. Freight charges on wool in 1918, for example, were more than four times what they were in 1921.²⁶ And bringing wool from the wool brokerage houses in Sydney and Melbourne, Australia to the wool buying firms in Boston, Massachusetts involved 10,200 miles of open ocean, fraught with not only the normal natural dangers but with surface and submarine warships.

Wool, War, & Industrialization: While the needs of growing civilian populations were one driver of growth in sheep pastoralism and in the industrialization of woolen manufacturing, it was not the only one, nor is it clear that it was even the most important. The American Civil War, for example, has been called the first industrialized war. In 1860 the entire United States Army comprised fewer than 20,000 enlisted men and officers. But in April 1861 the country was divided, and at war. By the war’s end in 1865, more than two million men would serve in the Union army alone. Clothing and equipping them properly was a constant anxiety. And the Confederate army faced worse supply chain issues: raw materials, industrial capacity, and import possibilities were all limited. Wool shortages encouraged the use of substitutes such as shoddy—meaning reclaimed or recycled wool fiber—and industrial exploration of other fibers.²⁷

²⁴ Russell Lee, photographer. “*Oldtime Sheepman...*” Malheur County, Oregon, United States, May 1941. Photograph. <https://www.loc.gov/item/2017789354/>

²⁵ Sampson, “Forage Supply,” 1909, op. cit.; “Number of Stock Authorized for National Forests in 1922,” *National Wool Grower*, Volumes 11-12 (April 1922) p. 19. <https://books.google.com/books?id=PclxAQAAMAAJ>

²⁶ US Dept. of Agriculture, Office of the Secretary. “Wool: War Makes More Sheep and Wool Necessary,” Part X, *Circular #93, The Agricultural Situation for 1918*. Washington: USGPO, March 15, 1918, 3, 6-7; U.S. Tariff Commission, *Sheep and Wool Production in Argentina*. Washington: USGPO, 1922, 22.

²⁷ See: Madelyn Shaw and Lynne Z. Bassett. *Homefront & Battlefield: Quilts & Context in the Civil War*, American Textile History Museum, 2012, 117-118; *Shoddy vs. pure wool. Hearings Before the Committee on Ways and Means, House of Representatives*. United States. 57th Congress, 1st session, 1901-1902. No. 113. Washington, DC: USGPO, 1902, 10-11.

*Photograph: Group of shepherds at Tetevo, Serbia, with the stocks of wool they saved from requisition by the German army, 1919.
(American Red Cross Photo, Library of Congress: LC-DIG-anrc-03686)*

A decade earlier, the Crimean War, which pitted France, Britain, and the Ottoman Empire against Russia, although smaller in scale overall, engaged more than a million and a half soldiers. About a million died—most from disease and exposure. Historian Andrew Lambert states that while the armies fought in uniforms and with tactics from the Napoleonic era, they faced innovations in weapons, transportation, and communications.²⁸ The memory of the ill-clad troops who fought these two wars, and the difficulties in supplying their needs, haunted the military establishments of many nations in every war through the Korean conflict. These long national memories were yet another deep local factor in the strategic importance of access to wool supplies.²⁹ In the long run, this would drive industry and the military to investigate substitutes and synthetics, sourced from more easily available materials.

The history of the trade in raw wool is usually told within a series of national, or at most imperial stories. In the historiography of some locales, such as Hawaii, or indeed broadly, the U.S., the story of sheep pastoralism has tended to be buried beneath commodities seen as more central to the nation: sugar and cotton, for example. This separation, however, ignores the fact that wool is intrinsically a transnational commodity. The nineteenth and early twentieth century expansion of sheep pastoralism in many parts of the globe was stimulated by the settler societies' needs not only for meat, but for a primary product for trade, and the demand for woollen textiles by

²⁸ http://www.bbc.co.uk/history/british/victorians/crimea_01.shtml

²⁹ The First World War as a test case for military wool consumption can be seen in tables and charts in Stanley H. Hart, *Wool; the Raw Materials of the woollen and worsted industries*. Philadelphia: Philadelphia Textile School, 1917, which illustrate a) the relative importance of all wool producing nations, and b) the increases in wool prices during the war years.

growing populations. These in turn prompted increasing capacity of industrial woolen mills in Europe, Britain, America, and by 1900, Japan. As textile manufacturing industrialized, so did warfare, with armies getting larger and requiring ever more from stretched supply chains. This expansion also created conflict, often armed, sometimes deadly, over the land that made it possible, damaging the societies that were displaced by sheep, and altering the environments that they inhabited.

This research is still in progress, and there are omissions here. The most obvious gaps are South Africa and South America, and any depth in the history of sheep in the United States. Nor has it been possible to negotiate with all the various Indigenous groups about their representation. The topic is complex beyond our original expectations. We invite partners in our research, and in the outcomes of the project.

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