Chapter 1

Seeking a Global History of Gold

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Nothing set the world in motion like gold. Between 1848 and the turn of the twentieth century the global rush to find and extract the precious metal from the earth in previously unimaginable quantities inspired a dramatic burst of movement and energy, affecting the course of world history. In California, and then across the Pacific Rim and parts of Africa, gold discoveries and the rushes that followed birthed new territories and states; triggered short-term booms and busts; provoked violent conflict with local indigenous and other resident communities; sparked entrepreneurship of all kinds; reordered production, trade, and labor; exposed humankind's capacity to alter the natural world; and created new hierarchies of difference and disconnection. These transformations took place on a global stage, as capital, people, and raw materials connected distant areas of the world in a spontaneous, contagious search for gold.

Contemporaries agonized over the frenetic energy, social dislocation, and runaway growth triggered by gold rushes. In doing so, they reached for the strongest natural metaphor they knew: the powerful, unsettling threats of diseases, fevers, and epidemics. From California, one correspondent was "suddenly attacked with violent, extraordinary symptoms," explaining that it was "a temporary fit of delirium brought on by a new epidemic—the yellow or gold fever."[1] As Sydney's working men began leaving for California, one resident complained in June 1849 that the townspeople had been "completely bit by the yellow fever."[2] Gold fever was said to infect naïve greenhorns, rage across prairies, oceans and continents, and ravage town and city alike through depopulation. "Fever" captured the

connected nature of the phenomenon many people found themselves in, but also the widespread anxiety produced by gold rushes and the sense that irrationality propelled them. Like illness, gold mining was a gamble: luck rather than the diligence or virtue of the individual determined the outcome. But this was part of the allure and kept many miners at work. "A man never knows when he is going to pick up the rarest nugget in the world," wrote one Klondiker, "I MAY find it tomorrow, and I probably will not find more than a few cents. And I am likely to find our shaft full of water."[3] Gold seemed to offer equal measures of promise and peril. "The touch of unlimited gold dissolves society into its elements, produces a total disorganization, the effects of which defy conjecture," reflected Melbourne's *Argus* in 1849.[4]

It was little wonder that gold rushes left contemporaries delirious: the second half of the nineteenth century was convulsed by repeated, overlapping gold rushes. California in 1848 and Victoria in 1851 were just the beginning. Between them, the western American states of Colorado, Wyoming, and Montana experienced forty gold rushes. Nevada and California, meanwhile, remained in a state of near-constant gold discovery. In Australia, between 1851 and 1894, there were twenty-eight rushes. In the decade beginning in 1857, five of the New Zealand provinces—Nelson, Otago, Marlborough, Canterbury, and Auckland—experienced gold rushes. In 1868, gold was discovered on the bed of the Ivalojoki River in Lapland, triggering a rush to the region that only peaked in 1872. After the Witwatersrand gold rush began in 1886, geologists scoured southern Rhodesia (where a rush began in the fall of 1890) and the Gold Coast (where there was a period of gold rushes between 1877 and 1900) for the next bonanza. The Klondike Gold Rush (1897–99) in Yukon Territory was just the latest of a series of gold rushes in present day Canada, following the rush to Fraser River, British Columbia, in 1858.

As the earth yielded its riches, gold production raced upwards. In the first half of the nineteenth century, the annual world output of gold ranged between ten and twenty tons. After the strikes in California and Victoria, this figure had leapt to 180 tons, and by the turn of the twentieth century had reached 450 tons per year.[5] Put another way, in the fifty years between California and the Klondike, more gold was mined from the earth than in the previous three millennia.[6] In 1902, after visiting gold mines in the Transvaal, Rhodesia (Zimbabwe), India, the Malay Peninsula, Australia, New Zealand, New Guinea, Canada, the United States, and Mexico (and acknowledging his desire to one day visit gold mines in Russia, China, Japan, Korea, the Dutch East Indies, Hungary, and South and Central America) the *Economist's* respected mining correspondent James Herbert Curle calculated that gold mining added roughly 70 million pounds annually to the world economy.[7]

An enormous and eclectic band of writers have added almost as many pages. Gold rushes were as much cultural watersheds as they were economic. At the mines, in the rare pauses between the swish of the pan, the crunch of the shovel, and the crash of the battery—one might have heard the furious scratching of pens and pencils on paper. Contemporary diarists, journalists, boosters, and administrators (as well as many others), recorded the awe, excitement, dread, and frustration of the dogged quest for gold. An incredible total of 285 emigrant's guides, cheap literary melodramas, and pamphlets about gold rush California and travel to the goldfields had appeared in print by 1860.[8] Less than a decade after the beginning of the rush to Victoria in south eastern Australia, books on that gold-rich British colony had been published in German, French, Swedish, Norwegian, and Italian, alongside the numerous English language volumes being printed in London.[9] From mid-century, the rushes to California and Australia captured the attention of political economists around the world.

California gold relieved specie shortages on the world's money markets, created large reserves of local investment capital, and increased prices worldwide.[10] Leading economic minds, including Richard Cobden, Michel Chevalier, Karl Marx, and Louis de Launay pondered the effect that increased gold supplies were having on on monetary policy, wages, trade, and speculation.[11] Gold had been venerated as an object of pure value across human history, but in no other century did it sit at the center of so many heated public debates over its cultural, political, economic, and even religious significance. Each rush encouraged a flurry of academic, popular, and personal writing—technical, celebratory, and anxious—widely accessible and familiar to historians.

The historical scholarship that followed has accreted in thematic layers: contemporaneous technical volumes and first-hand narratives; late-nineteenth and early-twentieth century national, regional, and economic histories; and post-war, revisionist, social, and cultural studies.[12] Broadly speaking, many of the early regional and nation-centered histories reinscribed the blind spots of the published travel accounts and memoirs used as their empirical spine. Still, some historians were cognizant of the gold rushes' global resonances and violent dispossessions.[13] William Parker Morrell's *The Gold Rushes* (1940) was the first monograph to set the mid to late-nineteenth century rushes within the framework of a *longue durée* global history of gold mining that began in the ancient world. Morrell's scope impresses, but his focus fell especially on the post-1848 rushes, which he deemed "gold rushes proper," since although men had traded and hoarded gold for millennia, "only in modern times has the thirst for gold inspired vigorous peoples to seek it out by hard labour in the waste places of the earth."[14] More recently, social and cultural historians have read painstakingly against the grain of Euro-American records to retell the story of the gold rushes from the perspective of racially and nationally diverse migrants, and on the terms of those

indigenous communities whose land (Morrell's so-called waste spaces) was invaded.[15] Since the 1990s this growing body of social history has been invigorated by insights from comparative, transnational, and global historians whose careful unpicking of the cross-border circulations of migrants and economic and commercial exchange has begun to reveal the extent of entanglement between the series of explosive, short-term gold booms of the nineteenth century.[16] This historiographical trajectory has returned us to a recognition that contemporaries living through the gold rushes understood and experienced them as inherently transnational events, and gold mining as an increasingly global enterprise. "There is a certain freemasonry among mining men," Curle reflected in *The Gold Mines of the World*. "One can learn, if he meets the right people, the inward and true position and value of every mine in the world."[17]

In this spirit, *Gold Rush: A Global History*, brings together historians of the United States, Africa, Australasia, and the Pacific World to explore the global history of the gold rushes. Across the chapters that follow, we seek to emphasize the global and transnational dimensions of the rushes as they were experienced in various parts of the world and, in turn, to investigate the role of the rushes themselves in shaping the broader course of nineteenth-century, global history. The remarkable series of events depicted in these pages present historians with a striking opportunity. How, we ask, might historians address the historical diversity of the gold rushes' global impacts, and the unevenness of their effects? How did the rushes accelerate the pace of global connection and magnify its disruptive impacts? In what ways were the gold rushes entangled with one another and how did they influence one another's development? How might these entanglements enhance our understanding of the way particular transnational circuits, connections, and exchanges operated? How did contemporaries manage and mediate these long-distance connections and exchanges? In what

ways did local towns, cities, and ports operate as transaction points of global connection? What distinguished a gold rush's global impacts from its imperial ones?

Only a collaborative effort, drawing on the expertise of a variety of regional specialists can come close to answering many of these questions. The essays in this volume, our addition to the rich and fascinating pile of accumulated gold rush history, are driven by a collective endeavor to do just that. Without committing the volume to a particular view of the overall shape and structure of the global history of gold rushes, we seek to open a number of windows onto the connection points, technologies, laborers, and capital that connected gold rushes around the world—and to trace their human, environmental, and economic impacts. In this opening essay, we have chosen to focus on several characteristics that tie together the nineteenth-century gold rushes: the accelerated mobility of goods, people, and ideas caused by overlapping rushes; the redistributive power of gold rush gateways; the transition from alluvial to capital-intensive, corporate mining; and the shift in technologies and labor regimes that accompanied these thickening transnational networks. Acting in tandem with these processes of global connection and redistribution, were a series of powerful counter-currents: of the destruction of indigenous communities; of the erection and policing of material and mental frontiers from threatening "others"; of the protracted consolidation of capital and elaboration of class hierarchies; and of the rapid but long term loss of ecological sustainability. At the heart of this book, then, is the paradoxical power of gold rushes to both connect and divide; to enrich and impoverish; to create and destroy.

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Those Incongruous Battalia

Gold rushes were events of great human migration. In 1849, reflecting on "the Californian Movement" the London *Punch* made light of the prevailing excitement: "Everything that will float—and a great deal that will not—is being advertised for California."[18]

[Figref 1.1]

By any estimation, the scale of gold rush migration remains remarkable. Gold rushes dramatically accelerated demographic expansion.[19] In 1848 California's non-Indian population was around fourteen thousand, it soared to almost one hundred thousand by the end of 1849, and to three hundred thousand by the end of 1853.[20] Across the Pacific, in Victoria, the population grew from seventy-seven thousand at the start of the gold rushes in 1851 to 411,000 just six years later.[21] Some thirty thousand (mainly Californians) flocked to the British Columbian mainland after the discovery of gold in 1858.[22] Thanks largely to the gold rushes, New Zealand's non-Maori population almost doubled in the years 1861–64 from ninety-eight thousand to 171,000.[23] The lure of quick wealth in diamonds and then gold transformed the Transvaal's 1879 white population of forty thousand into 119,000 by 1890, and 420,000 by 1911.[24] From 1897, the last great rush to the Klondike triggered a similarly remarkable influx—perhaps one hundred thousand—to the remote Yukon region. By the time they arrived, the "average Klondyker" had travelled more than twenty-five hundred miles and devoted a thousand dollars to transport and supplies.[25]

As alluvial gold mining became an increasingly capital intensive process, many goldseekers returned home, or else settled in the gold countries, where they played an

important role in the making of settler colonial societies. A minority simply kept moving between rushes. “I have spent the best portion of my life in chasing after gold which has unfitted me for any other occupation,” one veteran wrote home from the Pacific North West in 1858, “and to throw away the present chance appears to me like sacrificing all my past years of toil.”[26] The sequential nature of the goldseeking experience during the nineteenth century enabled a cohort of global goldseekers to follow the gold trail around the Pacific and beyond. After hearing rumors of gold’s discovery in Australia, Daniel and Thomas Heald sailed from the California goldfields to the British colony of Victoria, arriving in the port city of Melbourne in April 1853. As soon as July, their dreams of fortune had soured considerably. From the gold town of Bendigo, Daniel reported that “there is a grate [sic] many California boys here that wish themselfes [sic] back,” concluding that “this is no plase [sic] for a man that has lived in the States.”[27] Down on cash and luck, the brothers rejoined the flow of migrants that moved between Pacific goldfields and left almost exactly a year later, for Peru, after hearing “great talk … about there being rich gold mines” in that South American country.[28]

As each new gold discovery unfolded, they inherited some of the characteristics of their predecessors and passed on new features to their successors. This phenomenon has probably been best captured by historians of New Zealand—from where goldseekers had travelled to California and Australia, and which subsequently drew in miners when gold was found in the later 1850s and 60s. “The discoverer of Gabriel’s Gully” (the discovery which triggered the Otago gold rush) John Salmon explains, “was an Australian who had learnt his skill in California; the man who found gold in Cormandel had served his apprenticeship on the Sacramento River; the pioneer of the Aorere field had acquired his prospecting techniques in Victoria; the rush to Molyneux followed the finds of Hartley and Reilly from San

Francisco."[29] Commenting on the mid-century rushes, another historian of New Zealand, Philip Ross-May pondered whether historians of the gold rushes were "dealing not with Californian, or Victorian or New Zealand colonists but with a variety of the genus Pacific Man whose habitat is no particular country but the goldfields."[30]

But who were the goldseekers? A century and a half of historiography and popular memory have depicted independent, Anglo-American prospectors as the agents of civilization's expansion and the rugged tamers of wilderness. This larger-than-life figure was much-mythologized and sentimentalized by historians searching the goldfields for the origins of nations and national characters. Even those who viewed the gold rushes as part of wider, global processes cast the gold digger in the heroic mold. For Morrell, the rushes were significant mostly as "a tale … of adventure, enterprise, and endurance in which the common man of British and American stock showed the mettle of which he was made," from which "evolved a new type of self-reliant character." Published in London in 1940, at "a time which makes demands on all the energies and the endurance of which those peopes are capable," Morrell hoped his history of the gold rushes would not "be wholly inappropriate reading."[31] Some four decades earlier, James Herbert Curle had reflected on the industrial and imperial predominance of "English-speaking people," who then "produce[d] nearly seven-eighths of the world's gold." Although Curle lamented the rampant speculation and dishonesty that characterized parts of the mining industry—the City of London being the "canker at the root of all that is worst"—and was disappointed by the average miner, he was full of praise for the managers, captains, and technical experts whom he believed were the real heroes of the gold rush story:

> Is it a coincidence that the English-speaking people have secured *all* the countries richest in gold, or may we assume that when other countries are prospected and mined

> in a thorough way, they will yield far more gold than they do now? I think there is no doubt that this assumption would be the correct one … But, even then, the energy to do this, the mining knowledge, and probably most of the capital required, would still be supplied by the English-speaking peoples.[32]

A much more recent study describes the rushers as "Crusaders," fleeing the constraints and failings of their own civilization on a great modern quest—a characterization that at least alludes to the trail of destruction their "adventures" left behind.[33]

Heroic narratives of the gold rushes have come under increasing scrutiny in recent years, particularly as historians have begun to focus on the hitherto neglected presence of women, children, indigenous peoples and other incoming minority communities.Yet, we ought to recognize that on the goldfields of the Anglo-settler societies of the Pacific Rim, British, American, and other northern European miners did indeed predominate and should be placed within their own categories of gender, race, ethnicity, and nationality. As James Belich has recently argued, mid-century gold rushers might be understood as the last great outpouring of "crew culture," an amorphous, masculine Anglo collective identity that was redirected from the world of maritime work to the goldfields and helped to propel and consolidate Western imperial domination.[34] This collective identity was an "anti-type," born of white men's negotiation of, and violent interactions with, the alchemy of peoples and migrants resident and laboring on the goldfields.[35] On the goldfields, then, the transnational phenomenon of "whiteness" found powerful expression, connecting Anglo miners and drawing the global color line with greater clarity and density.[36]

For all the importance of the Anglophone majority, though (and of the other northern Europeans who joined them), few goldseekers and contemporary observers failed to be

fascinated by the cosmopolitan nature of mining communities and by the relationships that developed between diverse groups of diggers in mining towns and camps. From 1848, the rush for gold drew in fortune seekers from across the globe. Such were the multinational origins of the goldseekers of California, writes the historian Malcolm J. Rohrbough, that "the common denominator," uniting them, "was that they came from all over the world."[37] From Mexico and the Hawaiian Islands; from Chile, Peru and elsewhere in South and Central America; from Australia and New Zealand; from Southeastern China; from Western and Eastern Europe—arrivals made their way to the golden state to join California Indians, Californios, and those arriving from the East over land and sea.[38] In the her vivid account of *California, In Doors and Out* (1856), Eliza W. Farnham was struck by this cosmopolitanism. "Armies of men," she noted, labored on the placers

> sustained through successive disappointments and fearful sufferings, by the hope which first drew them together. Among these incongruous battalia, are represented the hopes of the world. Benighted Africa, despotic Asia, restless Europe, complacent America, sit down side by side in these treasure houses of nature.

The progress of this polyglot community assembled in the creeks and riverbeds of California, Farhnam predicted, would resonate out across the oceans.[39] Subsequent rushes also attracted diverse minority communities alongside white miners. A visitor to British Columbia in the winter of 1858–9, for instance, would have stumbled across a motley crowd huddled together between Fort Langley and Fort Yale consisting of: "ENGLISHMEN (staunch Royalists), *Americans* (Republicans), Frenchmen, very numerous, Germans in abundance, Italians, several Hungarians, Poles, Danes, Swedes, Spaniards, Mexicans, & *Chinese*."[40] Four decades later, and further north at the Klondike, a Canadian, American, and British majority toiled alongside miners from places as distant as Egypt, France, and Australasia.[41]

Chinese miners alone constituted upwards of 25 percent of global gold rush migration.[42] Had the same visitor moved from British Columbia to Victoria in 1859, they would have discovered upwards of forty-two thousand Chinese—roughly one in five men in the colony. Two decades later, at the Palmer River diggings in Queensland, 1,200 miles north of Brisbane, they would have found seventeen thousand registered Chinese diggers and just 1,400 Europeans.[43] The presence of such significant numbers of Chinese also speaks to the larger global and imperial drama of which the gold rushes were merely one, albeit compelling, sub-plot. By mid-century Western intervention, lawlessness, overpopulation, and the impact of the Taiping and lesser anti-Manchu rebellions (and their suppression) had destabilized the southern coastal provinces of late-Qing China. As word arrived of the fabulous riches available at the "Old Gold Mountain" (California) and the "New Gold Mountain" (Australia), through the Western portals at Hong Kong and Amoy (now Xiamen), outward looking and enterprising young men set out from their villages.[44] Ironically, it was the new treaty port system imposed by the foreign powers that provided much of the architecture for the emigration of substantial numbers of Chinese.[45] While only a small proportion of the millions of migrants who left Guangdong and Fujian after the mid-nineteenth century made their way to the goldfields, the appearance of Chinese diggers (and the fear that more might follow) played powerfully on the economic and cultural anxieties of white miners.[46] The racism that developed towards minority communities on all the nineteenth-century goldfields usually found its most potent expression in a virulent, transnational Sinophobia, which inspired visions of a "White Pacific" and sped the erection of "great white walls" against Chinese migration.[47]

None of the invaders—Western or Chinese—were arriving into unoccupied territories. The transnational circuits that converged on gold rush borderlands had

catastrophic impacts on indigenous communities. While the appearance of goldseekers might present new opportunities for employment and trade, the miners and their followers also brought death and destruction through disease, violence, and environmental cataclysm. Recent scholarship has emphasized the enduring presence of indigenous people at the rushes, and their contribution to the economic and social world of the mining camps. In one recent estimate, as many as four thousand Californian Indians worked in the central mines by the end of 1848—many of them because newcomers had shot or driven off game and ravaged traditional Californian Indian economies.[48] In Southern Africa, these dynamics were less about persistence than the systematic exploitation of indigenous labor. The discovery of the Transvaal Main Reef in 1886 redrew economic patterns across the South African sub-continent. Initially, black Africans migrated to the mines for limited wage employment, but under the combined pressures of colonial taxation, land dispossession, and ecological degradation, many black Africans had little choice other than to seek work in the new industrial centers surrounding Kimberley and Johannesburg.[49] By 1910, just twenty-four years later, the gold mine industry had created a coercive labor system that delivered two hundred thousand unskilled black workers annually to the mines from as far north as Central Africa.[50]

[Figref 1.2]

In California, as in Australia, New Zealand, and Canada, indigenous knowledge was coveted by the gold hungry newcomers—before subsequently being reclaimed as settler intuition. Across the Pacific, indigenous peoples assisted in many gold discoveries, labored in industries starved of other workers, worked as guides, and as police. In New Zealand, Maori miners' ability to seek out new finds was widely respected by the rushers, while at the

Klondike, First Nations people were much in demand for their skills and ability to navigate the rugged terrain.[51] The Tlingit people of the Pacific North West Coast, for instance, had long controlled the routes into the interior. "The Raven clan of the village of Chilkoot, south of Dyea, had a monopoly on the Chilkoot Pass until the 1880s," but as the rush for gold gathered pace, "they subsequently allowed miners to use the route."[52]

[Figref 1.3]

While historians' recovery of indigenous participation in the rushes has corrected years of omission, these interventions have done little to dampen our impressions of the gold rushes' role in accelerating the violent processes of Anglo settler colonialism. In California, the gold rush accelerated many of the challenges Californian tribes had endured during previous eras of colonization by Spaniards, Russians, and Mexicans. Between the late 1760s and 1846, the California Indian population had been in decline—falling from perhaps 310,000 to 150,000. Under US rule, Californian Indians died at an "astonishing rate."[53] Gold amplified the tragedy. Disease, dislocation, and starvation caused many deaths. More lethal, as Benjamin Madely has demonstrated, was the apparatus of genocide erected in the state that enabled the organized destruction of Californian Indians. Mass deaths in forced confinement on reservations, homicides, battles, and massacres took more lives and stymied reproduction. Demands for gold rush labor ensnared others in California's system of Indian servitude.[54] By 1870 the California Indian population had plummeted to just thirty thousand; by 1880 it had almost halved again to 16,200.[55] As early as 1890, the historian of California Hubert Howe Bancroft concluded that the Californian Indian catastrophe was "one of the last human hunts of civilization, and the basest and most brutal of them all."[56]

In Australia, gold intensified earlier patterns of pastoralist expropriation and violence against the colonies' indigenous people. After the first strikes in Central Victoria, ten thousand diggers swept down upon Barkers Creek, Mount Alexander, and the Djadja Wurrung's traditional hunting and camping areas. Creeks and streams were dammed or became alluvial sites, timber was felled in large quantities, and wildlife shot or driven away.[57] "The gold has done a lot of damage to the surrounding country," Jaara Elder Rick Nelson has recently explained. It has been estimated that the miners "dug out a metre or so of topsoil off the country," decimating the landscape and traditional Indigenous food sources. "In reality, most of the country has been changed."[58] Reflecting on the place of the gold rushes within Australian history, David Goodman has argued that "the vigorous, masculine, democratic politics of the 1850s gold-rush period, with its insistent calls for the land to be distributed among 'the people'" needs to be recognized, "as part of the same story as the taking of Aboriginal land and the breaking up of Aboriginal families and communities."[59]

Around the world, gold rush populations were overwhelmingly male. According to the census of 1850, the population of California was 92 percent male.[60] In the colony of Victoria, even by 1861, men of the ages 21–45 outnumbered women by a margin of two to one.[61] In New Zealand, the census of 1867 showed that only 15 percent of the West Coast population was female, and while the region was home to just 12 percent of the colony's European population, it contained one-quarter of the men aged between 21 and 45.[62] On the Ballarat goldfields, by contrast, women comprised almost one quarter of the total population, numbering close to four thousand.[63] In many areas, in the absence of significant numbers of white women, liaisons between the newcomers and indigenous women were not uncommon. In gold rush Australia, for instance: "Some settler men took for granted the availability of Indigenous women, and, from the point of view of lonely hut-keepers, shepherds, stockmen

and their employers, they were a welcome compensation for the hardships of life on the fringes of the empire."[64] These relationships could be mutually beneficial—though the inequities of the colonial system, together with the racism and chauvinism of many goldseekers, left indigenous women vulnerable to assault and abuse, which stoked further racial animosity and worried missionaries and other moral guardians.[65]

Disproportionate sex ratios on the goldfields dramatically altered divisions of labor. On account of the lack of female domestic and service workers, many men assumed responsibility for nursing the sick, laundering clothes, and cooking provisions.[66] For the women who did make their way to the goldfields, they found a premium on their labor—if they could bear the work.[67] The abolitionist Eliza W. Farhnam, who had travelled West from Boston in the wake of her late husband, advised other respectable young women eager to make the trip that "the necessities to be served here are physical; washing linen, cleansing houses, cooking, nursing, etc., and I would advise no woman to come alone to the country who has not strength, willingness, and skill for one or other of these occupations."[68] A series of landmark interventions by historians of the American west have highlighted the analytical paucity of images of women as either the "gentle tamers" of rough-and-tumble mining camps, or soiled doves who inhabited the dance halls and bordellos of frontier towns.[69]

As striking as women's labor on the goldfields itself was the impact of rushes on the labor of "gold rush widows," "women-in-waiting," or "grass widows" (as they were known in Victoria).[70] Back home, women managed households, farms and businesses, took in boarders, or taught local children to make ends meet while they awaited remittances from the diggings. Brian Roberts has argued persuasively that these women were not merely the

passive victims of male bread-winning fantasies, but partners in the business enterprise of seeking gold.[71]

[Figref 1.4]

Gold rush widows lived the events and upheavals of the gold rushes themselves through correspondence, press coverage, and the first-hand accounts of those returning from the fields. The difficulties and turmoil inherent in maintaining long distance relationships with loved ones residing in inaccessible and unknown regions, levied a tremendous toll on partners and mothers (not to mention children) left behind. "Do be persuaded to leave and come home for my sake and for your own," wrote one anxious mother from Hudson, NY, to her son in Maryborough, Victoria. "Don't think if you have to come home without much you will be the only one," she advised, "for their [sic] has been more come home without money from California than with."[72] Writing to Maryborough from the other side of the Atlantic—Greenock, Scotland—one wife poured scorn on her husband's "conduck [sic]" in abandoning his family in favor of fortune on the goldfields. "You might have sent us the half of what <u>you made</u>," she scolded, "You are a hard hearted <u>Father.</u> When you could sit down and eat up your <u>childrens</u> meat your <u>self</u>." "We are still in the same <u>House</u>," she concluded pointedly, "<u>where you left us</u>[.]"[73]

These widows seemed to resemble the dislocations of modernity heralded by the gold rushes. David Goodman has argued elsewhere that the goldseekers attracted so much attention because they were "harbingers of modernity," providing a focal point for those seeking to celebrate or denounce the changes they saw around them during the second half of the nineteenth century.[74] Women were central to these debates. Deserted wives in Victoria

were used as rhetorical figures by both radicals and conservatives in the colony's Land Reform Movement, which thrived in the 1850s and 1860s. For both groups, these women were "signifiers of the disruptions of gold discovery," and emblems of the disrepair into which gender relations fell in economies dependent upon seasonally itinerant male labor.[75] Similarly, by focusing on women's centrality to the radical, dissenting politics of the Ballarat goldfields community, Clare Wright and Dorothy Wickham have re-conceptualized Australian democratic development as crossing gender boundaries from the beginning.[76]

Together, these approaches complement the work of the chapters in this volume by destabilizing the national narratives of the male "digger's democracy" and "heroic husbandry" that have been told time after time by many gold rush historiographies.[77] Across the chapters that follow we seek to emphasize the importance of the goldseekers as the products and the makers of global history, and to trace how their endeavors had a profound impact—human, economic, and environmental—on the gold countries, and on the societies from which they hailed. Many were enriched, many more simply struggled along, devoting their lives "upon the altar of the golden calf," as Mark Twain put it, but their toil and their ambitions had wide historical implications.[78]

Gold Rush Gateways

In revising the romanticized national narratives of gold rush historiography, there is a risk that we replace them with an equally delimiting international one. The essays that follow anticipate this danger. As a number of contributors make clear, global migration and exchanges did not occur in a borderless world and, in many cases, mass migration accelerated immigration restriction and the production of multi-tiered labor systems. These essays also challenge historians to plot more carefully the places and infrastructure that anchored global

connections and the people and processes involved in creating and managing long-distance trade, communication, and exchange.

The origins of the people, goods, technologies, and capital that circulated between rushes were diverse, but before they reached the diggings they converged on, and passed through, gateway cities. These gateways included San Francisco, Melbourne, Cape Town, Dunedin, and Vancouver through which international migrants and goods were transshipped overland or by water to the frontier of extraction. The same was true of interior ports such as Denver (CO), Boise (ID), Sacramento and Stockton (CA) located near navigable rivers and at liveable altitudes once the mines surrounding them closed in winter. Johannesburg in the Boer Free States functioned as an inland gateway in much the same way after the arrival of railways from the sea-ports of Cape Town in 1892, Delagoa Bay in 1894, and Durban in 1895 that channeled international goods and peoples to the frontier of extraction.[79] Smaller towns, closer to the mines themselves, were plugged into these urban centres and often grew at a prolific rate.[80] In Victoria, as Weston Bate has explained, "people were drawn up-country by gold and many remained there in towns which became significant market and industrial centres." With the onset of the rushes, Melbourne's share of the colony's population fell from 38 percent in 1851 to 23 percent ten years later. A further decade on, in 1871, Melbourne was home to some 191,000 people, but there were still more than 270,000 souls on the goldfields, of whom more than half lived in towns of over 500. Still, A.R. Hall and A.C. Kelley have demonstrated that Victoria's population "kink" of young adults, had long-term consequences on economic development and consumption patterns. High marriage and birth rates in the 1850s, fueled Melbourne's boom in the 1880s, as a new generation of young adults moved from goldfields communities to the city and created new demands on services, housing, and food.[81] The iconic gold rush cities of Ballarat and Bendigo both benefitted from a degree of

natural protection before the arrival of railways to the ports (Geelong-Ballarat and Melbourne-Bendigo) in the 1860s, developed considerable local industries, and became hubs for a series of satellite goldfields towns and villages.[82]

Oceanic and inland port cities were especially important transaction points. Merchants, emigration agents, entrepreneurs, and industrial giants headquartered in these gold rush gateways, relied on the bank branches and exchanges, counting houses, telegraph offices, post offices, customs houses, news wires (and not a few on the saloons, boarding houses, gambling dens, and bordellos) that concentrated there.[83] Gold rush ports were junctions, collecting manufactured goods and raw materials, and redistributing them to the diggings and new towns along the cord roads and waterways that spanned outwards from them. To accommodate the new influx of trade, these gateways grew rapidly, often in ad hoc ways, until civil government brought an army of planners, civil engineers, and civic-minded citizens to bring order to their chaotic streets. Over time, then, gold rushes set the template for future urban and political development. In some cases, newly-founded gold rush cities like Sacramento and Denver became the seats of local and national political authority. In other cases, gold rushes accelerated the growth and expanded the influence of older population centres.[84] Melbourne in particular, became the economic, cultural, and political hub of an emerging Tasman World—a world that transcended the national boundaries that would later distinguish Australia and New Zealand. The rushes to New South Wales, Victoria, Otago and the West Coast of the South Island, one recent scholarly collection makes clear, were intricately interlinked—"an episode in *Australasian* history."[85] Having been transformed into a major entrepôt by gold, Melbourne became the "lynchpin," linking the various branches of what we might think of as a Trans-Tasman "Australasian Goldfield."[86]

The dynamic, redistributive nature of gold rushes can be seen most vividly at work in San Francisco. In 1848, this future metropolis was home to just eight hundred inhabitants, which mushroomed to twenty thousand by 1850, and fifty thousand a decade later.[87] The rate of in-migration was even higher, as individuals passed through the port before moving on (more than 450,000 people transited through the port between 1849 and 1860).[88] As these people arrived, the city had just 135 houses and twelve stores to accommodate them. Just one year after the rush began, San Francisco harbor had become the final resting place for the hulls of 640 clippers, the remnants of the United States' abandoned merchant marine, its crews seeking fortunes in the creeks and riverbeds of the Sierra foothills and their captains unable to secure onwards cargoes. At the beginning of the mining season in spring 1849, one journalist in San Francisco noted that "most of the vessels in port have been entirely abandoned by their crews"; other sailors simply jumped ship and swam ashore.[89] The high cost of lumber and bricks and a shortage of space to protect incoming cargos inspired innovative solutions to the problem of overcrowding and warehousing. The city simply expanded to meet the abandoned ships. By 1857, merchants had built seventeen new landings in the port, the longest of which extended two thousand feet from the shore.[90] As in figure 1.5, some ships were drawn up to the shoreline where they were dismasted and down-rigged for new lives as stores, hotels, saloons, and offices—even as a prison.[91] In other cases wharves were built outwards to meet the ships in the cove and extended the city's commercial district to the waterfront, which, according to one resident, "swayed noticeably."[92] Such was the boom propelling this extraordinary growth that old San Francisco residents returning from the mines found their property had increased five to ten times in value.[93]

[Figref 1.5]

San Francisco flourished thanks to the stimulus of trade and migration. "San Francisco is the center, the focus, the heart of California," boasted the *Daily Alta California*, the city's leading newspaper, in January 1854; "the city is the store-house, the trading-post for the state and all the rest of the North Pacific besides."[94] Like San Francisco, the city of Melbourne was bent to the needs of the gold rush.[95] Migrants who could not afford to store their possessions in the city or to transport them to the goldfields gathered for the "rag fair" outside the Customs Office and hawked watches, pistols, and heaps of clothing from trunks and boxes.[96] On the south bank of the Yarra River at Emerald Hill, Governor Charles La Trobe set aside land for "lime-juicers" (incoming migrants) in 1852, which filled up rapidly with tents. "Canvas Town," as it was dubbed, appeared like a "confused swarm of tents, pitched at random … like a flock of pigeons after a long flight."[97]

[Figref 1.6]

"Like other cities that grow by magic," wrote one American goldseeker, "most of the buildings are temporary and they are already giving place to more capacious and costly ones."[98] Yet, by 1860, one-third of Melbourne's population still lived in tents.[99] In both cases, but especially in Victoria, the state worked hand in hand with this messy growth and eventually stepped in to encourage the building of railroads, to coordinate surveying and exploration, and to build forts, lighthouses, harbor defenses, and other essential infrastructure.[100] Gold generated public revenue, but also increased public spending, and in the case of Victoria, according to one economic historian, contributed to a "government habit" in the colony.[101] "The Government of this country," one official commission reported in relation to Victoria, "is compelled … to do many other acts which in older countries

possessing similar institutions are effected either through private enterprise or through local exertion."[102]

The near simultaneity of the Victorian and Californian rushes supported booming, inter-gold-rush trade.[103] Surplus American wheat and flour found a ready-made market in the colonies of Victoria and New South Wales, which gold rush migration had transformed into net importers of grain.[104] Several American firms, including San Franciscan provision merchants Husey, Bond, and Hale, established branches in Melbourne. American buggies and wagons drove passengers, goods, and mail around Melbourne's streets and to the goldfields.[105] "You would be surprised to see how fast this place is becoming Americanised," wrote George Francis Train, agent of the British-owned White Star line, from Melbourne.[106] Much later on the Rand, American consuls found a great appetite for American produce including canned meats and fats, grains and flour; beasts of burden, particularly horses and mules; and manufactured industrial equipment, such as rock drills and cyanide warls. Americans firms such as Fraser & Chalmers of Chicago jostled with rival Belgian, German, Australian, and of course British products for market dominance, while its meat producers fended off competition from Argentine and Australian rivals.[107]

Gold rush ports were not only places where goods were unloaded and passengers disembarked. While some cities might be referred to as gateways, others were transit zones. Hong Kong, for one, was shaped primarily as an emigrant port and, Elizabeth Sinn writes, was transformed by the Pacific gold rushes from a "small-scale entrepôt of goods into a large-scale entrepôt of people."[108] Vessels loaded with migrants, often on a credit-ticket, and "Chowchow" (China trade jargon for miscellaneous goods) plied routes between Hong Kong, Hawaii, California, and the colonies of Victoria and New South Wales. These trade routes

were often already well established by the eve of the gold rush, but the shockwaves that emanated from the Sacramento valley increased the velocity and density of these patterns of connection.[109] In a different way, gold rush migration was anchored by two other transit zones on the Atlantic and Pacific: Chagres and Panama City. Early in the California rush, the two cities in Panama were connected by the Rio Chagres and a chain of local muleteers and canoeists, but soon a consortium of capitalists from the northeastern United States sought to undermine this indigenous transport system, and in turn Panamanian sovereignty, by building the Panama Railroad. Many more people migrated via Panama than the treacherous overland route through Wyoming's South Pass or the long voyage around Cape Horn.[110] The spit of Panama, writes Aims McGuinness, "was remade into one of the principal conduits for the great maritime migration to the goldfields of California."[111] As our colleague, the late Jan-Georg Deutsch once suggested: "Historicizing these complex movements prompts a reconsideration of the ways in which global, regional and local histories are inter-connected to those of capital flows, labor migration, commerce, and imperialist expansion."[112]

Transnational Currents: Capital and Labor

The peak of Californian placer mining was not even over by the time many commentators predicted the demise of independent labor and the rise of wage labor. "We have now the river bottoms and the quartz veins," reported the *Alta California* in 1851, "but to get the gold from them, we must employ gold. The man who lives upon his labor from day to day, must hereafter be employed by the man who has in his possession accumulated labor, or money, the representative of labor."[113] The essays in this volume encompass gold mining's long transformation from an artisanal occupation to a technologically sophisticated metals industry. In the long-term, mining transitioned from the dominance of alluvial mining spread along river systems, which between 1848 and 1875 accounted for 88 percent of world gold

production, to industrialized quartz mining, which accounted for 55 percent of global output by 1890.[114]

The transition from rockers and long toms to piston drills and chemical amalgamation; from independent, small cooperative groups to hierarchically organized companies with large wage labor forces, was by no means seamless. "Work in the diggings," writes Susan Lee Johnson in her magnificent volume *Roaring Camp*, "proceeded according to a dizzying array of systems that included independent prospecting and mining partnerships as well as altered Miwok gathering practices, Latin American peonage, North American slavery, and, later, Chinese indentured labor."[115] In the gold mines of the Rand and Wassa on the Gold Coast, mine corporations kept labor expenditures low by mixing new technologies operated or overseen by white foremen with squads of low-paid black African laborers using hand drills in narrow stopes.[116]

Technologies co-existed too. Many miners continued to use the tried-and-tested techniques of pick and pan as they searched for alluvial gold while their more highly capitalized counterparts used more expensive mechanical, chemical, or hydraulic processes that emerged from the mid-1850s.[117] Some goldfield cities such as Johannesburg, Waihi (New Zealand), and Mount Morgan (Queensland, Australia) rang to the sound of industrial mining from the outset, while the Klondike was famously billed nostalgically by its boosters as "the last great gold rush," with easy-pickings supposedly available to anyone who could get there.[118] Globally, the shift from alluvial to industrial quartz reef mining took place at different speeds in different places, but nevertheless was a striking case of the purposeful transformation of the global mining industry into a capital-intensive, corporate enterprise.

Geology determined decisions over technology, labor, and capitalization. Once alluvial deposits pinched out, miners turned their attention to gravel and quartz deposits deep underground, which required more capital and technical know-how to extract. Broadly speaking, then, this corresponds with Belich's designation of an "open" and "closed" phase to gold rushes.[119] In the former phase, gold was accessible to those who could find it and extract it with low-tech equipment and hard graft. The latter phase was high-tech and capital intensive. In California, hydraulic mining was the breakthrough technology and had a dramatic impact on ancillary industries after its first use in 1853.[120] Hydraulic mining drove a need for cast-iron nozzles and canons known as "monitors" to withstand increasing pressures, pumps, hoses (usually made of strong canvas or cow hide), and pipes. California lumber industries took off thanks to the almost insatiable demand for flumes to channel water (5,726 miles in all by 1859) and spectacular viaducts to carry it across canyons. By 1870, reported the State Agricultural Society, one third of the "accessible timber of value" in the state was gone.[121]

In South Africa, the breakthrough was cyanide, which finally enabled the extraction of gold from low grade quartz ores. The Mac-Arthur-Forrest process involved mixing finely crushed ores (referred to as "sands" or, when the stamp mill was water-based, "slimes") in a weak cyanide solution, the result of which was then mixed in large tanks and the gold selectively dissolved. The gold-bearing solution was then filtered before precipitation over zinc metal shavings. Cyanidation recovered a yield of 90 percent of gold from the crushed ore, much more than the 60–80 percent of other milling techniques but also left a toxic legacy of polluted surface and ground water supplies by acid drainage and hydrogen cyanide emissions.[122]

[Figref 1.7]

Engineers successfully applied cyanidation on a small scale at individual mines around the world, but industrial cyanidation began first on the Rand in 1891 (see figure 1.7). It did not take experimental engineers long to perfect the process on a large-scale on the Sierra Madre, Mexico, in 1893; in New Zealand in 1894; and in Australia and the western United States soon after.[123] Compressed-air drills, nitroglycerine, chlorination among many other innovations, spread across goldfields around the world through the technical press and a new class of highly educated, internationally mobile consulting engineers.[124]

The quest to exert technological mastery over water and geology exacted huge, long term environmental costs. Gold's impact on the natural world was devastating. Mining made moonscapes of the gold regions (seen in figure 1.7 below), leaving behind denuded forest lands, open pits, polluted water courses, and toxic tailings ponds. "You may see today a beautiful flat or gully covered with grass and trees," the Scottish goldseeker Edwin Lithgow wrote to his mother from Victoria in 1853, but by the following evening the area would be "dug full of drain holes" and covered with heaps of "gravel, sand etc," with "the water in the creeks or rivulets quite yellow with washing the stuff." "We dare not go out after dark at least fifty yards from our door," his countryman James Harvey Hoey, had written home a few months earlier, "for fear of shot or falling in a hole."[125] Alluvial and deep-leed mining everywhere consumed vast amounts of timber. Whole forests were cut down and re-erected underground (to support shafts and drives) or else sent up in flames (to fuel boilers powering pumping and hauling equipment).[126] "Little more than a year ago", the radical English journalist William Howitt wrote in 1853 that the previously wooded White Hills at Bendigo, "is now perfectly bare of trees, and the whole of it riddled with holes of from ten to eighty

feet deep–all one huge chaos of clay, gravel, stones and pipe–clay, thrown up out of the bowels of the earth![127]

Enormous tailings dumps were also recognizable to most goldfields visitors. After witnessing the "roaring vortex of passion and greed" of the Witwatersrand's mines, one observer stood aghast of the "nakedness of these livid, monstrous dumps" of crushed rock ore.[128] These same pollutants had dramatic impacts on the health of workers too. Prior to the introduction of water-fed drills, dust and dynamite fumes led many miners to contract miner's phthisis, which slowly eroded lung tissue and their resistance to tuberculosis. The average age of death for Cornish rock drillers working in South African mines for 1900–2, for instance, was just 36 years old.[129] In the overcrowded compounds of Johannesburg and Kimberley, disease was rife and black African mortality rates exceeded more than 100 per 1000 for 1902–3.[130]

[Figref 1.8]

If contemporaries recognized the staggering and costly environmental devastation wrought by mining as inevitable, and if life on the diggings was sometimes cheap, these costs were scarcely considered during the corporate reorganization of gold extraction. Prospectors owned claims, not capital. As mining became capital-intensive, the miner's world was transformed as they became wage laborers governed by the shift whistle.[131] New, giant industrial joint stock companies offered a vast range of employment and miners switched jobs a great deal, because the industry was unstable—or because they had been black-listed for union activity.[132] Most miners were highly adaptable and crossed both extractive sectors and non-specialist roles: individual laborers spent time blasting rock in the silver mines of the Comstock Lode or Leadville (CO); digging irrigation ditches or clearing the sluices of

hydraulic mines; smelting copper in Anaconda (MT), Tombstone (AZ), or Mount Lyell (Tasmania). Within the mines themselves, men labored in a variety of roles in a common environment of dust, dark, and danger. On-site managers were increasingly wage earners too, as in the silver and lead town of Broken Hill, New South Wales, where absentee owners and joint stock companies were the norm.[133] As David Igler has written of the American West, such jobbing across the mineral economy was "a common strategy used by many … to navigate the insecurity and turbulence of this burgeoning capitalist society."[134]

The transformation of male mining labor, was mirrored in the worlds of domestic labor and personal service work. In many mining regions, the transition to wage labor and the establishment of permanent communities brought a striking demographic shift.[135] While in 1852 both the foreign and native-born white populations in the California mining districts were 95–98 percent male, these proportions slowly began to fall.[136] By 1870, the native-born population was 43 percent female, although only three immigrants in ten were women.[137] Men with families in the mining towns were typically older, were skilled miners or tradesmen, professionals, or capitalists. These people bought homes, built schools and union halls, and founded social and benevolent associations. Mining communities, offered limited employment opportunities for female workers compared to older established urban centres. In the mining camps of the late-nineteenth-century United States, for instance, censuses recorded 90 percent of women engaged solely in housekeeping and child-rearing. The remaining one in ten women were independent wage earners, typically governesses, milliners, seamstresses, dressmakers, and laundresses.[138] Historians have also uncovered glimpses of female saloon owners, hoteliers, and speculators in the historical records of goldfields communities; employments established as women's rightful domain as much as the scullery and parlor.[139] Demand for sex services never abated.[140]

Excluded from industrial work, Chinese men also found employment as laundrymen, cooks, and domestics—all part of the so-called female sphere. Euro-American males subsequently feminized them.[141] "There is something emasculate about the whole race," one critic commented, "looking at their beardless faces, small hands, and slender limbs, it does not seem strange that they should be so apt at washing, cooking, and other household drudgery that in most countries falls to the women's share."[142] The gender politics of labor played out in strikingly divergent ways globally. In South Africa, white householder's thirst for domestic servants and a corresponding lack of female migrants shaped a reliance on "houseboys" for kitchen work, child-rearing, and other household tasks.[143] Far from being feminized, these men were hyper-sexualized. Because black male domestic laborers chose household work rather than mine labor, "houseboys" were viewed as dangerous threats to social stability, racial hierarchy, and the sexual safety of white mistresses. "Beware of your 'houseboy,'" cautioned one editorial, "for under the innocent front may be lurking and lying latent the passions of the panther, and worse!"[144] In response, a series of "black peril" scares were triggered amongst anxious white residents in Johannesburg between 1890 and 1914.[145]

Labor and capital, meanwhile, fought over this new industrial order. Corporate control over mining proceeded uneasily, but increasingly capital consolidated its grip over production and wage labor through corporate infrastructure and economies of scale.[146] In the "open phase" of gold rushes, private capital investment was drummed up locally, but in the later "closed phases" of rushes, mining capital was often transnational capital. Strong currents of investment, goods, and technologies moved from metropolitan centers to imperial frontiers in support of the burgeoning gold industries. The balance of transnational capital came from the London Stock Exchange, but French and German bourses also invested large amounts. By

1898, British owned companies produced 60 percent of the world's annual gold output.[147] By 1900, 90 percent of the mines in Cripple Creek were owned by capitalists from Denver or foreign and eastern capitalists: Colorado Springs, home of the well-heeled mining magnates of the district, was not so affectionately dubbed "Little London" as a result.[148] British investors did not control the spending, however. Mine owners from the United States and Britain's settler dominions dispatched agents to London to float companies and lure investment capital from the Square Mile to the goldfields.[149] In the opposite direction flowed bullion, most often to London, underwriting global trade and the Gold Standard upon which it depended and increasing the availability of credit.[150] Capital also entered the mineral economy through the gateway cities, which in time developed their own stock exchanges.[151]

Mine speculation was a risky, and at times downright criminal, business.[152] All over the world, miners rushed to form companies in search of the next mother lode, but very few paid dividends. Within a year of the San Francisco Stock Exchange's founding in 1862, the *Mining and Scientific Press* listed thirteen hundred mining companies on the 'change—most of them fraudulent.[153] Of sixty mining companies listed in Western Australia in 1894, only one-fifth had survived to 1900.[154] The capitalist transformation of gold mining intersected with the developing culture of risk around the world. Now the moral languages of "mania" and "fever" were transferred from the act of digging to the chance-world of the stock market.[155] Victoria added 1,206 new gold companies in 1871, as excitement over Bendigo quartz mines encouraged a flurry of activity. In August, when the "Beehive," the building where many of Bendigo's brokers and company managers were based, was burnt to the ground "share market business was interrupted for scarcely an hour."[156] For all of those who viewed this as a story of glittering success, there were many for whom the political economy of gold thus continued to provoke anxiety and alarm.[157] "Mining is a legitimate business,"

lectured the *San Francisco Chronicle* in 1873, "while dealing in stocks is gambling."[158] "Three-quarters of all transactions in mining shares come under the head of gambling, pure and simple," surmised Curle.[159]

Gateway cities benefitted from precisely the capitalist, technological, and geological forces that injured the individual goldseeker.[160] Gold rush gateways sat at the center of webs of finance, investment, and entrepreneurship that spanned out to new mining frontiers and the city's hinterlands.[161] In 1858, when as many as 30,000 Forty-Niners left for the Fraser River canyon in British Columbia, San Francisco's steamers, merchants, and iron foundries boomed.[162] Investors and lumbermen in the Bay City dominated the extraordinary growth of the subterranean forest of the Comstock Lode, to such an extent that Nevada was boastfully referred to as "the child of California."[163] Agriculture was among the chief beneficiaries of the economic stimulus triggered by gold discoveries.[164] Although the gold discoveries lead to a temporary, large-scale ambandonment of agriculture in Victoria, between the census of 1854 and 1861 the number of farms and market gardens under cultivation increased from three thousand to thirteen thousand, and the working farming population from 7,500 to thirty five thousand.[165] Much of the land under cultivation was for wheat, oats, hay, and potatoes. Melbourne was a port defined by agriculture as much as industry. Within a decade of gold's discovery, shipments of fruit from the nearby island of Van Diemen's Land had increased tenfold.[166] Sheep, coal, and oranges from New South Wales, beef and bananas from Queensland, and timber from New Zealand flowed through the port; in turn, capital flowed to the new mining centers at Broken Hill, Mount Owen, Kalgoorlie, and Coolgardie.[167] By 1890, Melbourne was as populous and rich as California. In the "cauldron of capitalist development" that was Johannesburg, the Rand's mine owners invested huge amounts in secondary enterprises such as banks, tramways, reservoirs, and railways, necessary to

vertically integrate mining corporations.[168] Yet, gold mines were a wasting asset. As a result, San Francisco, Melbourne, and Johannesburg all experienced spectacular busts—destructive stories of failure, central to the history of the gold rushes. But, because many local entrepreneurs reinvested profits and diversified their capital in local commercial enterprise and services, these cities were subsequently able to recover and thrive as entrepôts of trade and hubs of economic development.[169]

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Re-imagining the global history of gold rushes as a history of cross-pollinating networks of trade, communication, finance, migration, and technology is an attractive prospect. Yet, isolating gold rushes poses risks. Commodity histories can tend toward Whiggish, triumphal narratives, and so a global history of gold must work hard to unpick the interactions of gold rushes with the new modes and technologies of global connection that emerged from the mid-nineteenth century. Global connection in the nineteenth century relied heavily on exploitable mineral wealth. Copper, lead, tin, iron (and its smelting flux limestone), and later aluminum and other base metals, were critical to the development of steamship routes, railways, and telegraph communication. Coal-guzzling engines unlocked the scale of global shipping—by the end of the century the largest ships were ten times the size of those a century earlier, and navies were larger too—meaning that the control of coal was essential to the global power of empires.[170] Pit coal production rose sixteen-fold in the period roughly approximating the gold rushes in these essays, rising from 80 million tons in 1850 to more than 1.3 billion tons in 1914.[171] Arguably more important than any of the gold strikes in this volume for the British Empire, was the discovery of the enormous Raniganj coalfield north of Calcutta, which fueled the empire's expansion over land and sea. By 1862,

the worldwide telegraph network was 150,000 miles and growing—the globe was being wrapped in copper at pace.[172] The drive to exploit these mineral resources was central to the projection of political power in colonial and borderland settings from the mid-nineteenth century.

Yet, even considering the collapse of distance and time accelerated by these technologies, gold stood out to contemporaries, for the dizzying velocity with which global connections were organized around its search. Gold rushes therefore offer rich analytical opportunities for global historians. Global History's attraction to networks, and the wonkish vocabulary of nodes, vectors, and nexuses that has so far accompanied them, can tend to abstract the human activities and processes that lay behind the creation and maintenance of long-distance connections. By focusing on strands of gold rush mobility and the institutions and non-state actors who organized and administered these global capitalist connections, historians can bring a sharper analytical framework to the wider patterns of the globalizing world from the mid-nineteenth century. In various ways, the essays in this volume do just that. They aim for neither comprehensiveness nor coverage, but methodological creativity. Collectively, they make the case that gold rushes stand out for the way in which they fired economic imaginations across the globe, and for the velocity with which the global search for gold mobilized the exchange of people, goods, knowledge, investment, technological innovation and fired processes of adaptation, capitalist exploitation, and environmental transformation.

By the end of the century these circulations had transformed the miners' world: sophisticated technology had taken over pick and pan; joint stock companies had overtaken small, cooperative enterprise; and capital predominated. The culture of gold mining had also

become self-referential, even nostalgic. The men and women hoping to escape wage work by trying their luck on the Klondike had been schooled on the technical and narrative accounts of the mid-century rushes. The son of Forty-Niners, George Washington Carmack had wandered up and down the Northwest coast before settling near present day Skagway where he befriended a young Tagish Indian man named Keish—and married his sister. In August 1896, Carmack, Keish, and several others began prospecting on Rabbit Creek in Yukon Territory. From four claims, the small company of men sluiced close to half a million dollars in gold dust and nuggets over the next few years and renamed the watercourse Bonanza Creek. Their discoveries sparked the Klondike Gold Rush. "It was the days of '49 all over again," Carmack wrote his sister.[173] Once news of the strike became public, thousands more men followed in Carmack's footsteps and over the Chilkoot Pass to search for Yukon gold. But like their predecessors on goldfields elsewhere, many found that gold was a fickle, cruel employer. "There are many disgusted people, many of whom wish they had never heard of Klondike," wrote one despondent miner who found mining just another form of industrial wage labor.[174]

Gold fever's outbreak was brief and intense, cut short by capitalism's control over the mining frontier. "Bonanza enriches a few people for a short time and then becomes a hole in the ground, or one of several, in a 'ghost town,' an abandoned settlement proclaiming former volcanic human activities now extinct," reflected the American mining expert Thomas Rickard towards the end of his life.[175] The global story of mineral resource development is not yet over. Yet, while mining remains a leading sector in the world economy, never again would the globe be convulsed by a sequence of such dramatic, such creative, such destructive gold rushes.

Notes

[1] V. J. F. to Missouri *Republican*, June 22, 1849, in Walker D. Wyman, "California Emigrant Letters," *California Historical Society Quarterly* 24, no. 1 (March 1945), 29.

[2] Quoted in L. G. Churchward, "Australian-American Relations During the Gold Rush," *Historical Studies: Australia and New Zealand* 2, no. 5 (1942), 15.

[3] Quoted in Kathryn Morse, *The Nature of Gold: An Environmental History of the Klondike Gold Rush* (Seattle: University of Washington Press, 2003), 127.

[4] "Gold," *The Argus*, 19 January 1849.

[5] These statistics are from: Keir Reeves, Lionel Frost, and Charles Fahey, "Integrating the Historiography of the Nineteenth-Century Gold Rushes," in "A World in Search of Gold," special issue, *Australian Economic History Review* 50, no. 2 (July 2010), 117–118.

[6] Mae M. Ngai, "Chinese Gold Miners and the 'Chinese Question' in Nineteenth-Century California and Victoria," *Journal of American History* 101, no. 4 (March, 2015): 1082.

[7] J. H. Curle, *The Gold Mines of the World*, 2nd ed. (London: Waterlow and Sons, 1902), 4–5.

[8] Kenneth N. Owens, "Introduction," in *Riches for All: The California Gold Rush and the World*, ed. Kenneth N. Owens (Lincoln and London: University of Nebraska Press, 2002), 1. Owens draws on Gary Kurutz's invaluable bibliography *The California Gold Rush: A Descriptive Bibliography of Books and Pamphlets Covering the Years 1848–1853* (San Francisco: Book Club of California, 1997). See also Peter J. Blodgett, *Land of Golden Dreams: California and the Gold Rush Decade, 1848–1858* (San Marino: Huntington Library, 1999), 35–9.

[9] Weston Bate, *Victorian Gold Rushes* (Fitzroy: McPhee Gribble, 1988), 34. Geoffrey Serle, *The Golden Age: A History of the Colony of Victoria, 1851–1861* (Melbourne: Melbourne University Press, 1963), 65.

[10] Gerald D. Nash, "A Veritable Revolution: The Global Economic Significance of the California Gold Rush," in *A Golden State: Mining and Economic Development in Gold Rush California*, eds., James J. Rawls and Richard J. Orsi (Berkeley: University of California Press, 1999), 286–9.

[11] Michel Chevalier, *On the Probable Fall in the Value of Gold*, 3rd ed., trans. Richard Cobden (Manchester: Alexander Ireland and Co., 1859); Karl Marx, *Capital: A Critique of Political Economy*, trans. Ben Fowkes (New York: Random House, 1977); Louis de Launay, *The World's Gold: Its Geology, Extraction, and Political Economy* (New York: G. P. Putnam and Sons, 1908); Steven Bryan, *The Gold Standard at the Turn of the*

Twentieth Century: Rising Powers, Global Money, and the Age of Empire (New York: Columbia University Press, 2010).

[12] A comprehensive selection of these works can be found in the endnotes and the bibliography of this volume.

[13] Josiah Royce's *California from the Conquest of 1846 to the Second Vigilance Committee in San Francisco: A Study in American Character* (New York: Alfred A. Knopf, 1948) stands out for its concern with the violence of white settlers to California's inhabitants.

[14] William P. Morrell, *The Gold Rushes* (London: A.C. Black, 1940), 3.

[15] For California: J. S. Holliday, *The World Rushed In: The California Gold Rush Experience* (New York: Simon & Schuster, 1981); Rudolph M. Lapp, *Blacks in Gold Rush California* (New Haven: Yale University Press, 1977); Ralph Mann, *After the Gold Rush: Society in Grass Valley and Nevada City, California 1859–1970* (Stanford: Stanford University Press, 1982); David Goodman, *Gold Seeking: Victoria and California in the 1850s* (Sydney: Allen & Unwin, 1994); Malcolm J. Rohrbough, *Days of Gold: The California Gold Rush and the American Nation* (Berkeley: University of California Press, 1997); Susan Lee Johnson, *Roaring Camp: The Social World of the California Gold Rush* (New York: W.W. Norton, 2000). On Australia: Fred Cahir, *Black Gold: Aboriginal People on the Goldfields of Victoria, 1850-1870* (Canberra: Australian National University Press, 2012); Iain McCalman, Alexander Cook, and Andrew Reeves, eds., *Gold: Forgotten Histories and Lost Objects of Australia* (Cambridge: Cambridge University Press, 2001), parts II-IV. On Canada: Jeremy Mouat, *Roaring Days: Rossland's Mines and the History of British Columbia* (Vancouver: University of British Columbia Press, 1995); Jean Barman, *The West Beyond the West: A History of British Columbia*, 3rd ed. (Toronto: University of Toronto Press, 2007). On South Africa: Alan H. Jeeves, *Migrant Labour in South Africa's Mining Economy: The Struggle for the Gold Mines' Labour Supply, 1890–1920* (Kingston and Montreal, ON: McGill-Queen's University Press, 1985). On New Zealand: Philip Ross May, *The West Coast Gold Rushes*, 2nd ed. (1962; Christchurch: Pegasus Press, 1967); Lloyd Carpenter, "Finding 'Te Wherro' in Otakou: Maori and the Early Days of the Otago Gold Rush," *MAI Journal* 2, no. 2 (2013): 105–120.

[16] Ralph J. Roske, "The World Impact of the California Gold Rush," *Arizona and the West* 5, no. 3 (1963): 187–232; Jay Monaghan, *Chile, Peru, and the California Gold Rush of 1849* (Berkeley: University of California Press, 1973); Nash, "A Veritable Revolution"; Owens, ed., *Riches for All*; James Belich, *Replenishing the Earth: The Settler Revolution and the Rise of the Anglo-World, 1783–1939* (Oxford: Oxford University Press, 2009); Reeves, Frost, and Fahey, "Integrating the Historiography of the Nineteenth-Century Gold Rushes";

Samuel Truett, *Fugitive Landscapes: The Forgotten History of the U.S.-Mexico Borderlands* (New Haven: Yale University Press, 2006).

[17] Curle, *Gold Mines of the World*, 3.

[18] "The Californian Movement," *Punch or the London Charivari* 16 (1849): 52.

[19] Belich, *Replenishing the Earth*, 309–319.

[20] Belich, *Replenishing the Earth*, 313; Goodman, *Gold Seeking*, ix.

[21] Goodman, *Gold Seeking*, ix.

[22] Barman, *West Beyond the West*, 65.

[23] Michael King, *The Penguin History of New Zealand* (Auckland: Penguin Books, 2003), 210.

[24] Stanley H. Palmer, "The Power of Numbers: Settler and Native in Ireland, America, and South Africa, 1600–1900," in *Transatlantic History*, eds. Steven G. Reinhardt, Dennis, Reinhartz, and William Hardy McNeill (College Station, TX: Texas A&M Press, 2006), 129.

[25] Charlene Porsild, "The Last Great Gold Rush: From California to the Klondyke in the Nineteenth Century," in *Riches for All*, ed. Owens, 317.

[26] Quoted in Barman, *West Beyond the West*, 64.

[27] Daniel Heald to Mother, July 27, 1853, Folder 5, Heald Family Papers, Bancroft Library, University of California, Berkeley.

[28] Thomas Heald to Alden Heald, March 22, 1854, Folder 6, Heald Family Papers.

[29] J. H. M. Salmon, *A History of Goldmining in New Zealand* (Wellington: Government Printer, 1963), 18.

[30] Philip Ross May, "Gold Rushes of the Pacific Borderlands: A Comparative Survey," in *Provincial Perspectives: Essays in Honour of W. J. Gardner*, eds. Len Richardson and W. David McIntyre (Christchurch: University of Canterbury, 1980), 100. See also James Belich, *Making Peoples: A History of the New Zealanders: From Polynesian Settlement to the End of the Nineteenth Century* (Auckland: Penguin, 1996), 345–6.

[31] Morrell, *Gold Rushes*, 415.

[32] Curle, *Gold Mines of the World*, 4–12.

[33] Douglas Fetherling, *The Gold Crusades: A Social History of the Gold Rushes, 1849–1929*, rev. ed. (1988; Toronto: University of Toronto Press, 1997).

[34] Belich, *Replenishing the Earth*, 321.

[35] See chapters by Benjamin Mountford and Mae Ngai.

[36] Marilyn Lake and Henry Reynolds, *Drawing the Global Colour Line: White Men's Countries and the International Challenge of Racial Equality* (Cambridge: Cambridge University Press, 2008).

[37] Malcolm J. Rohrbough, "'We Will Make Our Fortunes—No Doubt of It': The Worldwide Rush to California," in *Riches for All*, ed. Owens, 55.

[38] Rohrbough, "We Will Make Our Fortunes," 55–70.

[39] Eliza W. Farnham, *California, In-doors and Out; or, How We Farm, Mine, and Live Generally in the Golden State* (New York: Dix, Edwards, & Co., 1856), 326–8.

[40] Barman, *West Beyond the West*, 71.

[41] Porsild, "The Last Great Gold Rush," 317.

[42] Ngai, "Chinese Gold Miners," 1083.

[43] Benjamin Mountford, *Britain, China, & Colonial Australia* (Oxford: Oxford University Press, 2016), 48, 65.

[44] Yong Chen, "The Internal Origins of Chinese Emigration to California Reconsidered," *Western Historical Quarterly* 28, no. 4 (Winter 1997): 520–46; Haiming Liu, "The Social Origins of Early Chinese Immigrants: A Revisionist Perspective," in *The Chinese in America: A History from Gold Mountain to the New Millennium*, ed. Susie Lan Cassel (Walnut Creek, CA: Rowman & Littlefield, 2002), 21–36.

[45] P. A. Kuhn, *Chinese Among Others: Emigration in Modern Times* (Singapore: National University of Singapore Press, 2008), 107–12; Elizabeth Sinn, *Pacific Crossing: California Gold, Chinese Migration, and the Making of Hong Kong* (Hong Kong: Hong Kong University Press, 2012), 45.

[46] Kuhn, *Chinese Among Others*, 150; Adam McKeown, "Global Migration, 1846–1940," *Journal of World History* 15, no. 2 (June 2004): 157.

[47] See chapter by Mae Ngai; David Atkinson, *The Burden of White Supremacy: Containing Asian Migration in the British Empire and the United States* (Chapel Hill: University of North Carolina Press, 2016). On the "White Pacific" see Erika Lee, "The 'Yellow Peril' and Asian Exclusion in the Americas," *Pacific Historical Review* 76, no. 4 (Nov. 2007): 537–62.

[48] Benjamin Madley, *An American Genocide: The United States and the Californian Indian Society* (New Haven, CT: Yale University Press, 2016), 71; James J. Rawls, "Gold Diggers: Indian Miners in the California Gold Rush," *California Historical Quarterly* 55, no. 1 (Spring 1976): 28–45.

[49] Jonathan Crush, Alan Jeeves, and David Yudelman, *South Africa's Labor Empire: A History of Black Migrancy to the Gold Mines* (Boulder: West View Press, 1991), 1–31.

[50] Jeeves, *Migrant Labour in South Africa's Mining Economy*, 3.

[51] May, *West Coast Gold Rushes*, 298.

[52] "Fever Pitch", The Klondike Gold Rush, Accessed March 22, 2017, http://tc.gov.yk.ca/archives/klondike/en/fever.html

[53] Madley, *American Genocide*, 3.

[54] Madley, *American Genocide*, 70.

[55] Madley, *American Genocide*, 3.

[56] Hubert Howe Bancroft, *The Works of Hubert Howe Bancroft*, 39 vols. (San Francisco: A. L. Bancroft & company, 1882–90), 24: 474.

[57] Bain Attwood, *"My Country": A History of the Djadja Wurrung, 1837–1864* (Clayton: Monash Publications in History, 1999), 37.

[58] Rick Nelson, interview by Lucinda Horrocks, *Culture Victoria*, April 9, 2015, part 1, https://cv.vic.gov.au/stories/aboriginal-culture/seeing-the-land-from-an-aboriginal-canoe/rick-nelson-interview-part-1-at-bet-bet-creek-dja-dja-wurrung-country/. With sincerest thanks to Rick and Lucinda.

[59] David Goodman, "Making an Edgier History of Gold," in *Gold*, eds. McCalman, Cook, and Reeves, 33–34.

[60] Rodman Paul, *California Gold: the Beginning of Mining in the Far West* (Cambridge, MA: Harvard University Press, 1947), 82.

[61] Christina Twomey, *Deserted and Destitute: Motherhood, Wife Desertion and Colonial Welfare* (Melbourne: Australian Scholarly Publishing, 2002), xvi.

[62] May, *West Coast Gold Rushes*, 271–2.

[63] Dorothy Wickham, "'Blood, Sweat and Tears': Women at Eureka," *Journal of Australian Colonial History* 10, no. 1 (2008): 99.

[64] Frank Bongiorno, *The Sex Lives of Australians: A History* (Collingwood: Black Inc., 2012), 25.

[65] Bongiorno, *Sex Lives*, 26.

[66] Johnson, *Roaring Camp*, 99–139.

[67] JoAnn Levy, *They Saw the Elephant: Women in the California Gold Rush* (Norman: University of Oklahoma Press, 1992).

[68] Farnham, *California, In-doors and Out*, 156–155.

[69] Joan M. Jensen and Darlis A. Miller, "The Gentle Tamers Revisited: New Approaches to the History of Women in the American West," *Pacific Historical Review* 49, no. 2 (May 1980): 173–213; Susan Lee Johnson, "'A Memory Sweet to Soldiers': The Significance of Gender," in *A New Significance: Re-Envisioning the*

History of the American West, ed. Clyde A. Milner II (New York: Oxford University Press, 1996), 255–7. Susan Armitage has dubbed this depiction of the west as "hisland", see Armitage, "Through Women's Eyes: A New View of the West," in *The Women's West*, eds. Armitage and Elizabeth Jameson (Norman: University of Oklahoma Press, 1987), 9; Clare Wright, "'New Brooms They Say Sweep Clean': Women's Political Activism on the Ballarat Goldfields, 1854," *Australian Historical Studies* 39, no. 3 (2008): 305–321.

[70] Linda Peavey and Ursula Smith, *Women in Waiting for the Westward Movement: Life on the Home Frontier* (Norman: University of Oklahoma Press, 1994); Twomey, *Deserted and Destitute.*

[71] Brian Roberts, *American Alchemy: The California Gold Rush and Middle-Class Culture* (Chapel Hill: University of North Carolina Press, 2000), 87.

[72] Miscellaneous Letters, Folder 1, Records 1851-1902 Maryborough Victoria, MS 10943, State Library of Victoria.

[73] Miscellaneous Letters, Folder 1, Records 1851-1902 Maryborough Victoria, MS 10943, State Library of Victoria.

[74] Goodman, *Gold Seeking*, 221.

[75] Christina Twomey, "'Without Natural Protectors': Responses to Wife Desertion in Gold-Rush Victoria," *Australian Historical Studies* 27, no. 108 (1997): 22–46.

[76] Clare Wright, *The Forgotten Rebels of Eureka* (Melbourne: Text Publishing, 2013); Wickham, "'Blood, Sweat and Tears'"; Elizabeth Jameson has similarly shown the centrality of women in the strikes at Cripple Creek, Colorado, see Elizabeth Jameson, *All that Glitters: Class, Conflict, and Community in Cripple Creek* (Urbana, IL: University of Illinois Press, 1998).

[77] The phrase "heroic husbandry" is Clare Wright's. See Wright, *Forgotten Rebels of Eureka*, 132.

[78] Mark Twain, *Roughing It*, 2 vols. (1872; repr., New York: Harper & Brothers, 1913), 1:132.

[79] Charles Van Onselen, *Studies in the Social and Economic History of the Witwatersrand, 1886-1914. New Babylon*, 2 vols. (London: Longman, 1982); Elliott West, *The Contested Plains: Indians, Goldseekers, & the Rush to Colorado* (Lawrence, KS: University Press of Kansas, 1998); Paula Marks, *Precious Dust: The Saga of the Western Gold Rushes* (Lincoln: University of Nebraska Press, 1994), 185–223.

[80] For California, see Robert Phelps, "'All Hands have gone Downtown': Urban Places in Gold Rush California," in *Rooted in Barbarous Soil: People, Culture, and Community in Gold Rush California*, eds. Kevin Starr and Richard J. Orsi (Berkeley: University of California Press, 2000), 113–140; for New Zealand: Belich, *Making Peoples*, 370–71.

[81] A. R. Hall, "Some Long Period Effects of Kinked Age Distribution of the Population of Australia, 1861-1961," *Economic Record* 39, no. 85 (March 1963): 43-52; A. R. Kelley, "Demographic Change and Economic Growth: Australia 1861-1911," *Explorations in Entrepreneurial History* 5 (Spring-Summer 1968): 211-77.

[82] Bate, *Victorian Gold Rushes*, 51–8. Bate's history of gold rush Ballarat remains an urban history classic, Weston Bate, *Lucky City: The First Generation at Ballarat, 1851-1901* (Carlton: Melbourne University Press, 1978).

[83] James Belich, John Darwin, Margret Frenz, and Chris Wickham, eds., *The Prospect of Global History* (Oxford: Oxford University Press, 2016), 19–21.

[84] Paul A. Pickering, "'The Finger of God': Gold's Impact on New South Wales." In *Gold*, eds. McCalman, Cook, and Reeves, 37–51.

[85] Lloyd Carpenter and Lyndon Fraser, "Introduction: An Australasian Goldfield," in *Rushing for Gold: Life and Commerce on the Goldfields of New Zealand and Australia*, eds. Lloyd Carpenter and Lyndon Fraser (Dunedin: Otago University Press, 2016), 7–19.

[86] Chris McConville, Keir Reeves and Andrew Reeves, "'Tasman World': Investigating Gold-Rush-Era Historical Links and Subsequent Regional Development Between Otago and Victoria," in *Rushing for Gold*, eds. Carpenter and Frost, 25–6; Daniel Davy, "'A Great Many People I Know From Victoria': The Victorian Dimension of the Otago Gold Rushes," in *Rushing for Gold*, eds. Carpenter and Frost, 41–53.

[87] Rohrbough, *Days of Gold*, 156.

[88] This pen-portrait has been sketched with the help of Lionel Frost, "'Metallic Nerves': San Francisco and Its Hinterland During and After the Gold Rush," in "A World in Search of Gold," special issue, *Australian Economic History Review* 50, no. 2 (July 2010): 132–3.

[89] V. J. F. to Missouri *Republican*, April 6, 1849, in Walker D. Wyman, "California Emigrant Letters," *California Historical Society Quarterly*, 24, no. 1 (March 1945), 24.

[90] Frost, '"Metallic Nerves"': 132.

[91] James P. Delgado, "Gold Rush Jail: The Prison Ship 'Euphemia,'" *California History* 60, no. 2 (Summer 1981): 134–141.

[92] James P. Delgado, *Gold Rush Port: The Maritime Archaeology of San Francisco's Waterfront* (Berkeley: University of California Press, 2009), 58.

[93] David I. Folkman, *The Nicaragua Route* (Salt Lake City: University of Utah Press, 1972), 4.

[94] *Daily Alta California*, January 9, 1854.

[95] Geoffrey Blainey has also argued that Australia's northern port cities grew to service the west Australian rushes, see Geoffrey Blainey, "The Momentous Gold Rushes," in "A World in Search of Gold," special issue, *Australian Economic History Review* 50, no. 2 (2010): 209–216.

[96] Adam D. Mendelsohn, *The Rag Race: How Jews Sewed their Way to Success in America and the British Empire* (New York: New York University Press, 2015), 123–8.

[97] William Kelly, *Life in Victoria*, 2 vols. (London: Chapman and Hall, 1859), 1.51.

[98] Quoted in Wright, *Forgotten Rebels of Eureka*, 92.

[99] Twomey, "'Without Natural Protectors,'" 34.

[100] See chapters by David Goodman and Benjamin Mountford. Robert Chandler, "An Uncertain Influence: The Role of Federal Government in California, 1846–1880," in *Taming the Elephant: Politics, Government and Law in Pioneer California*, ed. John F. Burns (Berkeley: University of California Press, 2003), 224–271. On California's bourgeoisie see: Richard A. Walker, "California's Golden Road to Riches: Natural Resources and Regional Capitalism, 1848–1940," *Annals of the Association of American Geographers* 91, no. 1 (2001): 167–199. On Victoria, see Bate, *Victorian Gold Rushes*, 22–3; Serle, *The Golden Age*, 142–3, 235–9.

[101] David Greasley, "Industrialising Australia's Natural Capital," in *The Cambridge Economic History of Australia*, eds. Simon Ville and Glenn Withers (Cambridge: Cambridge University Press, 2014), 160.

[102] Quoted in Serle, *Golden Age*, 239.

[103] Roske, "The World Impact of the California Gold Rush": 187–232.

[104] James Gerber, "Gold Rushes and the Trans-Pacific Wheat Trade: California and Australia," in *Pacific Centuries: Pacific and Pacific Rim Economic History since the Sixteenth Century*, eds. Dennis Owen Flynn, Lionel Frost, and A. J. H. Latham (London: Routledge, 1995), 125–151.

[105] L. G. Churchward, "Australian-American Relations during the Gold Rush," *Historical Studies: Australia and New Zealand* 2, no. 5 (1942): 15.

[106] Annette Potts and Daniel E. Potts, eds., *A Yankee Merchant in Gold Rush Australia: The Letters of George Francis Train, 1853–55* (Melbourne: Heinemann, 1970), 92. Train himself built an imposing blue granite building on Flinder's Street, which housed offices, warehousing, and show rooms for American goods, see "American Enterprise," *The Argus*, January 29, 1855.

[107] Stephen Tuffnell, "Business in the Borderlands: American Trade in the South African Marketplace, 1871–1902," in *Imagining Britain's Economic Future, c.1800–1975—Trade, Consumerism and Global Markets*, eds. David Thackeray, Andrew Thompson, and Richard Toye (Basingstoke: Palgrave Macmillan, forthcoming).

[108] Sinn, *Pacific Crossing*, 90; Mountford, *Britain, China, and Colonial Australia*, 47–64; Ngai, "Chinese Gold Miners"; Madeline Hsu, *Dreaming of Gold, Dreaming of Home: Transnationalism and Migration between the United States and South China, 1882–1943* (Stanford, CA: Stanford University Press, 2000). See also the chapter by Mae Ngai in this volume.

[109] David Igler, *The Great Ocean: Pacific Worlds from Captain Cook to the Gold Rush* (New York: Oxford University Press, 2013); David R. Meyer, *Hong Kong as a Global Metropolis* (Cambridge: Cambridge University Press, 2000).

[110] Aims McGuinness, *Path of Empire: Panama and the California Gold Rush* (Ithaca, NY: Cornell University Press, 2008), 7, table 1.

[111] McGuinness, *Path of Empire*, 5.

[112] Jan-Georg Deutsch, "Mineral Desires-Imperial Yearnings" (working paper for the conference "Gold Rush Imperialism: Gold Mining and Global History in the Age of Imperialism," Oxford 2014).

[113] "The Cause of the Depression of Trade—The Cure," *Alta California*, February 15, 1851.

[114] De Launay, *The World's Gold*, 95.

[115] Johnson, *Roaring Camp*, 186.

[116] See Cassandra Mark-Thiesen's chapter. Francis Wilson, *Labour in the South African Gold Mines, 1911–1969* (Cambridge: Cambridge University Press, 1972), 6–7.

[117] See Bathsheba Demuth's chapter. Ronald H. Limbaugh, "Making Old Tools Work Better: Pragmatic Adaptation and Innovation in Gold Rush Technology," in *A Golden State*, eds. Rawls and Orsi, 37.

[118] On the shift in Victoria, see Charles Fahey, "Peopling the Victorian Goldfields: From Boom to Bust, 1851–1901," in "A World in Search of Gold," special issue, *Australian Economic History Review* 50, no. 2 (July 2010): 155–6.

[119] Belich, *Replenishing the Earth*, 306.

[120] See chapters by Andrew Isenberg and Bathsheba Demuth.

[121] Andrew C. Isenberg, *Mining California: An Ecological History* (New York: Hill & Wang, 2005), 42. California has been famously deemed a "hydraulic society," see Donald Worster, "Hydraulic Society in California: An Ecological Interpretation," *Agricultural History* 56, no. 3 (July 1982): 503–515. For recent work on the use of water in Victorian gold mining see Susan Lawrence, Peter Davies and Jodi Turnbull, "The Archaeology of Water on the Victorian Goldfields," *International Journal of Historical Archaeology* 21, no. 1 (March 2017): 49–65.

[122] Robert Kubicek, *Economic Imperialism in Theory and Practice: The Case of South African Gold Mining Finance 1886–1914* (Durham, NC: Duke University Press, 1979), 43–4.

[123] Edward Beatty, *Technology and the Search for Progress in Modern Mexico* (Oakland: University of California Press, 2015), 134–157.

[124] On their spread, see Stephen Tuffnell's chapter in this volume. Diane Newell, *Technology on the Frontier: Mining in Old Ontario* (Vancouver: University Press of British Columbia, 1986), 13–43; Stephen Tuffnell, "Engineering Inter-Imperialism: American Miners and the Transformation of Global Mining, 1871–1910," *Journal of Global History* 10, no. 1 (March 2015): 53–76.

[125] Edwin Lithgow to his mother, February 20, 1853, NLS MS. 2543, ff. 41–42, Lithgow Papers; James Harvey Hoey to Jane Brown (his sister in law), November 13, 1852, NLS Acc.12100/17, Brown Family Papers, National Library of Scotland.

[126] For some reflections on Victoria see Barry McGowan, "Mullock Heaps and Tailing Mounds: Environmental Effects of Alluvial Goldmining", in *Gold: Forgotten Histories and Lost Objects of Australia*, eds., McCalman, Cook, and Reeves, 85-100.

[127] William Howitt, *Land, Labor and Gold: or, Two Years in Victoria. Volume II* (Boston: Ticknor and Fields, 1855), 49-50.

[128] William Charles Scully, *The Ridge of the White Waters* (London: Stanly Paul & Co., 1913), 131–2

[129] Gillian Burke and Peter Richardson, "The Profits of Death: a Comparative Study of Miners' Phthisis in Cornwall and the Transvaal, 1876–1918," *Journal of South African Studies* 4, no. 2 (1978): 147–71.

[130] Randall M. Packard, *White Plague, Black Labor: Tuberculosis and the Political Economy of Health and Disease in South Africa* (Berkeley: University of California Press, 1989), 76.

[131] See Erik Eklund's chapter. In the US case, Rodman W. Paul's *Mining Frontiers in the Far West, 1848-1880*, rev.ed. (1963; Albuquerque: University of New Mexico Press, 2001) is the classic study of the transition from gold seeker to wage labourer; Mark Wyman, *Hard Rock Epic: Western Miners and the Industrial Revolution, 1860–1910* (Berkeley: University of California Press, 1979), 84–117; Ronald C. Brown, *Hard-Rock Miners: The Intermountain west, 1860–1920* (College Station: Texas A&M Press, 1979), 99–117.

[132] For persistence rates in the American west see Ralph Mann, *After the Gold Rush: Society in Grass Valley and Nevada City, California 1859–1970* (Stanford: Stanford University Press, 1982), 266, table 46; Elliott West, "Five Idaho Mining Towns: A Computer Profile," *Pacific Northwest Quarterly* 73, no. 3 (July 1982): 115–116;

Carlos A. Schwantes, *Hard Traveling: A Portrait of Work Life in the Northwest* (Lincoln, NE: University of Nebraska Press, 1994).

[133] Erik Eklund, *Mining Towns: Making a Living, Making a Life* (Sydney: NewSouth, 2012), 35–69.

[134] David Igler, "The Industrial Far West: Region and Nation in the Late Nineteenth Century," *Pacific Historical Review* 69, no. 2 (May 2000), 160.

[135] On class formation in California see, Johnson, *Roaring Camp*, chapters 5 and 6; in western US hard-rock societies more broadly, Richard White, *"It's Your Misfortune and None of My Own": A New History of the American West* (Norman: University of Oklahoma Press, 1991), 298–328.

[136] Jameson, "Where have all the men gone?," 210.

[137] Jameson, "Where have all the men gone?," 210–11.

[138] Elliott West, "Beyond Baby Doe: Child Rearing on the Mining Frontier," in *Women's West*, eds. Armitage and Jameson, 181.

[139] Paula Petrik, *No Step Backward: Women and Family on the Rocky Mountain Mining Frontier* (Helena: Montana Historical Society Press, 1987), 139; Levy, *They Saw the Elephant*; Clare Wright, *Beyond the Ladies Lounge: Australia's Female Publicans* (Melbourne: Text Publishing, 2003).

[140] Marion S. Goldman, *Gold Diggers and Silver Miners: Prostitution and Social Life on the Comstock Lode* (Ann Arbor: University of Michigan press, 1981); Mary Murphy, "The Private Lives of Public Women: Prostitution in Butte, Montana, 1878–1917," in *Women's West*, eds. Armitage and Jameson, 193–205.

[141] Paul, *Mining Frontiers of the Far West*, 250–52.

[142] George A. Lawrence, *Silverland* (London: Chapman and Hall, 1873), 136.

[143] Van Onselen, *New Babylon*, 18–19.

[144] *Standard & Diggers News*, September 15, 1893.

[145] Charles Van Onselen, *Studies in the Social and Economic History of the Witwatersrand, 1886–1914. New Nineveh* (London: Longman, 1982), 1–47.

[146] See Erik Eklund's chapter. Jameson, *All that Glitters*.

[147] Jean Jacques van Helten, "Mining, Share Manias and Speculation: British Investment in Overseas Mining, 1880–1913," in *Capitalism in a Mature Economy: Financial Institutions, Capital Exports and British Industry, 1870–1939*, eds. Jean-Jacques van Helten and Youssef Cassis (Aldershot: Edward Elgar, 1990), 160; Charles Harvey and Jon Press, "Overseas Investment and the Professional Advance of British Metal Mining Engineers, 1851–1914," *Economic History review* 42, no.1 (February 1989), 64.

[148] Jameson, *All that Glitters*, 25.

[149] Belich, *Replenishing the Earth*, 357.

[150] Catherine R. Schenk, "The Global Gold Market and the International Monetary System," in *The Global Gold Market and the International Monetary System from the Late 19th Century to the Present: Actors, Networks, Power*, ed. Sandra Bott (New York: Palgrave MacMillan, 2013), 17–38; Russell Ally, "War and Gold—The Bank of England, the London Gold Market and South Africa's Gold, 1914–1919," *Journal of South African Studies* 17, no. 2 (June 1991): 221–238.

[151] For the United States see: Clark C. Spence, *British Investments and the American Mining Frontier, 1860–1901* (Ithaca, NY: Cornell University Press, 1958); Gray Brechin, *Imperial San Francisco: Urban Power, Earthly Ruin* (Berkeley: University of California Press, 1999). Australia: Stephen Salsbury and Kay Sweeney, *The Bull, the Bear & the Kangaroo: The History of the Sydney Stock Exchange* (Sydney: Allen & Unwin, 1988), 24; Alan Ross Hall, *The London Capital Market and Australia, 1870-1914* (Canberra: Australian National University, 1963). Canada: Mouat, *Roaring Days*, 47–67. New Zealand: David Malcolm Grant, *Bulls, Bears, and Elephants: A History of the New Zealand Stock Exchange* (Wellington: Victoria University Press, 1997), 25–57.

[152] See Ian Phimister's chapter.

[153] Brechin, *Imperial San Francisco*, 37.

[154] Geoffrey Bolton, "Money: Trade, Investment, and Economic Nationalism," in *Australia's Empire*, eds. Deryck Schreuder and Stuart Ward (Oxford: Oxford University Press, 2010), 217.

[155] Jonathan Levy, *Freaks of Fortune: the Emerging World of Capitalism and Risk in America* (Cambridge, MA: Harvard University Press, 2012).

[156] A.R. Hall, *The Stock Exchange of Melbourne and the Victorian Economy, 1852-1900* (Canberra: Australian National University Press, 1968), pp. 73-92.

[157] Goodman, "Making an Edgier History of Gold."

[158] *San Francisco Chronicle*, May 14, 1873.

[159] Curle, *Gold Mines of the World*, 10.

[160] Paul, *Mining Frontiers in the Far West*, 50.

[161] Gunther Barth, *Instant Cities: Urbanization and the Rise of San Francisco and Denver* (New York: Oxford University Press, 1975); Brechin, *Imperial San Francisco*; Frost, "'Metallic Nerves'": 129–47; Graeme

Davison, "Gold-Rush Melbourne," in *Gold: Forgotten Histories and Lost Objects of Australia*, eds. McCalman, Cook, and Reeves, 52–66.

[162] Barman, *West Beyond the West*, 66; Paul, *Mining Frontiers*, 38.

[163] *Daily Alta California*, February 3, 1872.

[164] For California, see Elliott West's chapter.

[165] Serle, *The Golden Age*, 232-3.

[166] Ted Henzell, *Australian Agriculture: Its History and Challenges* (Collingwood: CSIRO Publishing, 2007), 235-236.

[167] Geoffrey Serle, *The Rush to be Rich: A History of the Colony of Victoria* (Melbourne: Melbourne University Press, 1971), 47; Geoffrey Blainey, *The Rush that Never Ended: A History of Australian Mining* (Carlton, Victoria: Melbourne University Press, 1963), 149–52, 220–21, 311–12.

[168] This evocative phrase is Charles Van Onselen's in *New Babylon*, xvi, 20, 167; Jessica B. Teisch, *Engineering Nature: Water, Development & the Global Spread of American Environmental Expertise* (Durham, NC: University of North Carolina Press, 2011), 97–133.

[169] See Belich, *Replenishing the Earth*, 359–364.

[170] Jürgen Osterhammel, *The Transformation of the World: A Global History of the Nineteenth Century* (Princeton: Princeton University Press, 2014), 278.

[171] Osterhammel, *Transformation of the World*, 655.

[172] Osterhammel, *Transformation of the World*, 37.

[173] Porsild, "From California to the Klondyke," 320.

[174] Quoted in Morse, *Nature of Gold*, 131.

[175] Thomas A. Rickard, *The Romance of Mining* (Toronto: Macmillan Co. of Canada, 1947), 69.