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The Hawaiian Achievement in Comparative Perspective

This chapter draws on historical patterns on the impact of Western contact observed elsewhere in the non-Western world to reinforce the contention of this study that the Hawaiian achievement of political centralisation was at best enhanced rather than triggered or wholly created by newly introduced Western elements and ideas. The evidence assembled in this chapter is directed towards answering the question of how Hawaiian society reacted to new elements in a time of internal transition. Three aspects of change are studied and three general propositions articulated. The first relates to the fact that new ideas and objects are confronted by existing ideas and ways of viewing the world – Marshall Sahlins’s powerful conception of the structure of the conjuncture. I argue that the structure was much more fluid, mobile and varied than has generally been allowed for. As the fluidity of Hawaiian structures of power has been dealt with in detail in Chapters 3 and 4, this first section focuses on more general observations on the nature of change and continuity. The second focus is on the campaigns towards unification of the Hawaiian Islands, and it is argued that, in the Hawaiian context, the type of Western firearms and cannon introduced were incapable of producing the decisive military impact that archaeologists claim, as has been shown in numerous, detailed historical studies around the globe. The last point is that consolidation of unified rule was achieved by adherence to institutions of consensus-building and peacemaking accumulated over centuries in the context of rulers who lacked decisive coercive advantages over the populations they ruled. This process was assisted by depopulation caused by introduced

diseases that allowed a demilitarisation of the islands. Demilitarisation was, however, a choice. The same circumstances could also have facilitated the accumulation and consolidation of coercive advantage by the state as occurred, for example, in parts of Europe.

Political transformation: New seeds in old soil

As a well-documented late transition from chiefly fragmentation to a centralised kingdom and period of culture contact with Europeans, Hawai'i provides an ideal insight into the processes of political consolidation, culture contact and the dynamics of power. As a small, intimate society, it also provides an ideal comparative study for those of larger, better known societies, where processes may not be as apparent as in Hawai'i because of the sheer scale and size of the societies under review. The Hawaiian example offers lessons on the dangers of perceiving state formation as ultimately about the consolidation and centralisation of power in circumstances of diverse and highly localised identities. Greater consolidation came from the exercise of moderation and accommodation by Kamehameha, particularly in circumstances where new realities on the ground moved ahead of old mindsets. These lessons on how external weapons and attitudes change circumstances faster than they alter local attitudes, and that military victory is as much psychological as material, have a chilling resonance in the current era of state formation and failed state discourse, which is emanating largely from the Western developed nations, but directed at the non-Western world.

The efficacy of Pacific historian the late Jim Davidson's idea persists that culture changes round the edges as a result of cultural interaction and changed circumstances, but the core remains intact, changing only gradually, if at all. External influences and their impact are likened to the fluid intertidal zone at water's edge – eroding the margins, but rarely altering the island interior in any significant way.¹ The form might vary and alter, but underlying beliefs persist. In her classic account of religious syncretism in colonial Papua New Guinea, 'Sunday Christians, Monday Sorcerers', anthropologist Miriam Kahn makes the point that Pacific Islanders saw no contradiction in continuing to worship traditional spirits to enhance crop fertility while also adhering to Christian churches

1 Davidson (1970), p. 267.

or, more correctly, Islander-modified forms of Christian worship and doctrine.² Kahn's analysis is the norm in Pacific Studies' interpretations of religious conversion and adaptation among both anthropologists and historians, with strong emphasis on ongoing continuity in religious beliefs and practices, but eventual modification through the gradual incorporation and adaptation of new belief systems. This blending of old and new resulted in multiple forms of belief existing side by side in a fluid and evolving form of interaction. This acceptance of, and search for, syncretism has not, however, taken root in other areas of study. This is most noticeable in the fields of legal beliefs and governance, which were intimately connected to religious legitimacy in Pacific societies. A profound sense of political pluralism also prevailed in the Pacific.

This study has suggested a different reading of the relationship between power and authority in Hawai'i to that noted by Gavan Daws and Sahlins, in which power is always violent and external, but in which rule is ultimately needed to be considered legitimate to endure, and this authority was always conveyed from within.³ Usurping outsiders who defeated rulers usually then married the highest born local women to gain legitimacy, as they rarely had sufficient numbers to sustain their position without local cooperation.⁴ Relations might be tense and filled with suspicion, but there was little alternative. Rulers who offended their people could not rely on their support when the next usurper arrived, and might even face a challenge from within.⁵ Kamehameha ruled powerful chiefs whose retinues were of a similar magnitude to his and other powerful chiefs. Marriage links and loyalties to sisters extended blood alliances across moku boundaries. Kanalu Young has shown that even kaukau ali'i could draw on extensive networks of allies. Mō'i lacked significant coercive advantage over the alliance networks within their lands and so needed to be conciliators and mediators as much as fighters to succeed – a lesson Kahekili and his son neglected to learn, to Kamehameha's profit. External power and internal legitimacy were as much moral cultural categories that rulers moved between through their actions as geographical designations.

2 Miram Kahn, 'Sunday Christians, Monday Sorcerers: Selective Adaptation to Missionization in Wamira', *Journal of Pacific History*, vol. 18, 1983, 96–112.

3 Daws (1984), p. 16.

4 Sahlins (1994), pp. 63–65, 69.

5 On Pohnpei, see Ward H. Goodenough, 'Sky World and This World: The Place of Kachaw in Micronesian Cosmology', *American Anthropologist*, vol. 88 (3), 1986, 553; Fornander (1969), pp. 201–02, 229; and Kamakau (1961), p. 143.

We need to move away from debates about change versus continuity, and towards recognition that change was a constant for most Pacific peoples. What mattered was how societies coped with change. As anthropologist Alexander Spoehr noted:

Change of itself need not imply instability. Change is always present in greater or lesser degree in every culture and society. Stability is not. Stability lies in orderly change and finds expression in a continuing successful adaptation to habitat and in non-violent shifts in the pattern of social organisation.⁶

The degree of internally generated change between 1770 and 1796, and 1796 and 1819 that is described in Chapters 3 to 6 has important implications for archaeology, anthropology and history. Archaeologists and anthropologists cite few works by Pacific historians. The degree of short-term, internally generated change noted by Kānaka Maoli historians Kanalu Young, Jonathan Kay Kamakawiwo‘ole Osorio and Lilikalā Kame‘eleihiwa suggests that sources and methodologies employed by Pacific historians could significantly enhance Pacific archaeology and anthropology. This work has portrayed Hawaiian communities as highly localised in their affinities, with local polities and leaders capable of pursuing dramatically different paths within a single generation from broadly similar, internally generated institutions and structures also subject to rapid and significant changes resulting from external influences. Such issues of cultural construction and cultural resilience require collaboration between archaeologists, anthropologists *and* historians.⁷ The Hawaiian example argues for greater resilience and continuity in local traditions and attitudes in circumstances of increasing Western presence and influence, but also for the need to combine archaeological structures of the long *durée* and anthropological structural, institutional approaches to non-Western history with historical approaches to historical processes that suggest the timing of events and individual choices can significantly alter history within the bounds set by environmental and cultural structural constraints.

6 Spoehr (1954), p. 210.

7 These issues are discussed in more detail in Paul D’Arcy, ‘Cultural Divisions and Island Environments Since the Time of Dumont d’Urville’, *The Journal of Pacific History*, vol. 38 (2), 2003b, 217–35. This article was part of a special issue on the legacy of d’Urville involving archaeologists, anthropologists and historians and which demonstrated the potency of such collaboration.

There is still no comprehensive account of European influences on the unification process in Hawai'i. Particular European influences have, however, been addressed. Most studies conclude that Europeans had a significant influence on the political process and most scholars claim that European military technology was a decisive factor in Kamehameha's military successes in the 1790s. European transport technology and concepts of government have been suggested as central pivots in Kamehameha's post-conquest centralised administration. Others note that the pursuit of trade goods provided a crucial alternative to the conquest and distribution of land at this time, thereby helping to maintain the peace that followed Kamehameha's campaigns of unification. At the same time, European actions and ideas often conflicted with Hawaiian beliefs, and challenged many of the religious assumptions that supported chiefly rule. Finally, David Stannard's upward revision of the demographic impact of European diseases carries with it sociopolitical implications that are germane to the issue of unification.

This study argues that Kamehameha gained victory because his opponents overextended themselves logistically, and were weakened at crucial times by internal divisions. Battles were important but, in most cases, European military technology was not crucial to the outcome. Military success came at the end of a process of attrition rather than in a dramatic confrontation on a particular day. Military victory alone was not enough to secure power. Many *mō'i* had triumphed in battle before Kamehameha. What distinguished him from those before was his method of consolidating victory off the battlefield. Centralisation was a victory of the arts of peace over the arts of war. Kamehameha had already demonstrated skill at building and maintaining coalitions before John Young and Isaac Davis were on the scene to advise him. His political reforms after 1796 were a blend of old and new.

The conquest phase: Muskets versus mana

Visitors to the Hawaiian archipelago during the wars of unification were often told that European weapons had been a decisive factor in Kamehameha's success. Davis claimed his much-valued knowledge of firearms had 'proved of essential service' to Kamehameha.⁸ Revisionist

⁸ Campbell (1967), p. 97.

military historians' emphasis on the importance of logistical and organisational factors calls for a re-evaluation of the significance of European weaponry and mercenaries in Kamehameha's wars of unification. While battles were important, European military technology was not crucial to the outcome in most cases. Military success came at the end of a process of attrition, rather than in a dramatic confrontation on a particular day. This study also supports the idea that weapons are used according to cultural values and priorities rather than simply to maximise the casualties inflicted. It also suggests that competition and fear of an eroding position can undermine such cultural values in favour of ultimately self-destructive arms races and increasingly pyrrhic victories. These assertions find a great deal of support from around the globe.

Traders and beachcombers left few records about the Hawaiian gun trade between 1786 and 1795. Hawaiians were generally visited by at least three ships a year during this time.⁹ Several captains traded arms and ammunition for provisions and Hawaiians also obtained weapons as a result of attacks on shore parties or vessels. There is no evidence to suggest that Kamehameha or his rivals had any more than five or six artillery pieces and a handful of muskets until 1794. The few ships' inventories noted in this study suggest visiting traders carried 100–200 muskets for trade (see tables in Appendix 2). Visiting ships' captains never reported seeing more than 20 to 30 muskets in any one place during the 1790s.¹⁰ Historians give no indication that anything more than a few cannon and small squads of musketeers were involved in the combat that occurred before 1795.¹¹ Hawaiians' large-scale accumulation of European weapons may have occurred only in 1794–95 or later. Young, Kamehameha's trusted friend, informed visitors that Kamehameha's 10,000-man army of 1795 had 5,000 muskets and an impressive artillery train. In 1804, however, Young told Urey Lisiansky that Kamehameha's forces possessed only 600 muskets, which raises doubts about his earlier claim.¹²

A number of chiefs recruited European beachcombers for their knowledge of firearms. According to George Vancouver, there were 14 beachcombers spread among the chiefs on Hawai'i in 1794. Kalanikūpule of Maui had

9 Bernice Judd, *Voyages to Hawaii before 1860* (Honolulu: University of Hawai'i Press, 1974), pp. 1–8; Pogue (1978), pp. 77 ff.; and Kahananui (1984), p. 176.

10 Vancouver (1801), bk 2, pp. 353, 355, 391; bk 3, p. 224; bk 5, p. 49.

11 Campbell (1967), p. 97.

12 Boit (n.d.), p. 5; Broughton (1967), p. 34; Lisiansky (1967), p. 133; and Bishop, in Roe (1967), p. 141.

around five beachcombers in his territory, while Kaua‘i was home to up to seven beachcombers during the 1790s. In 1796, white residents told Captain Charles Bishop that Kamehameha’s army had one or more Englishmen in the vanguard of each division. Hawaiians considered them to be good warriors. Ka‘eokulani’s Kaua‘i forces used Mare Amara and his regent Enemo used foreign musketeers to support his assault against rebel forces on Kaua‘i in 1793. In 1794, Kalanikūpule temporarily hired sailors from vessels anchored in Pu‘uloa to assist him in his war against Ka‘eokulani. The sailors fared badly against Mare Amara in the initial skirmishes. Their role in the deciding battle at Aiea was limited to firing into the flank of Ka‘eokulani’s army from the safety of longboats offshore, while the two battlelines collided and the issue was decided at close quarters.¹³

Although Hawaiians faced risks in adopting firearms, some embraced the new technology. In 1792, Archibald Menzies, for example, noted that the *ali‘i* Ka‘iana and his followers were proficient in the use of firearms. Ka‘eokulani keenly observed European armourers forge metal and strip and clean their firearms.¹⁴ Not all Hawaiians were as enthusiastic about firearms, and often with good reason. The great Maui warrior Pe‘ape‘a died a slow, painful death around this time as a result of severe burns acquired when sparks from his musket’s firing mechanism fell into a nearby powder keg.¹⁵ Vancouver and Menzies commented on the poor condition of many of the muskets traded to Hawaiians. Menzies dressed the hand of a young *ali‘i* after it had been badly damaged when his musket exploded on firing. He was told that his hosts were reluctant to use a shipment of muskets as many had burst open on their first firing.¹⁶

Most muskets traded in Hawai‘i came from the east coast of the United States or Britain. The flintlock musket was the main military firearm in use in Europe and North America during this time. The poor quality of some muskets suggests that some firearms introduced into Hawai‘i were not standard military-issue flintlock muskets. Studies of the gun trade with West Africa distinguish between army-issue ‘Tower’ muskets and trade muskets. Tower muskets were smoothbore flintlocks that had been

13 Bishop, in Roe (1967), pp. 177–78; Kamakau (1961), p. 169; Vancouver (1801), bk 3, pp. 381, 386; bk 5, p. 112; Fornander (1969), p. 159; Maude (1968), pp. 139–40; and Bradley (1942), pp. 33–34.

14 Menzies (1920), pp. 14, 109–10.

15 Kamakau (1961), p. 161.

16 Vancouver (1801), bk 5, p. 49; Menzies (1920), p. 72.

tested with charges of powder by government inspectors at the Tower of London, and thus had a minimum guaranteed standard barrel strength. Until the establishment of commercial proof houses for testing trade guns towards the end of the Napoleonic Wars, trade guns carried no guarantee that they would not burst if fired. Most of these trade guns were manufactured for West Africa, and often had not been fired by their manufacturers to check for imperfections. Trade muskets were cheaper, lighter and less mechanically complicated than Tower muskets. They were not intended for rapid firing or for the rigours of campaigning.¹⁷

Trade muskets continued to be of dubious quality after the establishment of commercial testing houses. Many gun barrels made of substandard iron still passed through the tests, and many barrels were thinned down after they had passed the proofing tests. The counterfeiting of proofmarks flourished.¹⁸ Exploding gun barrels may also have resulted from improper gunpowder charges. The higher the saltpetre component of gunpowder, the greater its explosive force. Obviously the strength of the gunpowder should match the strength of the gun barrel, however, it was common to increase profits by diluting gunpowder with charcoal or other substances that could not be distinguished in the mix. This resulted in powder of varying quality and strength, so that charges could not be gauged with any consistency. Powder could also be damaged by exposure to dampness. Failure to turn powder barrels regularly resulted in the powder clogging and the saltpetre accumulating at the bottom of the barrel, creating an uneven consistency. Humidity and high rainfall added to the deterioration of firearms and gunpowder.¹⁹

Military-issue firearms did not necessarily confer an advantage to their possessors over opponents armed with traditional Hawaiian weapons. Although traditional projectile weapons travelled much slower than musket balls and, therefore, generally did less damage when they struck, they were more reliable and accurate than muskets within each weapon's

17 The whole issue of the *Journal of African History*, vol. 12 (2), 1971, deals with firearms in Africa. For the export of firearms out of Britain see Gavin White, 'Firearms in Africa: An Introduction', *Journal of African History*, vol. 12 (2) 1971, 175–82. Another interesting insight into the gun industry around this time is found in Smith (1976).

18 See White (1971), p. 181.

19 White (1971), pp. 174–75; F. Clunie, *Fijian Weapons and Warfare* (Suva: Fiji Museum, 1977), p. 79; R.A. Kea, 'Firearms and Warfare on the Gold and Slave Coasts from the Sixteenth to the Nineteenth Centuries', *Journal of African History*, vol. 12 (2), 1971, 204–05.

effective range.²⁰ The flintlock musket was unreliable at any range over 90 metres and was preferably used at ranges of 45 to 65 metres, or less, against massed targets. Tests conducted by the Prussian army in the late 18th century bear witness to this fact. In the tests, an infantry battalion fired volleys into a canvas target 30 metres long and 1.8 metres tall, which was the average height and frontage of an infantry unit. At 205 metres, only 25 per cent of the musket balls fired hit the target; at 137 metres, 50 per cent hit; while, at 68 metres, 60 per cent of the shots found their mark.²¹ Such strike rates required the enemy to be tightly packed together, which was often not the case in Hawaiian warfare.

Although soldiers could fire up to four or five times a minute under test conditions, the average soldier usually loaded and fired at a rate of only twice a minute. The residue of the powder burnt to propel the musket ball tended to clog the musket barrel after prolonged use. The faster the rate of fire, the more prone the barrel was to fouling. Tests conducted by the British army in 1834 showed that, although flintlocks could be loaded and fired every 20 seconds, the rate of misfires at this speed was one in every 6.5 shots. In the field, the rate of misfires increased significantly. Damp powder prevented the musket from firing and powder on an open priming pan was particularly prone to damage by rain and dispersal by wind.

When a flint became chipped or blunted, it was less likely to generate sufficient sparks into the priming pan to ignite the charge. Flints could last up to 60 shots but most had a much shorter lifetime. US army regulations stated that a flint should be replaced after 20 rounds. It was not easy to change a flint in mid-battle, and the musketeer was extremely vulnerable until the new flint was installed. Without a local manufacturing industry, gun maintenance was also a problem, particularly for worn-out firing mechanisms and defective metal gun barrels. Maintenance was only possible because the guns were handmade. Surrogates for flints and

20 The discussion of the technical capabilities of flintlock muskets is based primarily on the following sources: H.C.B. Rogers, *Weapons of the British Soldier* (London: Seeley Service and Co., 1960), pp. 154–63; H.L. Blackmore, *British Military Firearms 1650–1850* (London: Herbert Jenkins, 1961), p. 45; T.H. McGuffie, 'Musket and Rifle', *History Today*, vol. 7 (4), 1957, 2157–63, and vol. 7 (7), 1957, 473–79; and Clunie (1977), p. 83.

21 David Chandler, *The Campaigns of Napoleon* (London: Weidenfeld and Nicholson, 1966), p. 342, cited in Dyer (1985), p. 62.

musket balls could be found, but they diminished the consistency of ignition and the accuracy of fire. Young attributed one of Kamehameha's minor reverses to a loss of firepower brought about by deficient flints.²²

Hawaiian musketeers were vulnerable in battle because of the general failure to adopt the bayonet. When fighting at close quarters, warriors armed with unloaded muskets without bayonets would find their weapons of little use for clubbing, thrusting, or parrying – the British standard military-issue Short Land Pattern musket (the Brown Bess) for example, was 1 metre long and weighed only 6 kilograms. There are many examples throughout the Pacific of musketeers being overcome when their opponents anticipated their musket discharges after observing the ignition of the powder charges just beforehand, and then rushed in while the guns were being reloaded.²³ The limited range of flintlock muskets meant that warriors could cover the effective shooting range in well under the average reloading time of 30 seconds. This may have been the case at the battle of Koapapa in the early 1790s where the forces of Keōua rushed forward and seized the guns of Kamehameha's musket men. John Young claimed that Davis and he had to be carried on the backs of strong warriors to keep up with the flow of Hawaiian battles because of the time it took them to reload.²⁴

In a comparison of the battle of Waterloo in 1815 and Alexander the Great's victory at Gaugamela in 331 BC, John Keegan points out that edged-weapon fighting and battles in the flintlock era had much in common. The effective range of firearms meant that the decisive fighting in 18th-century European warfare still took place at close range and depended on the steadiness of the combatants. Keegan notes that, because of the close proximity of the antagonists in both modes of fighting, battles were 'noisy, physically fatiguing, nervously exhausting and, in consequence of that physical and nervous strain they imposed, narrowly compressed in time'.²⁵ In both cases each side attempted to extend its line of battle to maximise

22 Barnard (1829), pp. 230–32, referring to a battle in Hawai'i Kohala. Kamakau, however, does not mention this battle, and claims Kamehameha was in neighbouring Kona at the time.

23 R.A. Cruise, *Journal of a Ten Month Residence in New Zealand* (2nd edn) (Christchurch: Capper Press, 1974 (1824)), p. 68; S. Percy Smith, *Maori Wars of the Nineteenth Century* (2nd edn) (Christchurch: Whitcombe and Tombs Ltd, 1910), p. 144; Duperrey, in C.A. Sharp (ed.), *Duperrey's Visit to New Zealand in 1824* (Wellington: Alexander Turnbull Library, 1971), p. 61; and Marsden, in J.R. Elder, (ed.), *The Letters and Journals of Samuel Marsden 1765–1838* (1st edn) (Dunedin: Coulls Somerville Wilkie Ltd, and A.H. Reed, 1932), p. 284.

24 Barnard (1829), p. 229.

25 Keegan (1987), p. 115.

the number of weapons that could be brought to bear against the enemy, without the risk of overextending themselves. Each side either sought to outflank the other or, failing that, to break some point of the enemy's line by 'superior savagery',²⁶ where the issue would be decided at speaking, if not spitting distance.

Cannon were more intimidating weapons than muskets. Hawaiians received dramatic demonstrations of the destructive power of cannon in the British response to the death of Captain James Cook at Kealakekua Bay in 1779. While the British were impressed with the Hawaiians' courage under fire, they also noted that they sustained many casualties. On 14 February 1779 alone, at least 25 Hawaiians were killed, including several prominent ali'i. Many more were badly wounded. Most fell to ships' cannon as they crowded along the shoreline. Kamehameha was among the wounded. He was hit in the face by a splinter when a British cannon ball struck a nearby stone.²⁷ When trading contacts began in 1786, Kamehameha eagerly sought European artillery. He had at least four artillery pieces by 1790 and his artillery train had risen to 12 by 1796. Little is known about the number of cannon his rivals possessed (see Table 2A.1 in Appendix 2).

Pogue recorded the reaction of Hawaiians to bombardment by ship's cannon at Waimea on O'ahu in 1792. As the cannon opened fire:

'The Natives wondered what is this thing which makes a continuous noise?' Said one of them: 'it is powder, a death-dealing substance, they light it and the people are no more. It is well that we save ourselves from death at the hands of these demons. If we stay here, we will all be killed.'²⁸

Mary Pukui and Samuel Elbert's Hawaiian dictionary lists four terms pertaining to cannon: Pu kuni ahi (gun burning fire) and olohao (iron noise) refer to the two most noticeable features of their firing action. Two others allude to their role in land warfare: Pu ku'a (rolling gun) refers to cannon mounted on wheels to facilitate overland movement; Pu kaua refers not only to artillery, but also commanders, champions, and war leaders, suggesting cannon were highly valued battlefield assets.²⁹

26 Keegan (1987), p. 116.

27 King, in Beaglehole (1967) 3:1, pp. 562, 565.

28 Pogue (1978), p. 87.

29 Mary Kawena Pukui & Samuel H Elbert, *Hawaiian Dictionary* (Honolulu: University of Hawai'i Press, 1986).

Cannon were capable of inflicting great damage, even against troops in open formation. They could fire either solid iron balls or masses of small projectiles. The former ploughed its way through all obstacles until it lost momentum. Although the ball's momentum declined markedly at distances over a kilometre, it was still capable of shattering limbs at this range. Cannon packed with smaller projectiles had an effect similar to that of a sawn-off shotgun. The projectiles spewed out over a wide arc along the line of trajectory after leaving the cannon barrel. Each projectile was capable of killing or disabling a person. Cannon could only fire such ammunition up to ranges of 400 metres.³⁰

The robust nature of cannon meant that supplies of ammunition were less of a problem than for muskets. If conventional ammunition was unavailable, local substitutes could be used. In particular, almost any small object could be used for close range scatter shots. But the substitution of rounded boulders for round shot did reduce accuracy and range considerably. Prolonged use might also damage the barrel, and imported gunpowder was still needed as the igniting agent.³¹

Almost all of the artillery pieces obtained by Hawaiians in this period were naval guns. Naval captains required artillery that was much heavier than artillery used on land, as its tactical function required hitting power rather than mobility. Naval warfare in this period was based on the manoeuvring of sail-powered warships to deliver broadsides, or cannon barrages from cannon lining either side of the ship, against the sturdy timber of opposing vessels. Cannon were classified by the weight of the shot they fired. For example, a three-pounder cannon fired a three-pound shot. While land artillery ranged from three to 12 pounders, naval cannon generally consisted of 12, 16, 24 and 32 pounders, which were designed for stationary firing. Even the three-pounder field gun of the late 18th century still weighed around 350 kilograms.³² Two smaller naval cannon were in use by Kamehameha's time. The carronade was a shorter cannon with a stubby, thinner barrel. Its thin barrel limited its range, but within that range it was more destructive than long cannon of the same bore. The swivel gun was even smaller and lighter, so that it could even

30 P. Griffith, *Forward into Battle: Fighting Tactics from Waterloo to Vietnam* (Chichester, Great Britain: Anthony Bird, 1981), p. 145; Robert Leckie, *Warfare* (New York: Harper and Row, 1970), pp. 115–17; and Keegan & Holmes (1985), p. 107.

31 Smith (1976), pp. 110 ff.

32 Clunie (1977), p. 78.

be mounted on rowboats.³³ The fluid nature of Hawaiian land battles reduced the impact of cannon. Without beasts of burden, Hawaiians were dependent on human muscle and dry and unimpeded terrain to move artillery. They needed to mount naval cannon on mobile carriages if they were to be of any use in warfare on land. Henry Restarick claims that John Young mounted a small cannon from the *Fair American* on a carriage for use on land. This was almost certainly the gun named Lopaka in Hawaiian traditions.³⁴

The first use of cannon in battle occurred in 1790 at ʻĪao, when Kamehameha attacked neighbouring Maui after securing a cannon, firearms and two Europeans to assist in their use.³⁵ Memories of the damage inflicted by trained gun crews in the wake of Cook's death, and tales of the recent carnage at Olowalu inflicted by ship's cannon on canoes possibly raised expectations of the effect that cannon would have in local warfare. At Olowalu, Hawaiians came out in canoes to trade with the *Eleanora*, unaware that the ship's captain blamed them for a previous attack and was intent on revenge. Hundreds died or sustained horrific injuries as they attempted to flee the hail of musket balls and nails packed into the ships' cannon. The corpses were later retrieved from the sea and laid out on the beach. Hawaiian accounts mention that many of the victims had badly battered skulls whose contents seeped out over the beach. A number almost certainly had shattered torsos and limbs.³⁶

The impact of cannon in battle varied. In the two of the three land battles known to have involved cannon, the able handling of artillery by foreigners, especially John Young and Davis, is cited as an important factor in deciding the outcome. At ʻĪao and Nuʻuanu, cannon fire exacted a heavy toll on Kamehameha's enemies. The effect at Paʻauhau is less certain. These relatively immobile weapons required troops to stand firm and protect them in battle. Obviously this did not happen at Paʻauhau. Artillery was most effective against stationary, mass targets, such as the Maui forces hemmed into the ʻĪao Valley on the last day of fighting, and Kalanikūpule's

33 William Reid, 'Carronades', *War Monthly*, vol. 8, 1974, pp. 44–45, 47; and Clunie (1977), p. 79.

34 Restarick (1913), p. 29.

35 Fornander (1969), pp. 231–34; Kamakau (1961), pp. 146–47; and Vancouver (1801), bk 3, pp. 227, 230; and bk 5, p. 59.

36 Kamakau (1961), pp. 145–46; Jarves (1843), p. 70; Kahananui (1984), pp. 177–78; Vancouver (1801), bk 3, pp. 227–31; and S.J. Odgers, 'Early Western Contact with Hawaii', BA Hons Thesis, The Australian National University, 1977, p. 43, citing *Frothingham's Long Island Herald*, vol. 1 (n.d.).

initial battleline in the lower Nu‘uanu valley in 1795. No mention of cannon is made in the fighting around Wailuku that preceded the carnage in ‘Īao, nor in the fighting in the upper Nu‘uanu valley in 1795. Once Lopaka had stung Keōua’s forces into action at Pa‘auhau, it became more of a prize to fight over than a weapon to decide the battle. The use of cannon at ‘Īao and Nu‘uanu were not so much decisive turning points as the culmination of longer processes of attrition that saw large armies kept in the field for lengthy periods of inactivity that were occasionally punctuated by battles settled by hand-to-hand combat.

Cannon were more suited to Hawaiian naval warfare where canoes and European vessels provided suitable platforms for firing and movement. The one naval battle involving cannon, Kepuwaha‘ula‘ula, remembered afterwards as the battle of the red-mouthed gun, involved Kamehameha’s *Fair American* and its cannon. Both sides probably also deployed war canoes modified to carry smaller cannon, such as swivel guns. Both sides used foreign gunners in this battle. Too little is known about the battle, however, to allow any firm appraisal of the role of cannon. The battle’s title may owe more to the novelty of cannon than to their decisive nature. At a time when Hawaiian fleets numbered hundreds, even thousands of canoes, there is nothing to suggest that any more than a handful of cannon were present.

Cannon used by Hawaiians were out of their element culturally as well as physically. Hawaiian traditions continue to emphasise the individual acts of valour that occurred in the 1790s. It may not be coincidence that no ali‘i of any consequence were among the victims of cannon fire at ‘Īao or the naval engagement of Kepuwaha‘ula‘ula. How should we explain Ka‘ia‘iaiea and Uhoi’s assault against the cannon Lopaka at Pa‘auhau? Were they enhancing their mana by challenging such a fearsome adversary, or did their bold charge merely reflect a more sanguine tactical necessity? Did Kamehameha’s slaying of his opposite number at Kokomo in single combat ultimately enhance his cause more than Lopaka’s firepower in the ‘Īao Valley a few days later? In these initial decades of European influence, the supplanting of the old with the new was by no means a foregone conclusion.

The importance placed on personal encounters between skilled warriors in Hawaiian battles was threatened by Western weaponry. By substituting the chemical energy of exploding gunpowder for physical strength, firearms threatened to diminish the importance of traditional fighting

skills. Although the flash of the priming pan's ignition provided warning of an impending projectile, no amount of personal skill in dodging traditional weapons could protect warriors from projectiles they could not see. The more firearms used in battle, the greater the chance of being struck. Hawaiian warfare was not only a vehicle for the pursuit of political power and economic resources but also a stage for the maintenance and advancement of social status. Worthy opponents of equal status were difficult to seek out and challenge while trying to avoid musket and artillery fire. The indiscriminate hail of lead that characterised battles involving firearms was no respecter of rank or prowess, knew no code of conduct, and feared no sanctions for breaking social norms.

Firearms brought about some changes to Hawaiian warfare, but generally traditional tactics and attitudes continued. This was possible because only limited numbers of firearms were introduced into Hawaiian warfare before unification. Battlefields continued to be stages for the display of personal bravery. Although the inability of wetted mats and feathered cloaks to fend off musket balls had been made apparent on 14 February 1779, Hawaiians continued to act 'in a most daring and resolute manner'.³⁷ On 15 February, James King noted that, 'a man had the audaciousness to come almost within Musket Shot ahead of the Ship & twirl about Capt'n Cooks hat in defiance and heave stones, whilst those on the N. Side were exalting him & encouraging his boldness'.³⁸ The importance of individual bravery continued into the 1790s. At the battle of Koapapa in 1790, warriors of Keōua's forces, armed with traditional weapons, charged Kamehameha's musketeers and seized their guns.

Ultimately, however, guns did begin to modify tactics, as at the battle of Koapapa when Keōua's men constructed shallow pits in which to crouch when they saw the flash from the musket priming pans of Ka'iana's forces. Chiefs were pinned down by musket fire from Europeans in their enemies' ranks on Kaua'i in 1793 and at 'Aiea in 1794, while their opponents closed in and routed them with traditional weapons. Mare Amara's shooting of a prominent O'ahu war chief at Kukui in 1794 perhaps vindicated the O'ahu forces decision to fight from the shelter of trenches and earthworks on this occasion.

37 Thomas Edgar, 'Extracts from Journal', 14 Feb. 1779, copy of MS, Hocken Library, Dunedin.

38 King, in Beaglehole (1967), 3:1, p. 561.

Hawaiians appear to have also begun experimenting with European tactics. A number of sources state that Kamehameha was influenced by discussion over military tactics with Vancouver. The 1838 *Mooolo Hawaii* claims Vancouver taught Kamehameha how to drill soldiers. Vancouver makes no reference to this in his journal, however, portraying himself as a man intent on ending the fighting.³⁹ Bishop's reference to Englishmen being attached to 'divisions' might mean organisational reforms were instituted, although there is no indication that this was the case. The only other suggestion of military reform in the 1790s is Restarick's reference to John Young having trained a small body of men in the use of muskets. This was possibly Kamehameha's 30-man bodyguard armed with muskets, who Bishop noticed in 1796.⁴⁰ There is no direct evidence that firearms or European tactics dramatically altered Hawaiian tactics in the wars of unification. Battle formations used in the 1790s all had indigenous precedents.

The old ways still predominated among mō'i but, in the atmosphere of intense rivalry that prevailed, the temptation to bend conventions and improve fighting effectiveness must have been great. Hawaiian leaders seem to have considered using indigenous weapons that threatened to undermine chiefly prowess in close quarter fighting on the eve of the introduction of firearms. Although there is no record of the use of bows in battle, Kahekili's army included expert archers by 1783.⁴¹ If firearms had not been introduced, it was perhaps only a matter of time before Hawaiians used the bow in warfare. Political rivalry between chiefs also led to the formation of specialist military units on Maui and Hawai'i by the 1770s. These units could also undermine the significance of individual chiefs in battle, particularly when they employed tactics such as the massed drills witnessed by Vancouver in the 1790s.⁴²

39 Pogue (1978), p. 90; Kahananui (1984), p. 183; and Freycinet, in Kelly (1978), p. 103 n. 3.

40 Restarick (1913), p. 13; Bishop, in Roe (1967), p. 144.

41 Kamakau (1961), p. 135.

42 Vancouver (1801), bk 3, pp. 252–58.

The consolidation phase: Coercion and consent revisited

The consolidation of the Hawaiian Kingdom under Kamehameha I involved changes to the ideological, economic, military and organisational aspects of power. In each of these spheres, the presence of Europeans provided potential new tools for the exercise of power, or brought about modifications to existing practices. The extent of European influence should not be overstated. European vessels continued to restrict their visits to a handful of ports and Europeans residents also tended to remain around the ports. While a few beachcombers overindulged in rum and occasionally caused trouble around Honolulu, European residents generally assimilated into their host society and adhered to its rules.⁴³ Although Hawaiian mobility increased after unification, most Hawaiians continued to live within a highly localised world that was predominantly rural and conservative.

Kamehameha carefully monitored and regulated trade of the unified kingdom through his bureaucracy. The king used his administrative and military strength to ensure that potential rivals were not able to utilise access to European trade to build up independent power. With the fragmentation of landholdings, subordinate ali'i were also denied the chance to develop local power bases. The kingdom based its domestic security as much on the denial of resources to rivals as increasing the capacity of the kingdom.

This was especially true of the military sphere. The 1804 epidemic allowed Kamehameha to consolidate military power by demilitarising Hawaiian society. Actual fighting strength declined markedly, but the relative coercive advantage of the ruler over his subjects became greater than ever before. The 1804 epidemic on O'ahu decimated Kamehameha's army assembled there to invade Kaua'i. Many warriors from the armies of Kamehameha's old rivals, Kalanikūpule and Ka'eokulani, were probably also still resident on O'ahu at the time. It is not until 1815 that there is any indication of armed forces numbering over 1,000 being present in the islands.

43 Howe (1984), p. 103; Maude (1968), pp. 139–40.

Royal forces largely monopolised European military hardware after 1804. In addition, the main threat to Kamehameha in this period was perceived to be attempts by ali'i on O'ahu to obtain firearms and raise followers to use them against the king. The validity of Kamehameha's fears is open to question. As it was, the challenge never eventuated and the king was able to collect his subjects' firearms and remove them from circulation. This emphasis on firearms would at first seem to be at odds with their technical capabilities and utilisation in the 1790s. Perceptions may have been more important than realities. Without regular training, the issue of muskets to royal supporters would do little to enhance their military effectiveness. As it was, most of Kamehameha's muskets seem to have remained in storage.⁴⁴ Archibald Campbell had not been overly impressed with the ability of those troops who did drill regularly with firearms at Honolulu.

The longer that peace was maintained, the greater the government's coercive advantage over possible challengers became. Regular drilling with firearms and traditional weapons maintained the organisational coherence, discipline and esprit de corps, as well as the martial prowess of troops. Without regular practice the skills of others could not have been maintained. With no justification for retraining, and the kings' men observant throughout the land, any move to reconstitute military retinues by other ali'i faced the prospect of swift countermeasures before an effective fighting force could be organised. Bravery was no substitute for training, as Kekuaokalani and his followers found in 1819. Also, by 1819, the ending of the Napoleonic wars in Europe freed up vast stocks of army-issue muskets that were eagerly purchased by traders as items of trade.⁴⁵ Tower muskets, not trade muskets, may have been the weapons that Kekuaokalani faced at Kuamo'o.

The perception of European military technology could only be enhanced the longer it remained unchallenged in battle. The public musket drills at Honolulu, the impressive batteries of cannon that guarded Hawaii's main ports of call, and the fleet of European vessels may have drawn much of their effect from their association with Kamehameha's victories in the 1790s. That most guns faced out to sea was a reminder that the

44 Similar processes occurred in 16th-century Japan and Tudor England; see Noel Perrin, *Giving up the Gun: Japan's Reversion to the Sword, 1543–1879* (Boulder, Colorado: Shambala Productions, 1979), pp. 45–47, 58–59; and Dyer (1985), p. 58.

45 Clunie (1977), p. 82; Rogers (1960), p. 154; and White (1971), p. 181.

military served to guard the king's subjects from outsiders as much as to preserve the domestic peace. The threat posed by George Scheffer, late in Kamehameha's reign, seemed to bear out this conviction.

The maintenance of peace and unity in the later part of Kamehameha's reign owes much to the workings of the royal administration. The King's officials served as intermediaries and, to a certain extent, buffers between Hawaiian society and the outside world. They ensured that their ruler, not his rivals, controlled the trade with visiting vessels. Kamehameha also built up a reservoir of artisans who were skilled in European crafts such as shipbuilding and metalworking. Europeans were used within the royal bureaucracy as artisans and administrators. Such artisans usually taught their skills to Hawaiians while practicing their crafts in the service of the king.⁴⁶ Other Europeans were valued for their knowledge of writing and financial matters, both of which were important tools in dealing with foreign traders and government representatives. European vessels soon supplanted Hawaiian canoes as the chief mode of inter-island transport and communications for government business. Their large holds and ability to handle heavy seas allowed for the rapid movement of men, supplies and messages throughout the kingdom, although traditional canoes remained in use among the general populace.

Old administrative practices persisted. The lesser ali'i and kahuna who formed the majority of officials at the local level were part of an indigenous tradition that stretched back for centuries. Most of the royal administration remained concerned with relations between the king and his subjects. The existing system was modified rather than changed. The features of the royal administrative structure concerned with government away from the ports were present in the pre-existing system, and all that changed was that the scale was larger and the ruler was able to exercise more control over his administrators, now that his nominees had replaced the semi-autonomous and powerful vassal ali'i who governed localities under the old system.⁴⁷ These nominees did not have a local support base of their own; rather, their authority rested on their association with the king. This move may owe its implementation to the advice of Europeans that was based on their experience of European monarchies. But it is equally possible that the reason it was introduced was that only now were the powerful interests opposed to centralisation able to be

46 Campbell (1967), pp. 99, 118–19, 144, 154; Daws (1968a), p. 46; and Bargatzky (1980), p. 94.

47 Howe (1984), p. 158.

overcome. Attempts by Hawaiians to integrate large regions or whole islands into unified politics date back to the 1600s at least. It is only when Kamehameha's unification is placed within this longer timescale that the dynamic of his state-building efforts in Hawai'i can be truly understood.

The mere presence of outsiders in ports of call such as Honolulu and Kealahou Bay did not necessarily ensure change, even at these cultural interfaces. Europeans visiting Hawai'i during Kamehameha's reign were in no position to force change on Hawaiians. Increasing exposure to European goods and ideas went hand in hand with changes that stemmed largely from indigenous factors, particularly the cessation of open warfare. Some transformations that occurred in Kamehameha's lifetime were the climax of processes begun centuries before. What particularly distinguished Kamehameha from other mō'i was his method of consolidating military victory. Kamehameha mastered the art of building and maintaining coalitions. The early Hawaiian Kingdom was more of a chiefly federation that acknowledged Kamehameha's primacy than a monarchy with power concentrated in the hands of the ruler. Kamehameha's administrative reforms after unification combined Hawaiian practice with European ideas. Most commentators have noted the significance of these administrative changes, but few acknowledge that demilitarisation of the islands was central to the unification process. Hawaiian demilitarisation was assisted by epidemics, natural disasters and isolation from external threats after unification. Kamehameha may not have been able to implement his political reforms without this demilitarisation.

Hawaiian beliefs were challenged before 1819 simply by the non-adherence of foreigners to Hawaiian norms. At the time of Cook's arrival, chiefly power was becoming more secular, but still rested partly on a belief system that closely associated ali'i with gods. The gods affected the fortunes of men. If kapu were adhered to and mō'i conducted their duties correctly, the gods looked after their community of human worshippers. Although worship varied across the archipelago, the underlying assumptions were generally accepted. The situation was aided by the archipelago's relative isolation from communities with differing worldviews. While the few Europeans who crossed the cultural divide and lived in Hawaiian society could be made to adhere to its rules, less control existed on board

visiting vessels. Sailors broke kapu by allowing women to eat with them, others manhandled ali'i. The fact that European sailors did not receive supernatural or chiefly sanction for disobeying kapu was also noted.⁴⁸

Kamehameha realised the danger that Europeans posed to the kapu system. Any system of beliefs needs to conceal new ideas from the population, contain them, or incorporate them to continue to work as a means of social conditioning.⁴⁹ Kamehameha chose to contain the European threat to the kapu system. In the 1790s, Vancouver's men were requested to stay away from heiau. As transgressors of kapu, the entry of the crew into these sacred places threatened to defile them. When Vancouver left Hawai'i in 1793, Kamehameha went into seclusion to purify himself because he had been in contact with foreigners who had eaten and drunk with Hawaiian women. Kamehameha continued this policy throughout his reign. When the Scheffer entered a heiau near Honolulu in 1816 during a kapu period, the heiau was declared desecrated and was burned down.⁵⁰ Kamehameha also sought to restrict ship visits largely to Honolulu and to regulate visits through government officials.

Ali'i were divided over the extent to which European influence should be controlled. As early as 1793, Ke'eumoku's favourite wife, Namahana, had argued that Europeans and their vessels stood outside of the kapu system as it applied only to things Hawaiian.⁵¹ A number of Hawaiian ali'i were attracted to European ways and openly imitated them. Ka'ahumanu's brother, Kahekili Ke'eumoku, told a European visitor that the white man's god was the only true god.⁵² Faced with such beliefs, Kamehameha's religious conservatism became a crucial pillar for the old system of beliefs in the final years of his rule.

Ali'i in regular contact with Europeans stood uneasily between two systems of belief. Inconsistencies in the behaviour of many ali'i inevitably occurred. Female ali'i dined with sailors in 1815 on board a ship anchored nearby to the corpse of a female maka'ainana who had been killed for eating kapu food. When sailors traded with Hawaiians, ali'i used kapu to restrict maka'ainana access to European trade goods and then accumulated large quantities for themselves. Such kapu had dubious religious justification

48 Sahlins (1981), pp. 53–55; and Daws (1986a), pp. 57–58.

49 Galbraith (1985), p. 129.

50 Sahlins (1981), p. 54; and (1985), pp. 85–89.

51 Vancouver (1801), bk 3, p. 195.

52 Corney, cited in Sahlins (1989), p. 415 n. 6.

and therefore ran counter to the reciprocal basis of the Hawaiian social contract between ali'i and maka'ainana. Straying from traditional forms of kapu threatened to undermine the legitimacy of the whole kapu system.

With the exception of labour demanded for harvesting sandalwood, most of the compromising behaviour associated with interaction with Europeans remained confined to a few ports. Maka'ainana secular and ritual life continued to revolve around localised agricultural production. Kamehameha's departure from Honolulu in 1810 may have been prompted by his desire to avoid the compromises that Honolulu's role as a port imposed upon his ritual efficacy. The Hawai'i he returned to, with its celebration of agricultural fertility, sense of local community and belief in supernatural potency was probably still the Hawai'i of the majority in 1819. The willingness of maka'ainana to break kapu imposed on trade with Cook's vessels shows kapu were contested. The fact that these transgressions occurred from the moment of contact, and did not develop over a period of time after the arrival of Europeans, suggests that such contests were already an ongoing part of Hawaiian society and did not arise solely as a result of contact with the opportunities that outsiders presented.

The major change to state religion in Kamehameha's time, as the prospect of war faded, was the decline in the worship of Kū. Hawaiian sorcery gods rose to prominence to fill the void. While sorcery gods were associated with war gods as a milder form of the aggressive, violent aspect of kingship, Valerio Valeri proposes that their increasing emphasis undermined royal power. Whereas the worship of Kū centred on public ritual closely associated with the ruling chief, sorcery 'tended to "internalise" the conceptualisation of social processes and consequently to devalue their objectified, ritual expression'.⁵³ Sorcery was, therefore, in keeping with the 'incipient individualism' that Valeri detects as ali'i began to compete with each other in accumulating commercial wealth.

The European influences that found the most enduring place in the popular consciousness were the memory of Cook and the ravages of introduced diseases. Cook's visit triggered a genuinely spontaneous and widespread celebration among the maka'ainana in both Maui and Hawai'i in late 1778 and early 1779. A large crowd followed his circuit of Hawai'i, culminating in the massive crowd that greeted him at Kealakekua

53 Valeri (1982), p. 30.

Bay. Cook was clearly associated with Lono, the most popular god in the family shrines of commoners as well as the focus of the *makahiki*.⁵⁴ While there has been debate on whether Cook was viewed as Lono or a dangerous rival chief, there is no doubt that the memory of Cook–Lono was incorporated into the Hawaiian world view. Some days after Cook’s death, priests of Lono asked when ‘Erono’ would return.⁵⁵ When European contacts were renewed in 1786, the belief in the imminent return of Cook as Lono *makua* remained. Evidence from the 1790s and 1800s shows that Cook was incorporated into the Hawaiian pantheon and formally worshipped as a royal cult. His worship echoed that given to Lono *makua* during the *makahiki*.⁵⁶ The English seaman William Mariner learnt from Hawaiians in Tonga during his forced residence there that:

His bones (the greater part of which they still have in their possession!) they devoutly hold sacred. They are deposited in a house consecrated to a god, and are annually carried in a procession to many other consecrated houses, before each of which they are laid on the ground, and the priest returns thanks to the gods for having sent so great a man.⁵⁷

This passage implies that Cook was perceived as an agent of Hawaiian gods. All great gods were foreign. European gods may also have been rationalised within the existing order as Mariner was also told that gods sent Cook ‘to civilise them’.⁵⁸ Cook–Lono also seems to have been perceived as acting like a Hawaiian god. Over a decade after Cook’s death, Captain James Colnett found that two recent volcanic eruptions in the Kailua area of Hawai‘i Kona and a new illness were attributed to divine anger for the death of Cook. The association with volcanism relates to Lono’s association with lightning. As fire in the sky, lightning was a manifestation of Lono’s association with the family of Pele.⁵⁹

Colnett’s observations are also interesting for his informants’ association of introduced diseases with the gods. Kamehameha’s consolidation of power was aided by natural hazards and introduced disease, which resulted in an unplanned demilitarisation of the islands. His attempted invasion of Kaua‘i in 1796 was thwarted when much of his fleet was capsized between O‘ahu and Kaua‘i. By 1804 Kamehameha was ready to attack

54 Sahlins (1989), p. 413; and Kahananui (1984), p. 173.

55 King, in Beaglehole (1967), 3:1, pp. 560–61.

56 Sahlins (1989), pp. 377–86, 389.

57 Mariner, in Martin (1981), p. 280.

58 Mariner, in Martin (1981), p. 280.

59 Sahlins (1989), p. 379.

Kaua'i again, however, his 7,000-strong force⁶⁰ never saw action due to the ravages caused by the 1804 epidemic. Kamehameha's reconstituted power base after the 1804 epidemic fell well short of its previous level.

The magnitude of the decline of the Hawaiian population in Kamehameha's time can never be accurately known. Samuel Kamakau's assurance that 'Many of the old chiefs were still alive in Liholiho's day' is supported only by a partial list of surviving members of important lineages. Only with Ké'eaumoku's offspring are we given any indication of the impact of disease. Five of his six children are said to have survived into Liholiho's reign, with only Kuakini falling victim to disease.⁶¹ Such evidence can hardly be considered sufficient for any generalisation. It contrasts dramatically with Hawaiians' claims to William Ellis in 1823 that their population was only one quarter of what it had been 45 years earlier.⁶²

Despite David Malo's statement that all islands were badly depopulated,⁶³ the possibility remains that the impact of introduced disease varied between localities. Islands playing host to visiting vessels may have suffered disproportionately more losses due to disease than their neighbours. Given the limited mobility between communities, outside of the ali'i nui, it is possible that ahupua'a communities away from ports like Honolulu may have suffered less than those in closer proximity. Certainly Kamakau noted that country districts were still thickly populated with chiefs at the arrival of missionaries a few years after Kamehameha's death.⁶⁴

Stannard suggests that it was normal for 50 to 90 per cent or more of Pacific populations to be struck down by exotic disease in the first few generations after European contact. Donald Denoon is more circumspect, noting that rates of depopulation varied, and concludes that 50 per cent in the first generation after of exposure to exotic disease is a more reasonable figure. For both, the key demographic factor was the post-epidemic recovery rate.⁶⁵ The level of nutrition, frequency of epidemics, fertility rates and the ability to maintain economic and social patterns influenced recovery. Stannard emphasises that a side effect of many exotic diseases was infertility in women. It seems probable that venereal

60 Lisiansky (1967), pp. 11, 133.

61 Kamakau (1961), p. 221.

62 Stannard (1989), pp. 53–54.

63 Malo, cited in Stannard (1989), p. 57.

64 Kamakau (1961), p. 236.

65 Denoon (1994), pp. 332–34; and Stannard (1990), pp. 325–50.

disease, for example, was introduced early and caused infertility, which contributed to population decline. Hawaiian histories attribute most of the population decline to loss of fertility from sexual diseases acquired in liaisons with sailors. They rank infertility ahead of epidemics, wars and infanticide as the leading cause of their population's decline in the 50 years following Cook's arrival.⁶⁶ Stannard notes that, even in the period 1834–41 when no major epidemics occurred, the median birth rate of Hawaiians was only 19.3 per thousand, compared to a median crude death rate of 47.3 per thousand. Stephen Kunitz is less certain, noting that the best evidence is from New Zealand, where a decline in Māori fertility from 1769 to the 1850s was followed by an increase in fertility from 1850 to 1880, during a time when the overall Māori population continued to decline.⁶⁷

Alfred Crosby also emphasises the significance of factors suppressing Pacific Islanders' ability to recover from epidemics. In addition to infertility, he lists a raft of less dramatic, but persistent diseases and infections, like tuberculosis, that chipped away at the population by overloading immune systems so that they were less able to resist more serious pathogens.⁶⁸

The details concerning the social impact of exotic diseases remain far from resolved. Judd's observation was not untypical, and many contemporary European observers attributed this behaviour to despair. Infertility was so widespread by the 1850s that Hawaiians began to wonder if their race would become extinct.⁶⁹ Yet, they continued to resist European inroads until the 1893 coup and beyond, just as Māori mounted sustained military resistance in the 1840s and 1860s as their population also plummeted. There is little evidence of a crisis of confidence, even in the immediate aftermath of the most devastating epidemics. At the time of the 1804 oku'u epidemic, for example, agricultural production in Hawai'i increased in some areas in response to Western trade,⁷⁰ and Europeans found the population of the island of Hawai'i numerous and industrious.⁷¹ Hawaiians launched themselves into the construction of a Western fleet after 1800 and successfully repelled a Russian attempt to establish themselves on Kaua'i in 1816. Religious adherence among

66 Kahananui (1984), pp. 232–33.

67 Stannard (1990), pp. 331–35; and Kunitz (1994), p. 51.

68 Crosby (1992), p. 193.

69 Daws (1968a), pp. 168–69.

70 Cordy (1972), pp. 408–09; and Kirch (1985), pp. 178, 314.

71 Campbell (1967), p. 87.

chiefs did slacken in the last decade of Kamehameha's reign, however, and the new political elite overturned the old religious system after his death in 1819. Most Hawaiians continued to make offerings to their local gods for bountiful harvests on the land they had farmed for generations, even after Christianity became the official religion in the 1820s. The real disruption to their lifestyle came in the 1840s with the legal change to land ownership.⁷²

The colonial experience of epidemics in the Pacific supports the proposition that dispossession rather than depopulation was the key disruption to indigenous life. Samoans suffered the highest mortality of any community in the world during the 1918–19 influenza epidemic – 30 per cent of adult males, 22 per cent of adult females and 10 per cent of children. European settlement and control of land remained limited, however, and Samoans made a quick recovery. Within a decade, the Samoan population's growth rate averaged over 3 per cent. Fijians' birth rate also increased in the years immediately following the measles epidemic that struck their islands in 1875. This was followed by a 20-year decline that coincided with the introduction of a new form of economic production as British authorities sought to develop a plantation economy.⁷³

Access to European manufactured goods during Kamehameha's reign provided new possibilities for the formulation of economic power. Hitherto, the Hawaiian political economy had focused on the control and allocation of land and the distribution of its largely perishable production. Both processes were used to secure and maintain followers. In terms of traditional formulations of power, European goods had two possible uses. As exotic, locally unavailable items, they might serve as prestige possessions. Some had potentially more functional uses. In particular, European firepower might enhance military capabilities, especially if accompanied by tactical reform, and iron tools held the promise of improvements in farming and indigenous manufacturing.

The ali'i seemed more determined to accumulate large stores of European goods than to encourage their use among their subjects, moving early to shut maka'āinana out of the trade in European goods through regulatory kapu and the appropriation of any items that found their way into the hands of their lesser subjects. For example, although ali'i soon satisfied

72 Daws (1968a), pp. 49–60.

73 Denoon (1994), p. 332.

their desire for iron tools and moved on to accumulate other items of trade, there remained a general shortage of iron tools in the community at large into the 19th century.⁷⁴

European items that did find their way into the wider economy seem to have had a limited impact prior to 1819. Crafts involving the working of wood were enhanced by the use of metal adzes. By 1809 they had almost totally replaced traditional stone adzes.⁷⁵ Introduced crops and livestock did not find favour among Hawaiians and traditional food sources continued to dominate the Hawaiian diet. While metal tools may have aided the breaking in of raw ground, there was little to be gained from their adoption in the Hawaiian agricultural system, dominated as it was by the labour-intensive work of mulching and weeding agricultural plots.⁷⁶ The adoption of metal fishhooks and sinkers and European cast nets that occurred over the course of the 19th century did little to alter fishing techniques or the size of harvests.⁷⁷

Most items of European trade were used primarily to enhance the status of their individual chiefly owners. Whereas traditional status items, such as feathered cloaks, acquired their value through their association with the mana of their possessor, the value of European goods seems to have been more associated with the quantity of the item as an indication of the owner's economic wealth. The sale of feathered cloaks and chiefly headdress to European trade may indicate that the flood of introduced goods devalued traditional status items, although Jocelyn Linnekin suggests that those items sold were usually not associated with important ali'i.⁷⁸

To acquire European goods, the ali'i had to meet the demand of visiting vessels. Initially this consisted of agricultural provisions. Later this was supplemented by a demand for sandalwood. To accommodate these demands, the ali'i drew upon their traditional right to a proportion of their maka'āinana tenants' produce and labour. Prior to unification, it would appear that the Hawaiian economy was able to meet the demand for provisions from visiting vessels without being overextended.⁷⁹ Ships' complements ranged from five on the *Fair American* to just over 50 on the

74 Sahlins (1981), p. 44; Ralston (1984), pp. 25–26.

75 Campbell (1967), p. 143; Malo (1951), p. 52.

76 Cordy (1972), pp. 403–06; Kirch (1984), pp. 189–90.

77 Hommon (1975), p. 116.

78 Linnekin (1988), pp. 275–76.

79 Cordy (1972), pp. 400–03.

Eleanora.⁸⁰ Considering that the retinues of individual ali'i were usually much more numerous than this, early European demand may in fact have been able to have been met from the agricultural production and free-ranging herds of pigs of koele lands. After 1800, agricultural production seems to have increased to allow the ali'i greater access to European trade. This was particularly true of ahupua'a around the main ports. Around Honolulu, for example, new fields were planted in yams and potatoes, and even a limited number of sheep and goats were raised to satisfy the European palate.⁸¹

The extent to which production was also increased away from the ports is uncertain. During the sandalwood period, there is archaeological evidence that production may have declined in certain areas such as leeward Kohala on Hawai'i.⁸² The fact that military garrisons were supplied by inter-island ship voyages at this time shows that the Hawaiian Kingdom had the ability to mobilise resources archipelago-wide. After 1810, demands on residents of ahupua'a away from ports certainly increased as ali'i sent maka'ainana into the mountains to harvest sandalwood.

Any loss of maka'ainana support that ali'i demands may have caused was not compensated for by the formulation of new support bases through the distribution of European goods. The kingdom's healthy currency reserves and the stores of material possessions did not translate into domestic political influence. Currency was useful in dealings with European visitors and for paying European officials in the kingdom's government but, elsewhere, the agriculture-based economy predominated. Most of the king's local officials were paid from a proportion of their administrative area's production through which the king's subjects acknowledged the monarchy's spiritual and secular protection. Presumably the royal army was also supported by agricultural tribute. There are certainly no indications that they were paid in currency or goods, as the kingdom's European officials were. Overall, the newly unified Hawaiian Kingdom still exhibited more continuity with past practices than Western-influenced innovation.

80 Vancouver (1801), bk 3, p. 227.

81 Cordy (1972), pp. 402, 407, 411–12; and Kamakau (1961), p. 190.

82 Kirch (1985), pp. 178, 314.

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