7 Instruments of Change

Organizational Technology and the Consolidation of Regional Power in Japan, 1333–1600

Thomas Conlan

Prologue: The Limitations of Sixteenth-Century Firearms

Shortly after a chance landing in 1543 on the Island of Tanegashima, a small island south of Kyushu, Portuguese merchants parted with three of their firearms (*teppō*). A Negoroji priest visiting the region took one of them to his temple, located in central Japan. The priests of Negoroji and their affiliated metalworkers soon established a forge of gunsmiths and produced enough weapons to form a force of 300 marksmen (*teppō shū*) in the 1570s.[1] In spite of Negoroji's proficiency in using and producing these weapons, their role in disseminating firearms has been ignored. Standard narratives of Japan's sixteenth-century history portray regional "lords" or daimyō as being the most cognizant of the power of these new weapons and most able to use them effectively. Oda Nobunaga, the first of the "three unifiers" of Japan, has been characterized as a military genius whose concentrated use of firepower allowed him to "revolutionize" warfare, crush his most potent rival, the Takeda of Kai province, and consolidate power from 1570 until his assassination in 1582.[2]

The priests of Negoroji realized the importance of these new weapons earlier than any daimyō. In contrast to Nobunaga, who hastily assembled a squadron of gunners for the battle of Nagashino, they fielded a formidable squad of gunners through mastery of production and training. And when Nobunaga dispatched his brother to attack Negoroji, his army suffered a convincing defeat. Unlike the "epochal" encounter at Nagashino, this battle has been consigned to oblivion, largely because Nobunaga's successor, Toyotomi Hideyoshi, incinerated most of the temple complex in 1585.

Those most proficient in manufacturing and using guns were not destined to achieve political and military success. As the priests of Negoroji discovered to their detriment, reliance on powerful weapons could not provide security from opposing armies. Negoroji was destroyed because its priests believed that their marksmen alone could defend their temple and its constituent lands. Preoccupied with the manufacture of guns, over time Negoroji lacked sufficient manpower to defend their territory or, for that matter, aid a beleaguered ally, whose castle fell to the Oda before their gunners could arrive.[3] Negoroji's 300 marksmen were incapable of defeating an organized and determined adversary, which accordingly suggests that the innovation or adoption of new weapons did not determine political and military success. Instead, the ability to mobilize, sustain, and supply armies proved to be of paramount importance.

This chapter will explore the transformational power of technology and show that, like the priests of Negoroji, historians have tended to overemphasize the significance of new weapons. The introduction of firearms did not unleash a process whereby fragmented authority was centralized (or "unified") during the final decades of the sixteenth century. Instead, organizational changes in fourteenth- and fifteenth-century Japan provided the impetus for the consolidation of regional political and military power.

Technology is most significant, and best understood, as a technique as opposed to an instrument or weapon.[4] To date, technology has often been conceived in material rather than organizational terms. Such a view is understandable, for it is easier to point to improvements in particular objects than to uncover the process through which they came to be effectively used. Nevertheless, the notion of material objects ("technology") as being capable of influencing historical processes arose in relatively recent times. The oldest (1615) use of the word in English designated a treatise on arts or skills, and by the mid-nineteenth century it came to represent a particular practical or industrial art.[5] Even as late as the mid-nineteenth century few conceived of technology—the adoption of new "industrial arts" or materials—as a discrete phenomenon, let alone as an agent of historical change.

The impact of technology, conceived of as the creation or use of new materials, was not fully perceived until the carnage of the First World War, when military historians first discussed the importance of weapons such as firearms and pikes in the "development of modern warfare."[6] Since the 1920s, this notion of technology has been regarded as an important factor, and the trope of

a "technological revolution" remains vibrant, although recent scholars have preferred the metaphor of a "military revolution" to describe the changes wrought by improvements in firepower.[7] Nevertheless, the conception that "technological advances" such as the adoption of new weapons profoundly influenced the waging of war is absent from pre-twentieth-century writings, which instead concentrate on issues of military organization and supply.[8] This earlier understanding remains germane, for changing patterns of weapons usage reflected historical processes rather than caused them.

As we shall see, Japan witnessed a shift toward pike usage, although this happened during the Ōnin War (1467–1477) and not during the thirteenth and fourteenth centuries as some historians have asserted. In addition, guns gradually supplanted arrows during the course of the fifteenth and sixteenth centuries. The effective use of these new materials hinged upon improvements in military and political organization. In this sense, the invention of weapons proved less important than improvements in techniques for mobilizing, training, and supplying armies in the field—techniques that will hereafter be referred to as improvements in organizational technology. Men who rose to power in the sixteenth century, such as Nobunaga and Hideyoshi, fully mastered these arts, while the priests of Negoroji did not.

Sources

When charting how new weapons came to be adopted and used, one can postulate how they influenced the processes of social, military, and institutional change. Unusually precise records describing how wounds were inflicted in battle from 1333 through 1600 enable us to trace the dissemination of weapons. One can precisely chart how weapons were used from 1333 onward because battle reports (*kassen chūmon*) and "petitions for reward" (*gunchūjō*) record how wounds were inflicted. These documents first appear late in the thirteenth century, in the aftermath of the Mongol invasions, and continued to be produced through the battles of the early seventeenth century.[9] Written shortly after every skirmish, each document mentions the damages incurred by warriors so as to ensure compensation for their actions.

Warriors submitted reports of arrival (*chakutōjō*) and battle reports to administrators (*kassen bugyō*), a provisionally appointed body of warriors who inspected these documents. Fourteenth-century battle reports are relatively rare, for they were generally discarded after they had been summarized in petitions for rewards. Once a warrior completed his battle report, he used it

as evidence to prove his military service and thereupon submitted a petition for rewards. These documents recount all wounds, deaths, and damages inflicted, as well as the date and location of battle. Petitions for reward provide a more comprehensive narrative of battle than battle reports because they mention how a sequence of such skirmishes unfolded through time. After each document was inspected, it was signed and then returned to the petitioner. One example is as follows.[10]

> Izumi Sugi Saburō Nyūdō Dōkaku, a *gokenin* of Satsuma,[11] respectfully requests to receive rewards and a record of his battle exploits (*onchūmon*) because of his military service.
>
> On the seventh day of the past fifth month, when the gate of Kaseda castle in Kimotsuki district, Satsuma province, was stormed, [Dōkaku and his] son were first to attack. [They] surmounted the moat and cut through the barricades. As [they] performed military valor with fearless abandon, [Dōkaku's] son Yasaburō Tamotsu was shot through the left thigh [and later had the] arrow removed. On the battle of the eighth, the general of the main forces, Shimazu Rokurō, saw an arrow pierce the forearm of [Dōkaku's] bannerman Rokurōmaru. Furthermore, at that battle, both Ushibari Yamano Hikoshirō nyūdō and Isakuda Hyōbu no suke of Satsuma province witnessed this [as well]. Next at the pitched battle (*kakeai kassen*) at Hinozaki on the twenty third, [Dōkaku] also performed military service. [Dōkaku] requests that he receive rewards and a record of his battle exploits because of [his] military service in order to promote the honor of [a practitioner of] the bow and arrow. So humbly stated.
>
> Sixth month 1336
>
> Received (copy of the monogram of Shimazu Sadahisa)

This document provides a brief narrative of battle. Dōkaku described the wounds of his son and bannerman—all caused by arrows—and named witnesses for his deeds. He must have originally submitted a battle report that mentioned these casualties in greater detail, but this document no longer survives. Shimazu Sadahisa, a commander of Satsuma forces, accepted the veracity of Dōkaku's later petition, for he wrote "received" and signed his monogram on this document. If Sadahisa were suitably impressed, he might write a *kanjō*, a document praising Dōkaku's services, and recommend that he be rewarded.

Well over 1,300 petitions and battle reports survive from the fourteenth century, while only ninety-four documents describe the nature of wounds

from 1467 to 1600. Such a situation might seem to be paradoxical, for these later centuries are known as the Warring States era (1467–1600), but this paucity of military records reflects changes in social and military organization more than the prevalence of warfare per se. As petitions for reward functioned as a means of ensuring that a warrior would be remunerated for his deeds, those who were incorporated into a regional magnate's network of retainers would no longer be able to demand rewards for their military service, and so stopped submitting these documents. Only a dwindling band of warriors maintained autonomy and continued writing battle reports throughout the fifteenth and sixteenth centuries.[12]

Unlike the documents of the fourteenth century, which were uniformly distributed throughout the land, nearly all battle reports created between 1467 and 1600 come from western Japan. Older styles of documents, namely documents of arrival (*chakutōjō*) and petitions for reward (*gunchūjō*) survived longer in western Honshu and Kyushu, and in the domains of the Ōuchi and the Ōtomo in particular, than in the rest of Japan. Similarly, more western warriors managed to preserve their autonomy throughout the political turmoil of the fifteenth and sixteenth centuries than did their brethren in central and eastern Japan.

The surviving military reports of the fifteenth and sixteenth centuries reveal less about the nature of warfare than fourteenth-century records. In contrast to earlier petitions, fifteenth-century records rarely mention the names of witnesses or where a particular battle was fought. As armies became more cohesive and the same troops fought together over time, the need to record the names of witnesses and the locations of battles diminished. Documents came to simply mention who was wounded at a particular battle. Thus, the very processes that led to the improved ability of armies to mobilize troops and secure supplies caused the historical records pertaining to war to decline.

Indeed, greater military cohesion meant that some types of documents disappeared entirely as fourteenth-century patterns of mobilization became anachronistic. Although the armies of the fourteenth century were mobilized on an ad hoc basis, with "invitations" calling warriors to fight being randomly distributed, such invitations became unnecessary as the fifteenth century progressed, and armies came to be composed of most, if not all, warriors from a particular region. Once this process of mobilization became standardized, warriors no longer submitted documents of arrival when reporting to camp, which makes it nearly impossible to reconstruct the movement of fifteenth-

century troops. This is unfortunate, for as we shall see, the period of the greatest innovation in military organization is one in which virtually no organizational records survive.

The following document, submitted by Kikkawa Mototsune of Aki province in the aftermath of a Kyoto battle, typifies fifteenth-century reports:[13]

> The following were killed or wounded during the battle at [the crossroads of] Ichijō and Takakura on the thirteenth day of the ninth month of the first year of Ōnin (1467).
>
> Yuasa Yajirō killed
> same name Asaeda Magotarō
> same name Asaeda Matajirō
> same name Asaeda Magogorō
> Yamagata Mago Saemon no Jō: a pike (*yari*) wound
> Wada Saburō Saemon no Jō: a pike wound [and] an arrow wound
> Ono Yaroku same as the above
> Miyoshi Saemon Tarō
> Saeki Shoroku a pike wound
> Tahara Tosho no Suke a pike wound
> Kawayoshi Shinsaemon no Jō same as the above
> Kikkawa Jirōsaburō Mototsune (monogram)
> Received (monogram) [Hosokawa Katsumoto]

Unlike the earlier petitions, this report tells us little about the movement of Mototsune and his men, save that four were killed and seven wounded 9. 13, 1467. Mototsune submitted this report to his commander, Hosokawa Katsumoto, who responded with the following document of praise (*kanjō*) within ten days of the encounter:

> During the battle of the past thirteenth, you exchanged sword blows. I received a report that your retainer (*hikan*) Yuasa Yajirō was killed, and, in addition, that many others were wounded. I am extremely pleased and moved [by your battle service]. It is my sincerest desire that you shall continue [such outstanding] military service. Respectfully.
>
> Ninth month, twenty-third day [1467] Katsumoto (monogram)[14]

Katsumoto's quick dispatch of a document of praise made the later creation of a separate petition for rewards irrelevant. Unlike the fourteenth century,

where commanders issued documents of praise after receiving several petitions for reward, fifteenth-century generals issued documents of praise shortly after reading these more informal battle reports.

Mototsune was unusual in that he preserved his battle report. Most of his compatriots tended to discard battle reports once their battle service was recognized with documents of praise (*kanjō*).[15] Unfortunately, these laconic *kanjō* reveal little about the nature of warfare. Katsumoto only mentions one out of eleven Kikkawa casualties by name, and then inaccurately characterizes the encounter as one where troops "came to blows with swords" (*tachi uchi*) when most were actually wounded by pikes! Although the *kanjō* was the most common type of military document in the Warring States era, it proved inadequate for reconstructing the nature of fifteenth- and sixteenth-century warfare.

A Statistical Survey of War

Because fifteenth- and sixteenth-century documents record little more than the names of various warriors and how they were wounded, their deepest insights can best be derived through statistical analysis. These rosters of wounded soldiers allow for a survey of how men were wounded in battle and, by extension, how war was fought. As the average number of people and wounds mentioned in fifteenth- and sixteenth-century battle reports increases over time, a smaller sample of military reports nevertheless provides adequate data. Fourteenth-century documents mention 8,634 individuals, but they mostly record only the names of participating warriors, describing how wounds were incurred in a mere 721 cases. By contrast, the ninety-four documents dating from 1467 to 1600 describe 1,208 wounds, 487 more than all of the earlier documents.[16] Fourteenth-century data on wounds by weapon are presented in Table 7.1.

Of course, statistics have their limitations, for they provide a false sense of precision not matched by the sources. Still, they represent the only means of holistically comprehending the battle data. Statistical analysis suggests important trends that cannot be comprehended through anecdotal evidence alone.

Surviving data reveals that warfare consisted primarily of skirmishing throughout the years 1333–1600. During the fourteenth century projectiles caused 73 percent of all wounds, while this percentage increased slightly, to 75 percent, during the years 1467–1600. Handheld weapons inflicted the remaining 27 percent of fourteenth-century and 25 percent of fifteenth- and sixteenth-

Table 7.1 Fourteenth-Century Wounds by Weapon

Period	*One (1333–1338)*	*Two (1339–1349)*	*Three (1350–1355)*	*Four (1356–1394)*	*Total*
Arrow	229 (**64**)	90 (**76**)	160 (**85**)	44 (**75**)	523 (**73**)
Sword	117 (**33**)	23 (**20**)	23 (**12**)	15 (**25**)	178 (**25**)
Pike	6 (**2**)	4 (**4**)	5 (**3**)	0 (**0**)	15 (**2**)
Rock	4 (**1**)	1 (**1**)	0 (**0**)	0 (**0**)	5 (**1**)
Total	356 (**49**)	118 (**16**)	188 (**26**)	59 (**8**)	721

SOURCE: The data are reproduced from Conlan, *State of War*, p. 58.

NOTE: Numbers in parentheses indicate percentage in each time block, save for those in the total column, which designate the relative percentage of these records in comparison with other time blocks. Figures below 1 percent were rounded up.

century wounds. The bow remained the favored weapon for skirmishing, but its dominance eroded over time. Arrows caused 99 percent of all projectile wounds during the 1300s and continued to inflict 58 percent of all such wounds through 1600, even though firearms were introduced to Japan in 1466. Guns did not displace bows until 1600, when they inflicted 80 percent of all skirmishing casualties.

Warriors tended to fight in close quarters after the outbreak of large-scale war. During the "Genkō and Kenmu Disturbance" of 1333–1338, and the Ōnin War of 1467–1477, pikes and swords caused 35 percent of all wounds, while projectiles were responsible for the remaining 65 percent. Although these figures may not seem particularly remarkable, they reveal that handheld weapons inflicted 30 percent more wounds during the years 1333–1338 than was typical for the rest of the fourteenth century (35 percent compared to 27 percent). Not surprisingly, this same period exhibited a disproportionate share of fatalities.[17] The Ōnin War of 1467–1477 also witnessed a 40 percent increase in pike and sword wounds (35 percent compared to an average of 25 percent), while handheld weapons inflicted 28 percent more wounds in 1600 than was typical for the years 1467–1600 (32 percent to 25 percent).[18] (For a list of casualties recorded during this period, see Table 7.2.)

Even though anywhere from two-thirds to three-fourths of all casualties stemmed from skirmishing, the skirmishes did not decisively impact the outcome of wars. The opening years of war were fought with the greatest intensity, and accounted for most casualties. Suzuki Masaya has argued that skirmishes remained the mainstay of battles and that close-quartered clashes were of

Table 7.2 Casualty Lists, 1467–1600

Document date	*Collection*	*Arrow*	*Gun*	*Rock*	*Pike*	*Sword*	*Killed*	*Total*
1467.9.13	Kikkawa	3						3
1467.9.13	Kikkawa	2			6		4	12
1467.10.2	Kikkawa				2			6
1467.10.2–3	Kikkawa	3		3	2	1	1	10
1467.10.3	Kikkawa			2	2		1	6
1467.12.1	Mōri	2						2
1468.3.17	Mōri					1	1	1
1468.3.17	Kobayakawa	2				2	8	12
1469.12.9	Miura	18			2			20
1475.3.5	Kobayakawa					1		1
1487.3.12	Kikkawa					1		1
1487.6.27	Kikkawa				1			1
1497.4.19	Migita Mōri	1			1			2
1499.9.8	Tagaya	1						2
1501.8.3	Miura	16			3	4	33	56
1501.8.13	Ura				5			5
1511.8.24	Masuda	5			6	2	6	37
1511.9.6	Mita	3			3		2	17
1522.9.23	Tagaya	3						3
1524.7.25	Miura	10		7				17
1524.7.25	Miura	4		5	2			11
1525.3.23	Kutsunoya	1						1
1525.8.7	Migita Mōri	8						8
1525.8.27	Migita Mōri	1			2	1	5	9
1527.2.10	Migita Mōri	1			4	2	18	25
1527.3.18	Masuda	18		12				30
1527.3.24	Migita Mōri	5						5
1527.5.13	Migita Mōri	3					1	4
1527.5.13	Miura	4						4
1527.7.18	Reisen	7		3				10
1527.8.9	Shidō	5			7	3	4	33
1527.11.27	Migita Mōri		1		2			3
1527.11.28	Miura	3			1		1	5
1532.11.13	Ōtomo	2						2

Table 7.2 (continued)

Document date	*Collection*	*Arrow*	*Gun*	*Rock*	*Pike*	*Sword*	*Killed*	*Total*
1532.11.14	Ōtomo	22						22
1536.4.13	Yano				3			3
1541.1.3	Kobayakawa	20					1	21
1541.1.17	Kobayakawa	5			3	8		16
1541.3.21	Migita Mōri	1					6	7
1541.5.13	Migita Mōri						3	3
1542.7.29	Dewa	4		9	4			18
1543.3.20	Katsumata	1			1			2
1543.10.17	Iwami Kikkawa	2						2
1547.9.5	Amano	14			4	1		19
1549.4.18	Hiraga	34			15		6	55
1549.4.27	Iwami Kikkawa	3		2				5
1549.6.26	Miyoshi	2						4
1552.7.23	Mōri	98		27	31	3	6	155
1552.7.23	Asonuma	5		11	3			20
1552.7.23	Dewa	2			9			12
1552.7.25	Kikkawa	9		6	3	1		19
1552.7.26	Yuasa	4			1		1	6
1553.4.17	Ōtomo	10			1			11
1553.4.17	Ōtomo	22			6			28
1554.9.20	Ura	4		1		1		6
1556.5.13	Irie	1			1	1	1	4
1556.6.8	Ōtomo	15					5	20
1560.3.28	Kusakari			4	5			10
1563.1.27	Sugi	3	1					7
1563.11.13	Kikkawa	6	33	5		1	5	50
1565.6.22	Irie	6	1	5				12
1565.6.26	Ōtomo	4	1					5
1565.8.13	Ōtomo	3	8				1	12
1568.7.4	Ōtomo				3			3
1568.7.13	Ōtomo	4	4				1	6
1568.9.20	Sugi	5				1	6	15
1568.12.16	Tōshima		2					6
1569.5.18	Ōtomo	5	12	1	1	1	2	21

(continued)

Table 7.2 (continued)

Document date	*Collection*	*Arrow*	*Gun*	*Rock*	*Pike*	*Sword*	*Killed*	*Total*
1569.5.18	Ōtomo	15	16	12	3	5	15	67
1569.8.9	Ōtomo	1	2		1			4
1569.8.9	Ōtomo	2	2		1			9
1569.8.29	Ōtomo	1	2		1	1		7
1569.10.9	Ōtomo	8	4					22
1570.7.18	Tōshima		1					5
1570.8.23	Ōtomo	2	11					13
1572.7.19	Ōtomo	2	3	1				6
1572.7.19	Ōtomo	1	2	2				5
1578.8.10	Kodama				1		1	2
1579.10.28	Ōtomo	3						3
1581.9.23	Ōtomo			2			1	3
1581.9.23	Ōtomo	1	6					8
1581.11.30	Ōtomo	4	2		3	7	9	28
1581.12.24	Ōtomo	2	1					3
1581.12.27	Ōtomo				2*			2
1582.1.11	Ōtomo		1					1
1582.1.12	Ōtomo					1		2
1582.4.24	Ōtomo	4						4
1583.10.8	Ōtomo				3			3
1583.10.9	Ōtomo	1	6					7
1583.10.16	Ōtomo	3		2	1	1	2	9
1584.7.20	Ōtomo	1			1	2		4
1584.11.24	Ōtomo		1		5	5		11
1585.8.16	Ōtomo		2					2
1600.8.26	Kikkawa	33	132		75	1	75	325
Total		528	257	122	242	59	232	1524

SOURCES: For the Kikkawa documents, see *Dai Nihon Komonjo Iewake*, Series 9, *Kikkawa ke monjo*, vol. 1, docs. 320–324, pp. 272–277, docs. 328, 329, pp. 280–281, doc. 509, pp. 453–456, doc. 511, pp. 457–462, doc. 513, pp. 463–469, and doc. 728, pp. 674–701. For the Iwami Kikkawa, see ibid., vol. 3 (1932), the Iwami Kikkawa ke monjo appendix, doc. 55, pp. 59–60 and doc. 57, p. 61. For the Mōri, see *Dai Nihon Komonjo Iewake*, Series 8, *Mōri ke monjo* (Tōkyō teikoku daigaku shiryō hensanjo, 1920), vol. 1, docs. 123–125, pp. 116–118, and doc. 293, pp. 305–319. *Dai Nihon Komonjo Iewake*, Series 11, *Kobayakawa ke monjo* (Tōkyō teikoku daigaku shiryō hensanjo, 1918), vol. 2, doc. 153, pp. 60–62, doc. 197, pp. 84–86, doc. 429, pp. 271–273 and doc. 432, p. 275–277 reproduce the Kobayakawa records. The Ura documents also appear in ibid., vol. 2, Ura ke monjo appendix; see doc. 4, p. 3 and doc. 11, pp. 7–9. For the Miura records, see *Dai Nihon Komonjo Iewake*, Series 14, *Kumagai ke monjo–Miura ke monj–Hiraga ke monjo* (Tōkyō teikoku daigaku shiryō hensanjo, 1937), doc. 67, pp. 370–371, doc. 87, pp. 384–389 and docs. 95–98, pp. 393–398. The 1549 Hiraga record also appears in ibid., Hiraga ke monjo doc. 169, pp. 628–633.

Table 7.2 (continued)

Yamaguchi kenshi shiryōhen, Chūsei, no. 2 (Yamaguchi, 2001), pp. 330, 386–387, 732, 943, and 945 contains the Kutsunoya, Reisen, Katsumata, and Kodama records. For the Masuda records, see *Dai Nihon Komonjo Iewake*, Series 22, *Masuda ke monjo* (Tōkyō daigaku shiryō hensanjo, 2000), vol. 1, doc. 208 (8.24.1511), pp. 159–162 and doc. 278 (3.18.1527), pp. 243–245. See also *Hagi*, vol. 1, maki 16, pp. 456–457 (the Shidō), maki 34, p. 823 (Kusakari), and maki 35, pp. 829–830 (Asonuma), vol. 2, maki 43, pp. 138, 148 (Dewa), maki 79, pp. 774–775 (Sugi), vol. 3, maki 109, p. 351 (Miyoshi), and vol. 4, maki 164, p. 361 (Mita) and maki 161, p. 309 (Tōshima). A Yano reference to a man who was twice wounded by pikes can be found in *Niigata kenshi shiryōhen*, vol. 5, *Chūsei*, no. 3, docs. 3658–3660, p. 663 and doc. 3483, p. 599. For the Amano on 9.5.1547, see *Shizuoka kenshi shiryōhen*, vol. 7, *Chūsei*, no. 3 (Shizuoka ken, comp. Shizuoka, 1994), doc. 1860, pp. 644–645. For the other Amano documents, see the Migita Mōri ke monjo, *Yamaguchi kenshi shiryōhen, Chūsei*, no. 3, pp. 438, 440–443, 449. See also ibid., pp. 786–787 for the Tagaya documents, and p. 999 for the Yuasa ke monjo. For the Irie, see *Irie monjo* (Ueda Jun'ichi, ed. Zoku gunsho ruijū kansekai, 1986), doc. 107, pp. 171–173 and ibid., doc. 108, pp. 174–175. Ōtomo documents are found in *Zōho teisei Hennen Ōtomo shiryō*, vol. 16, docs. 93–94, pp. 42–45; vol. 19, docs. 371–372, pp. 210–213; vol. 20, doc. 113, pp. 55–56; vol. 21, docs. 395, 415, pp. 190, 198–199; vol. 22, docs. 225, 229, 369–374, 438–439, 451, 470, pp. 101–103, 162–172, 205–207, 210–211, 220–221; vol. 23, docs. 65, 170–171, pp. 24, 73–74; vol. 24, doc. 312, pp. 165–166. For the 1581 battles, see vol. 25, docs. 490, 492, pp. 215–217. Next, see vol. 26, docs. 37, 72, 75, 91, 93, 137, 335, 338, 357, 486, 489, 583, pp. 14–18, 31–32, 44–45, 65–66, 153–156, 161–162, 218–220, and 260–261 and vol. 27, doc. 83, p. 36.

NOTE: Only wounded and killed warriors were counted. Due to the same person occasionally suffering multiple wounds by different weapons, the totals do not invariably add up with the number of wounds by weapon. Finally, multiple wounds by the same weapon were not separately counted. Thus one man shot four times by a gun would only be counted as one person shot, but one hit by both an arrow and a bullet would be counted in each category separately.

marginal importance.[19] But his generalization cannot account for why warriors fought so fiercely during the years 1333–1338, 1467–1477, and 1600. Rather, one can surmise that a distinction existed between skirmishing, aimed at harrying enemy forces, and pitched battles, where the ability to physically control strategic areas assumed crucial importance. With the outbreak of war, supply lines had to be secured, which necessitated the occupation of contested grounds by infantry forces.

During the fifteenth century, a marked and surprising shift in the nature of hand-to-hand combat took place. Contrary to common assumptions, swords, the so-called souls of the samurai, were rarely used after 1467. While swords generated 92 percent of all wounds stemming from close-quarters combat in the fourteenth century, they were responsible for only 20 percent of these wounds from 1467 onward. Pikes, which had inflicted 7 percent of all such wounds in the fourteenth century, caused 80 percent of them from 1467 until 1600. This preference intensified over time, for pikes caused 74 percent of all nonprojectile wounds from 1467 to 1477 and 98 percent of all such wounds by 1600.[20]

Even though pikes assumed paramount importance in close combat after 1467, swords maintained a cultural and linguistic significance long after they ceased to be militarily important. Commanders continued to deploy the

phrase "coming to blows with swords (*tachi uchi*)" to describe combat between groups of pike-wielding soldiers. Although the military significance of swords proved negligible, their cultural value remained. Indeed, a certain mystique arose concerning them with the seventeenth-century establishment of an enduring peace in Japan.[21]

Japan's Fifteenth-Century Transformations

The adoption of new weapons did not cause tactical change. The pike initially appeared in 1333 but was hardly used throughout the fourteenth century. Only 15 men were wounded with pikes, in contrast to 523 who can be documented as being wounded by arrows and 178 by swords.[22] Pikes could only be used effectively, and widely adopted, when soldiers could be mobilized in cohesive units that could withstand charging cavalry. Surprisingly, this transformation appears to have arisen during seventy years of relative peace, from 1392 until 1467. Chronicles mention how, in 1454, warriors were killed during a confrontation with pikes (*yari awase senshi*) in central Japan.[23] And as we shall see, improvements in military organization ensured that pikes would become the favored weapon for foot soldiers from 1467 onward.

Changes in Military Organization, 1392–1467

During the seventy-five years separating the final battles of Japan's fourteenth-century conflict and the onset of the Ōnin War, Japan witnessed a shift from loosely organized armies to semipermanent regional units. As only a few sporadic skirmishes were fought between the years of 1392 and 1467, one cannot readily discern transformations in tactics. Surviving documents suggest, however, that war was waged as it had been in the fourteenth century, with the exception that military units were becoming increasingly regionally based and cohesive.

The armies of Japan's fourteenth and early fifteenth century represented little more than clusters of bow-wielding skirmishers scattered among small bands of horsemen. These foot soldiers were vulnerable in open spaces, for horsemen could easily charge and shoot them with arrows, and instead preferred fighting in inaccessible terrain, or in towns and villages, where they could easily hide and fire arrows at enemy cavalry. When encountering such a force of skirmishers, horsemen would burn dwellings and obstacles in order to create enough room for their horses to roam.[24] As their dominance remained unchallenged in open spaces, the significance of cavalry proved greater than

aggregate numbers would imply. A few of these highly trained horsemen could decisively defeat a larger number of scattered skirmishers. Armies were cobbled together from these warrior houses, and the ability to entice these men into alliances underpinned military power in fourteenth-century Japan.

Early fifteenth-century petitions, drawn from eastern Japan, are stylistically indistinguishable from fourteenth-century petitions, except for inferences to warriors from a single region fighting together. For example, during the years 1417–1418 warriors from Musashi province fought as squads, or *ikki*, based on geographic origins rather than kinship ties.[25] As the fifteenth century progressed, units tended to be identified by their provincial origins. As evidence of this we see warriors from the provinces of Musashi, Kōzuke, and Shinano fighting as cohesive forces in 1423, and by 1440, generals commanding troops drawn from a single province—again Musashi and Kōzuke—were perceived as being normative.[26]

Surviving records suggest that no tactical transformations arose during the years 1392–1467. Battles continued to be waged as they had been in the fourteenth century: men shot their opponents with arrows, bludgeoned them with swords, or hacked their way into fortifications. Tellingly, horses were also used conspicuously, and even as late as the tenth month of 1455, some were slashed with swords.[27] Swords caused all recorded examples of fifteenth-century horse wounds, a trend consistent with the latter decades of the fourteenth century.[28] That horses continued to be slashed reveals that horsemen continued to charge through infantry formations, just as they had in the fourteenth century. Nevertheless, forces drawn from the central provinces of Yamato and Kii used pikes as early as 1454, and they would meet with sudden and unexpected success a dozen years later on the Ōnin battlefields.

Improvements in Provincial Political Organization, 1392–1467

Improvements in the ability to collect revenue allowed regional magnates to forge and sustain provincial armies. Once semipermanent forces were established, pikes could be adopted and used effectively. The 1351 promulgation of the *hanzei* edict allowed provincial constables (*shugo*) to use half of their province's "public" tax revenues for military supplies. As time passed, *shugo* managed to assess increasingly burdensome levies from their provinces. These taxes sometimes assumed extraordinary proportions, with the Ōyama estate in Tanba province supplying 755 laborers for their *shugo* Yamana Ujikiyo in 1390.[29]

The establishment of the *hanzei* enabled *shugo* to outstrip their non-*shugo* rivals in wealth and military power, for it provided a mechanism for them to mobilize and sustain provincial military forces. Unlike many of the battles of the early fourteenth century, where warriors fought heedless of their regional origins, the armies of the late fourteenth and early fifteenth centuries were better organized and less dispersed. Already as early as 1355 armies tended to be based more on warriors drawn from a specific area, and fighting under their *shugo*'s command, than had been typical during the years 1333–1338.[30]

Shugo taxation remained onerous even after the wars of the fourteenth century drew to a close, as levies for horses, messengers, and workmen continued unabated. Through their deputies, *shugo* used their judicial powers and taxing authority to forge the bonds of regional lordship. This ability to collect funds also enabled *shugo* to maintain their provincial military power.

The powers of the *shugo* post and its limitations are both evident in the case of Tanba, where Hosokawa Yorimoto attempted to dominate this province after being appointed *shugo* in 1392, just as the wars of the Northern and Southern Courts were ending. Although a newcomer to Tanba province, with no historical ties, Yorimoto managed to wield influence through his deputies, who legitimated their actions under the broad powers of the *hanzei*. These men attempted to extract wealth from their province and its nominally immune estates by conscripting laborers and levying taxes for shrine repairs and enthronement ceremonies, but they met with limited success.[31]

Shugo had difficulties establishing powerful provincial lordships despite the advantages offered by the *hanzei*. Tanba warriors such as the Nakazawa resisted Hosokawa authority and continued occupying lands that had been nominally confiscated. The Nakazawa's struggle continued unabated from the waning years of the fourteenth century through the mid-fifteenth century. Disputes erupted sporadically, and even as late as 1445 the Nakazawa still occupied these contested lands in spite of repeated orders to desist.[32]

Shugo powers coalesced when local warriors became incorporated into their regional network. The contrast between the Kasai (first Jōken and then his close relative, Motosuke), powerful retainers (*miuchi*) from Shikoku who were appointed Tanba's deputy *shugo* in 1414, and Naitō Motosada, a Tanba warrior and former deputy *shugo* of Settsu province, who was appointed after the Kasai in 1431, proves illuminating.[33] The Kasai's tenure lasted little more than fifteen years amid simmering resistance from other Tanba warriors and

estate residents. On July 24, 1431, Kasai Motosuke was criticized as being "unprincipled" (ineffective?) and divested of his deputy *shugo* post in favor of Naitō Motosada.[34] Motosada collected more taxes in his first year than Kasai Motosuke had during the final year of his appointment.[35] Motosada even appears to have secured funds from the recalcitrant Nakazawa, and by 1435 Motosada had doubled some levies.[36] To no avail, some Ōyama estate residents absconded in protest of the Naitō's tax increases, but only succeeded in having their lands confiscated by Hosokawa retainers who monopolized the position of estate manager.[37]

Once *shugo* delegated their authority to local warriors, their network became better able to procure revenue. This ability to govern locally proved integrally related to the *shugo*'s ability to forge a regional army supplied through taxation. In other words, although the *hanzei* caused considerable hardship among Tanba residents, it also allowed for most of the area's warriors to be melded into a semipermanent provincial army. For example, provisions were levied, and porters—sometimes hundreds of people—were conscripted so that the Naitō could easily travel to and from Kyoto.[38]

The Hosokawa were able to control and mobilize most of Tanba's wealth, and nearly all its landed income, by leveraging the appointment of their retainers to both "public" offices, such as the post of Tanba deputy *shugo*, and as "private" managers of major estates. By 1457, a portion of Tanba *hanzei* were directly given to the Naitō and their retainers, while by 1460, a local warrior gained control of the Ōyama estate, with a promise to provide merely 20 *kanmon* of cash to its proprietor.[39] This trend continued as the fifteenth century progressed. In 1482, the Nakazawa came to "manage" the Ōyama estate, after which the absentee proprietor no longer received income from these lands.[40]

The example of Tanba reveals that *shugo* and their deputies became increasingly skilled at administratively dominating their provinces. With their consolidation of power over all major Tanba offices by 1460, the Hosokawa were ideally suited to mobilize and sustain a provincial army drawn from Tanba. Once the Ōnin War erupted in 1467, this army would play a key role in the Hosokawa's strategy of opening supply lines to the west of the capital. Although not all of Japan's sixty-six provinces would be so tightly controlled by their *shugo*, the trends evident in Tanba prove illustrative. The *shugo*'s monopolization of provincial administrative offices facilitated the development of regional warrior networks, which in turn formed the nucleus of fifteenth-century armies.

Improvements in political organization and the ability to extract revenue manifested themselves in the ability to forge and sustain regional forces. They did not, however, immediately translate into a shift of tactics. Several decades were required for *shugo*, or their deputies, to realize that formations of foot soldiers, rather than squadrons of cavalry, proved capable of dominating the battlefield. Only with the onset of an indeterminate civil war during the years 1467–1477 could commanders make pike-wielding soldiers the mainstay of their armies and transform the nature of battle in Japan.

The Ōnin War: Tactical and Organizational Transformations, 1467–1477

For the first time in centuries, cohesive units of infantry, armed with pikes and capable of occupying contested ground indefinitely, were mobilized in 1467. However, these important organizational innovations have been overlooked by scholars, who have tended to focus on the rationales for the outbreak of the Ōnin War and its social and political consequences.[41] Most monographs ignore both how the Ōnin War was fought and how its armies were supplied.[42] Recently, Paul Varley has emphasized the importance of *ashigaru*, a fleet-footed force of light infantry, but posits the most significant changes as occurring during the Warring States era, where a "continuing technological revolution, reflected in the greater use of guns" transformed Japan.[43]

Organizational technology, rather than the adoption of the gun, proved critical in instigating change. Improvements in the ability to provision armies enabled armies to occupy regions indefinitely. Once troops trained together and mastered formations, they became proficient in using pikes. This allowed them to defeat horsemen on the open battlefield, a task that scattered bands of sword-wielding men could never accomplish.

The rapid and comprehensive mobilization of provincial forces under the aegis of the deputy *shugo* propelled the Ōnin War, and their ability to supply troops in the capital helped prolong the conflict. In 1467, the Naitō entered the capital leading most of Tanba's warriors, including the Nakazawa, where they fought on behalf of Hosokawa Katsumoto.[44] It is a measure of the Naitō's success in mobilization that they denuded their province of warriors. When enemy Yamana forces invaded Tanba during the sixth month of 1467, they met with no resistance. Indeed, only one prominent Tanba family seems to have actively opposed the Naitō.[45] Other records also mention the regional cohesion of the Naitō's forces, naming them "Tanba armies (*tanshū no onzei*)," as military units were typically described in the mid-fifteenth century.[46]

Provincial armies were maintained through a steady stream of supplies, which tended to be collected and dispersed by their deputies since most *shugo* were absentee figures. No tax records survive during the years 1467–1477 for the Ōyama estate, but this gap in the sources reflects a desperation regarding the procurement of surpluses that did not allow for complaints to be issued or depredations to be recorded. Documents from the Niimi estate reveal how the outbreak of the Ōnin War in 1467 caused "public levies" to increase dramatically as funds and produce were transported, sold, or disrupted by enemy forces during the course of the war.[47]

Shugo powers were thus both the cause of the outbreak of war and the mechanism for its prolongation. The post of *shugo* became the fulcrum of provincial power and the basis for regional organization, and yet the concentration of power inherent in this office served to destabilize Japan. Competition for the post exacerbated tensions that already existed both within and among *shugo* houses. Some provinces, such as Tanba, shifted from the control of one house to another. At the same time, the indivisible nature of the *shugo* post served to intensify inheritance disputes, as only one candidate could inherit each office. Thus, the inheritance—or lack thereof—of *shugo* offices focused rivalries both within and among houses. By magnifying warrior dissent and dissatisfaction, competition for the post of *shugo* ultimately contributed to the intense and protracted nature of the Ōnin conflict.

A violent dispute between two Hatakeyama candidates vying for a portfolio of *shugo* positions provided the spark for war during the fifth month of 1467. Rival *shugo* houses, such as the Hosokawa and the Yamana, came to support different Hatakeyama factions, thereby causing the fighting to spread throughout the capital. As all *shugo* lived in Kyoto, their residences served as nascent encampments for provincial troops and supplies. Each dwelling functioned as a base that had to be consolidated, or destroyed, in order for one coalition of *shugo* to dominate the capital.

Hosokawa Katsumoto, the *shugo* of several provinces, operated from a position of superiority, for he had been preparing for battle since early 1467. Accordingly, his coalition, which became known as the eastern army, managed to control the northeastern areas of the capital, where the imperial and shogunal palaces were located. The forces of his opponents, led by Yamana Sōzen, occupied northwestern Kyoto and hence were called the western army. On May 26, 1467, Hosokawa Katsumoto reduced the strategic dwelling of Isshiki Yoshitada to ashes. Yoshitada's abode, located adjacent to the shogunal

palace, had been the eastern outpost of the Yamana's army and their only means of contacting the Ashikaga shogun.[48] The Yamana responded by demolishing the dwellings of Hosokawa partisans residing in western Kyoto, such as the home of Hosokawa Katsuhisa.[49] Thereupon two large armies coalesced, dominating the northeastern and northwestern quadrants of the capital, respectively.

Arson and fierce fighting characterized the onset of hostilities as each army attempted to create space for their horsemen to roam. During the initial two days of battle, the residences of three eastern and three western *shugo*, located in indefensible positions, were burned, along with seven temples and countless other dwellings. The Hosokawa controlled all the strategic palaces in the northeast but could not occupy southeastern Kyoto, nor could they make significant inroads to the northwest in spite of repeated sharp and bloody exchanges.[50]

A tactical stalemate arose, and both sides started digging trenches and constructing barricades.[51] Katsumoto proved unable to crush the outnumbered western forces. In order to press his advantage, he ordered the deputy *shugo* of neighboring provinces to reinforce the capital. The Naitō led almost all of Tanba's men to Kyoto, which further bolstered Hosokawa strength. But by overly concentrating the eastern army's forces, Katsumoto blundered, for he allowed Yamana Sōzen, the commander of the opposing "western army," to smash through depopulated Tanba on June 8, 1467, and to strengthen his position in the capital. Naitō Sadamasa, the deputy *shugo* of Tanba, perished with dozens of family members and retainers while defending the border between Tanba and Kyoto.[52] Thereupon the "eastern" and "western" armies fortified their positions and, for lack of a better option, peppered their opponents with projectiles. In skirmishes on June 25, 1467, three more *shugo* residences, two nobles' abodes, and numerous other structures were burned.[53] Nevertheless, as western reinforcements continued arriving via Tanba roads, the initiative lay with them. Ōuchi Masahiro led a strong contingent of warriors to Kyoto during the eighth month of 1467, which allowed western commanders to contemplate seizing the offensive for the first time.[54]

Surviving Kikkawa battle reports reveal that pikes were widely used during the autumn of 1467, where the brunt of fighting revolved around several large watchtowers.[55] On September 13, 1467, six members of the Kikkawa family were stabbed by pikes, while on October 2–3, 1467, six more were so wounded in street fighting.[56] Of course, not all of the Kikkawa wounds stemmed from pikes—eight more were caused by arrows, one by a sword, and

five by rocks—but these twelve pike wounds, inflicted over a period of three weeks, suggests the rise of new tactics, as tightly organized forces of pikemen came to dominate the battlefield.

This tactical transformation becomes evident when recounting the western army's offensive of the tenth month. On October 3, 1467, the western armies launched a rolling attack on the eastern army's positions. Their offensive, centered on Shōkokuji, the lynchpin of eastern defenses located near the shogunal and imperial palaces, would be suddenly and dramatically checked in spite of their numerical superiority.

The battle at Shōkokuji reveals that pikes had become the preferred weapon for hand-to-hand combat. According to the "Chronicle of Ōnin," Hatakeyama Masanaga, a commander of the eastern army and a veteran of the 1454 Yamato and Kii campaigns, routed a large force of western Rokkaku cavalry on this day with a compact squad of pikemen.[57] After closing in on the Rokkaku horsemen at the burned-out grounds of Shōkokuji temple, an arena that favored cavalry by allowing for mobility, Masanaga's pikemen surged into the enemy. The Rokkaku were broken, and sixty-seven were killed before their cavalrymen fled in defeat.[58]

The Hatakeyama played a crucial role in perfecting how to use pikes in formation. The "Chronicle of Ōnin" suggests that contemporaries were shocked that Masanaga's 2,000 men on foot chose to attack cavalry forces three times larger (6,000–7,000) at Shōkokuji, and they were even more surprised by his stunning victory over the Rokkaku. The battle-hardened Masanaga was confident of success, however, for he purportedly boasted that "I will defeat even an enemy of a million" as his troops advanced in tight formation behind shields.[59] The "Chronicle of Ōnin" attributes Masanaga's success to the fact that western pikemen proved unable to establish formations in the confusion of the Rokkaku flight. Other *shugo* or their deputies lacked the training to respond immediately to the Hatakeyama's tactics. Although the logistical prowess of *shugo* made standing armies possible, they could not master the use of pikes in tight formation without training.

During the opening months of the Ōnin War, broad areas of the capital were burned in order to provide cavalry with space to roam, but the innovative use of pikes checked the mobility of horse riders even in these open areas. Although horsemen remained effective in supporting infantry formations, or harassing the enemy, their role became peripheral once they could no longer dislodge a force of pike-wielding infantry. Cavalry, formerly the mainstay of

battle, became relegated to reconnaissance and skirmishing, while trained units of pikemen came to constitute the backbone of military forces from the mid-fifteenth century onward.

War continued to be waged through skirmishing, but pitched battles could now only be won when men armed with pikes physically occupied contested grounds. Although pikes inflicted relatively few casualties, units of pikemen were indispensable. These formations were so potent that even the threat of their use proved adequate cause for armies to withdraw. Hatakeyama Masanaga well understood this principle, for he retreated from Shōkokuji rather than face a force of enemy pikemen led by the western commander Hatakeyama Yoshinari, another veteran of the 1454 Yamato conflict, who entered the fray in the aftermath of the Rokkaku defeat. Thereupon each army hunkered down in its respective fortifications, leaving the blackened grounds of Shōkukuji a desolate no-man's-land.[60]

Ōnin generals soon realized the futility of frontal attacks on entrenched units of infantry. Early in 1468, the eastern army began digging elaborate trenches and constructing earthworks of unprecedented height and depth at strategic locales.[61] Both Kyoto armies burrowed trenches 3 meters deep and 6 meters wide, which caused some sections of the capital to resemble the Western Front.[62] Locked in a stalemate, huddled in trenches with few opportunities for offensive action, the warriors of Ōnin alleviated the intense tedium by writing Japanese poems (*waka*) or poetic phrases on small silk crimson flags, which they attached to themselves.[63]

Each army, unable to seize the offensive, viewed the other's troop movements from a cluster of watchtowers, which became the focus of pitched battles.[64] The western army eventually constructed a structure 21 meters high.[65] Not to be outdone, the eastern army answered with a tower that loomed 30 meters above the burned out grounds of Shōkokuji.[66] Thereupon each army used flaming arrows and rocks to support their offensives and defend against attacks.[67]

In order to compensate for their tactical stalemate, commanders relied on daring raids by small groups of foot soldiers to infiltrate and disrupt enemy lines. Some of these patrols managed to burn enemy fortifications,[68] while other mobile squadrons of lightly armored soldiers (*ashigaru*) demolished lodgings harboring enemy troops in night raids.[69] These fleet-footed *ashigaru* are best characterized as irregular units of skirmishers. Contemporary sources variously describe them as carrying shields, strong bows, and pikes

and occasionally wearing helmets or, to the contrary, "holding no pikes wearing no armor, and carrying only swords."[70] *Ashigaru* were guerrilla fighters who excelled in sudden attacks and skirmishes but could not occupy contested grounds.[71] They did not constitute phalanxes of pikemen, and indeed, they were punished in offensive battles against entrenched forces. During one such encounter on 9. 7, 1468, Koma Tarō, the leader of the eastern army's *ashigaru*, was killed and his forces were decimated.[72]

Not well equipped to engage in pitched battles, commanders directed their energies toward cutting enemy supply lines. Cavalry were used to raid villages so as to constrict the flow of goods to enemy camps, but they no longer decisively influenced the outcome of what had become a war of attrition.[73] Except for a few skirmishes in the capital, most military actions seem to have focused on the hinterlands in 1468. Both the eastern and western armies struggled to gain control of Yamashina, a village located to the southeast of Kyoto that provided the main conduit for supplying the increasingly beleaguered eastern army. The western army briefly managed to occupy Yamashina, which reduced the eastern army to illness-plagued malnutrition, but they could not hold the position, thereby allowing the stalemate to continue.[74] The warriors of Tanba once again aided the eastern army by launching a probing attack from the west in an ultimately unsuccessful attempt to open another supply line to Katsumoto's forces.[75]

The need to dislodge entrenched enemies encouraged innovations in weaponry. One finds reference to a craftsman from Izumi province constructing a catapult—known as a *hō*—that could launch 3-kilogram projectiles for over 300 yards![76] Unsei Daigoku, the author of the *Hekizan Nichiroku*, believed that this catapult was a device of great antiquity—modeled perhaps on third-century Chinese devices—and insisted that it did not represent an innovation.[77] This emphasis on the "oldness" of such catapults is all the more ironic because at the same time a relatively new weapon, the gun, appeared in Japan.

The Introduction of Firearms to Japan

Unsei Daigoku remarked, with remarkably little surprise or wonder, how on November 6, 1468, a *hihō hisō*, or literally a "flying projectile fire spear," was discharged from a besieged tower.[78] Unsei Daigoku's nonplussed reaction stemmed in part from the antiquity of such devices and (in contrast to contemporary catapults) from their unimposing nature. Explosive shells (*teppō*)

had been known in Asia since the thirteenth century, when the Mongol invaders of Japan used primitive bombs, composed of ceramic projectiles filled with gunpowder, in tandem with rounded rocks to terrorize the Japanese defenders.[79] These bombs should not, however, be confused with later firearms. Chinese sources refer to a primitive gun, known as a "fire dragon spear" (*hiryūsō*) being created in 1355, and the oldest surviving specimens are thought to date from the 1370s.[80]

Surviving sources indicate that the Ryūkyū Kingdom, which comprises modern Okinawa, first introduced firearms to Japan some eighty years before the Portuguese visited Tanegashima. A fifteenth-century diary records how an official from the Ryūkyū Kingdom surprised many bystanders in Kyoto with the report of his firearm (*teppō*) on 7. 28, 1466.[81] Archaeological evidence from Akenajō and Katsurenjō, two Okinawan castles (*gusuku*), reveals that guns were used prior to the mid-fifteenth century. Defenders supplemented the weakest point in Akenajō's defenses with a portal especially designed for use by snipers, placed low in its stone walls.[82] Furthermore, stone, earthenware, and on occasion, iron bullets have been uncovered within the battlements of Katsurenjō, which was destroyed in 1458 and never rebuilt.[83]

Primitive firearms composed of three metal tubes welded together, known as fire arrows (*hiya*), were widely disseminated in Europe and Asia throughout the late fourteenth and early fifteenth centuries.[84] Remarkably, some of these fifteenth-century *hiya* were fired as late as the early twentieth century, and they were reportedly capable of blasting projectiles for 200 yards.[85]

Most primitive firearms (*hiya*) discharged rounded stones, and intriguingly, data drawn from sixteenth-century military petitions reveals a sudden upswing in rock wounds, particularly in western Japan, which suggests the dissemination of the primitive firearms. Even though only a handful of cases where soldiers were wounded by rocks can be documented in the fourteenth century, rocks injured eighty-two men during the years 1524–1552, with over half (forty-four) occurring during the seventh month of 1552.[86]

The first documentary evidence describing wounds caused by firearms appears in Amano Okisada's *kassen chūmon* of 11. 27, 1527, where one man is listed as being "shot wounded" in the right foot. Documents submitted by Okisada six months earlier, on 5. 13, 1527, refer to "arrow wounds" [87] but refrain from the elocution of "shot wounded." These suggestive sources can be corroborated with letters dating from 1569, which use the same verb (*iru*) to describe wounds inflicted by guns (*teppō*).[88]

The earliest documented example of a man being explicitly wounded by "firearms" occurs on 1. 27, 1563, when Hara Rokurō, a retainer of Sugi Matsuchiyo, was shot near his left armpit by a "hand fire arrow," or *tebiya*, by supporters of the Ōtomo in Northern Kyushu.[89] Weapons known as as *teppō* can be first verified on 11. 13, 1563, when the Amako of Izumo province mauled the Kikkawa, wounding thirty-three by *teppō*, six by arrows, five by rocks, and one by a sword.[90]

As a result of Amako prowess, the number of gun casualties supersedes those of bows by a figure of 88 to 64 during the 1560s. Nevertheless, the data are not comprehensive enough to hypothesize about patterns of gun dissemination. Although twice as many bullet wounds (17 to 8) were recorded as arrows in the 1570s, both were inflicted at roughly analogous rates (19 to 16) in the 1580s. Indeed, from 1467 until 1600, arrows caused 58 percent of all projectile wounds, while bullets were responsible for 28 percent and rocks the remaining 13 percent.[91]

Guns required nearly half a century to supplant bows because they were only incrementally more effective in range and penetration. Gun wounds were often inflicted in close proximity to enemy forces, as were arrows. Several examples exist of warriors wounded with both bullets and arrows, or being shot and stabbed with a pike in the same encounter. Instances where the same warrior was shot repeatedly and yet survived also attest to the limitations of sixteenth-century aim and firepower.[92]

Negoroji appears to have first recognized the power of a squad of gunners. Their marksmen gained fame for their prowess during the 1570s and mid-1580s. In fact, they proved to be well ahead of their time. Not until 1600 do surviving documents reveal a pronounced preference for guns (*teppō*), which caused 80 percent of all projectile wounds on the plains of central Japan.[93]

The adoption of guns, be they the primitive *hiya* or, for that matter, Portuguese *teppō*, seemed to cause no discernible change in tactics. Guns did not stop pikemen from fighting in close quarters even after they largely supplanted bows. Although the battles of 1600 substantiate the marked dissemination of guns, pikes increased in use as well and were responsible for 32 percent of all wounds. Such a figure is consistent with fourteenth- and fifteenth-century military patterns.

The 1600 data might lead one to assume incorrectly that the introduction of the more powerful *teppō* from the Portuguese led to a "military revolution" that paved the way for the political "unification" of sixteenth-century Japan.

Teppō were able to achieve parity with arrows by 1580, but they could only become an effective weapon when gunners were organized into cohesive groups, a process that only began during the 1570s. The influence of guns on changes in tactics is seen in the first rosters recording military units and the particular weapon used by each, which first appeared in 1575.[94] Firearms influenced the outcome of battle when marksmen were organized much as pikemen had been during the course of the Ōnin War.

The Ōnin Legacy, 1477–1600

Even though the Ōnin War witnessed the use of bows, catapults, and firearms, these weapons proved inadequate in shaping the course of battle. In the end, victory could only be achieved when forces of pikemen were in a position to thwart enemy forces and blockade their supplies. Improvements in military organization proved to be decisive and caused battles to shift from mobile encounters of horsemen to entrenched formations of infantry. Commanders focused their energies on disrupting enemy supply lines and, when this proved ineffectual, attempted to destroy their opponents' regional support by fomenting the rebellion of deputy *shugo*. Organization became crucially important in maintaining and sustaining political and military power, while the ability to effectively use weapons, be they "old" pikes or "new" guns, merely reflected this more fundamental process.

In the confusion of the Ōnin War, when all authority became contested, deputies were encouraged to rebel against their *shugo*. Delegated powers proved ripe for usurpation, as deputy *shugo* were best placed to organize, supply, and command regional military forces after 1467. These men were intimately aware of their lands and personally led men to battle. Asakura Takakage, the deputy of Echizen province, astutely abandoned his *shugo*, Shiba Yoshikane, and defected from the western army in 1471. Takakage ensured the continued survival of the eastern army and more importantly, from his point of view, managed to gain effective control over Echizen a mere three years later.[95] Similar betrayals became endemic over the ensuing century. The Oda of Owari province, another deputy *shugo* family of the Shiba, would also overthrow their *shugo* and come to control most of central Japan by 1582 under the stewardship of Oda Nobunaga.

The powers inherent in the office of the *shugo* did not invariably accrue to the men appointed to this post. Indeed, most *shugo* were unable to capitalize on the strength of their armies, as until 1467 they were forced to reside in the

capital and entrust de facto command to their deputies. That an individual might be simultaneously appointed as the *shugo* of several provinces mitigated against direct political supervision of any single province. After 1471, deputy *shugo* increasingly displaced their *shugo* in violent fashion, thereby giving rise to the moniker *gekokujō*, or "lower overcoming higher," which aptly characterizes the turbulent Warring States era.

Gekokujō did not depend on the adoption of pikes, or for that matter, guns. Instead, those most proficient in organizing their troops were best able to amass political authority. Although often overlooked in the process of sixteenth-century "unification," the July 21, 1547, triumph of the deputy *shugo* Miyoshi Nagayoshi over his Hosokawa rivals epitomizes how the ability to mobilize a formidable force, train them, and equip them with pikes proved essential.[96] Nagayoshi's success was directly related to the effective use of units of pikemen, for the *Ashikaga Kiseiki* recounts how his army of 900 pikemen clashed with a similar force of Hosokawa troops, inflicting hundreds of casualties before ensuring Hosokawa Harumoto's defeat.[97] After Miyoshi Nagayoshi defeated and destroyed Harumoto, his "lord," he expelled the Ashikaga shogun Yoshiteru from the capital in 1549.[98] Nagayoshi scorned accepted titles as sources of legitimacy and preferred instead to base his authority on military prowess.[99]

Miyoshi Nagayoshi's victory, and his subsequent actions, reveal a new attitude regarding authority that emphasized coercive force over all other systems of legitimacy. Military power, based on the ability to mobilize large formations of pike-wielding soldiers, had become established as the basis for all political endeavors by 1547, the year of Nagayoshi's victory, and a mere four years after Portuguese firearms were initially introduced to the Japanese archipelago. In short, most of the innovations thought to have arisen from the introduction of Portuguese firearms were fully established before these weapons ever arrived.

Conclusion

Ambiguities inherent in the word "technology" allow two interpretations of its role in Japanese history to be true, namely, that technology was instrumental in determining Japan's fifteenth- and sixteenth-century transformations and was a reflection of these processes. When understood as a technique or method of organizing armies, technology—here characterized as organizational technology—proved decisive. When conceived as the innovation or adoption of new weapons, its most common definition, technology functioned as a barometer of historical and, for that matter, organizational change.

Japanese warfare provides an ideal arena for assessing the importance of new weapons and technologies because during the years 1333–1600 pikes replaced swords as the preferred weapon for hand-to-hand combat, while guns also gradually displaced bows. Of these transformations, the hitherto overlooked shift from swords to pikes proved dramatic and significant, while the dissemination of guns was gradual and less consequential.

These changing preferences were not based on the innovation of new weapons. In fact, the lag between a weapon's initial appearance and its widespread adoption undermines materialist explanations of tactical change. References to pikes first appear in documents dating from 1333, but they were not widely used until 1467. Similarly, guns first arrived in Japan by 1466, but they only marginally influenced tactics for the ensuing century. Most of the transformations attributed to guns, or for that matter, pikes, stemmed from fourteenth- and fifteenth-century improvements in the ability to supply and maintain armies.

Although guns have attracted considerable attention, they did not alter the nature of battle. Instead, most of the changes that have been attributed to them, such as their checking of cavalry, had already occurred at the time of the Ōnin War. The influence of guns was limited to giving men from the most prosperous regions—the capital and western Japan—a slight military advantage over their more remote rivals as the sixteenth century progressed. Guns represented a minor improvement in range and stopping power over arrows, but no force of gunners, no matter how well trained, could break advancing pikemen or horse riders, as the priests of Negoroji discovered to their detriment in 1585.

The widespread adoption of pikes signified a more important development than the gradual dissemination of guns. Troops wielded pikes only after regional authorities (*shugo* and their deputies) possessed the ability to sustain large armies in the field. In other words, the practical ability to transform significant numbers of foot soldiers into a cohesive fighting block proved to be vitally important. Only when troops could be mobilized, fed, and trained over time could they fight in formation, which proved indispensable for both pikes and, ultimately, firearms to be used effectively.

Improvement in the ability to extract surplus revenue, supplies, and manpower enabled *shugo* to strengthen their political control over Japan's provinces during the course of the fourteenth through sixteenth centuries. Instead of relying on autonomous warrior houses to forge fissile armies, as had been

typical through 1350, *shugo* created a network of warriors who could be readily mobilized, thereby enabling them to overshadow provincial rivals, and project power into neighboring provinces.

This improved organization is reflected by the increasingly well-defined structure of Japanese provincial armies. As the fifteenth century progressed, organizational techniques became increasingly sophisticated as *shugo* relied on their economic and political resources to break down the autonomy of Japan's warriors and forge them into cohesive organizations. Once armies achieved a modicum of coherence, troops could train and master sophisticated formations, resembling the phalanx, where a massed body of men wielded pikes in unison and thus could withstand cavalry charges on open ground. Thereupon, the need to conscript as many men as possible and forge them into a unified army superseded the need to entice fickle warriors into one's camp. Those most skilled in governance ultimately proved most skilled at organizing, training, and maintaining provincial armies.

Deputy *shugo* managed to train and organize troops regardless of the presence of firearms. During the latter half of the sixteenth century, a scion of a deputy *shugo* family named Oda Nobunaga managed to assert control ("unification") over the capital and central provinces, but he could have accomplished this task even if he had possessed no guns. His military powers, and those of his compatriots, were predicated on the improved organizational abilities and logistical prowess of fifteenth- and sixteenth-century armies, which in turn hinged on increased political control over economic surpluses. Improvements in organizational technology determined the nature and pace of mechanical, tactical, and ultimately political change.

Notes

1. Hamada Toshiyasu, "Teppō denrai no keii ni tsuite ni san kōsatsu," *Reimeikan chōsa kenkyū hōkoku* 14 (Kagoshima ken rekishi shiryō sentaa Reimeikan, 2001), pp. 85–100 and Hora Tomio, *Teppō-denrai to sono eikyō* (3rd printing; Kyoto, Shibunkaku, 2001), pp. 1–35, 154–160.

2. Asao Naohiro, "The Sixteenth Century Unification," in John Hall, ed., *The Cambridge History of Japan*, vol. 4 (Cambridge: Cambridge University Press, 1991), pp. 40–95, particularly p. 54, claims that guns "revolutionized" warfare, as does Paul Varley in his "Warfare in Japan, 1467–1600," in Jeremy Black, ed., *War in the Early Modern World, 1450–1815* (London: UCL Press, 1999), pp. 67–73, and Geoffrey Parker in *The Military Revolution* (New York: Cambridge University Press, 1988), pp. 140–142.

3. *Wakayama kenshi chūsei shiryō*, vol. 2 (Wakayama ken, comp. Wakayama, 1973), Honganji Saginomori betsuin monjo, doc. 14, 10. 11 [1577] Rairen shojō, pp. 427–428, and doc. 7, pp. 423–424.

4. I would like to thank Michael Como for this insight.

5. See "technology" in *The Complete Oxford English Dictionary* (New Edition).

6. See Hans Delbrück, *History of the Art of War*, particularly vol. 3, *Medieval Warfare*, pp. 649–656, and vol. 4, *The Dawn of Modern Warfare*, pp. 23–57 (Walter Renfroe, Jr., trans., Lincoln: University of Nebraska Press, 1990).

7. One of the first formulations of a "technological revolution" appears in Marc Bloch's 1931 classic, *French Rural History: An Essay on Its Basic Characteristics* (Berkeley: University of California Press, 1966). For the concept of a "military revolution" stemming from improvements in firepower, see Parker, *The Military Revolution*, pp. 24ff.

8. A concern for military organization pervades the writings of Clausewitz, who ignores the role of new weapons on battle. See Michael Howard and Peter Paret, trans., *On War* (Princeton, NJ: Princeton University Press, 1976).

9. For the Mongol invasions and the creation of petitions for reward, see Thomas Conlan, *In Little Need of Divine Intervention* (Ithaca, NY: Cornell University East Asia Series, 2001), pp. 207–210, 217–222.

10. *Nanbokuchō ibun, Kyūshū hen* (7 vols.; Seno Sei'ichirō, comp. Tōkyōdō shuppan, 1980–1992), vol. 1, doc. 662, 6.1336 (Kenmu 3) Izumi Dōkaku gunchūjō utsushi, p. 206.

11. *Gokenin*, or "honorable housemen," were warriors who submitted petitions for reward demanding compensation for their military service. Conlan, *State of War: The Violent Order of Fourteenth Century Japan* (Ann Arbor, MI: Center for Japanese Studies, 2003), pp. 107–140.

12. Conlan alludes to this process in *State of War*, pp. 104–106, 162–164, 222–229.

13. *Dai Nihon Komonjo Iewake*, Series 9, *Kikkawa ke monjo* (Tokyo: Tōkyō teikoku daigaku shiryō hensanjo, 1928), vol. 1, doc. 320, pp. 272–274.

14. Ibid., doc. 327, p. 279.

15. For one example of a reference to a casualty list that no longer survives, see *Niigata kenshi shiryōhen*, vol. 4, *Chūsei*, no. 2 (Niigata, 1983), doc. 2039, 4.21(1460) Ashikaga Yoshimasu kanjō utsushi, p. 523.

16. See Table 7.2. The figure of 1,208 wounds was reached through the addition of all sword, rock, pike, gun, and arrow wounds, whereas the fourteenth-century data is reproduced in Table 7.1. The fourteenth-century data also appears in Conlan, *State of War*, pp. 53–69.

17. Table 7.1 reveals that the highest percentage of hand-to-hand combat (33 percent) occurred during 1333–1338. These years concurrently experienced the greatest number of deaths. Approximately 60 percent of all those killed during the wars of the fourteenth century (704 out of 1,173) perished at this time. See Conlan, *State of War*, pp. 53–69.

18. See Table 7.2, where projectiles (arrows and rocks) caused 35 of 54 casualties during the Ōnin War, while bows and guns inflicted 165 of 241 wounds in 1600. For the 1600 figures, look at the penultimate row of the table, dating from 1600.8.26 (a document from the Kikkawa monjo).

19. Suzuki Masaya, *Nihonjin to teppō* (Chikuma gakugei bunko, 2000), pp. 208–238. See also pp. 167–207.

20. See Table 7.2. From 1467 to 1475, pikes caused 14 of 19 nonprojectile wounds, while in 1600, they inflicted 75 of 76 such wounds.

21. See G. Cameron Hurst, *Armed Martial Arts of Japan* (New Haven, CT: Yale University Press, 1998).

22. Conlan, *State of War*, pp. 58–69.

23. See the 5.1454 reference in the *Kōya Shunshū Hennen Shūroku*, in *Dainihon Bukkyō Zensho*, vol. 131 (Bussho kankōkai, 1912), maki 11, p. 240.

24. *Taiheiki* (*Jingū chōkōkanbon*) (Hasegawa Tadashi, Kami Hiroshi, Ōmori Kitayoshi, Nagasaka Shigeyuki, eds. Ōsaka: Izumi shoin, 1994), maki 35, "Shodaimyō kasanete Tennōji ni mukau koto," p. 1040.

25. The Northern White Flag *ikki* and the Southern *ikki*, both of Musashi, fought separately and autonomously. See *Saitama kenshi shiryōhen*, vol. 5, *Chūsei*, no. 1 (Saitama, 1982), doc. 689, 1.1417 Beppu Owari nyūdō dai Uchimura Katsuhisa chakutōjō, pp. 466–467 and doc. 707, 7, 24, 1419 Ashikaga Mochiuji gunzei saisokujō utsushi, p. 475.

26. See ibid., doc. 739, 8.1423 Beppu Michitada gunchūjō, doc. 740, October 10 Hatakeyama Michiie shojō, pp. 490–491, and doc. 798, 10. 15, 1440, Senba Hitachi no suke shojō, pp. 522–525.

27. *Saitama kenshi shiryōhen*, vol. 5, *Chūsei*, no. 1, doc. 690, 1.1417 Toyoshima Noriyasu gunchūjō, p. 467. See also doc. 739, 8.1423 Beppu Michitada gunchūjō, pp. 490–491 and doc. 848, 10. 14 [1455], Uesugi Tatsuwaka kanjō, p. 553.

28. An equal number of horses were wounded with swords and arrows from 1331 through 1338, but a majority (75 percent) were wounded by swords thereafter. Conlan, *State of War*, pp. 67–69.

29. *Hyōgo kenshi shiryōhen chūsei* (9 vols.; Kobe, 1983–1997), vol. 6 (1991), doc. 320, 1390 Ōyama no shō shugo'eki ninpu mokuroku, pp. 237–238 (hereafter HKSC). For more on the *hanzei*, see Conlan, *State of War*, pp. 95–98, 225–229.

30. Cohesive, regionally based units were forged after 1350, some twenty years after the onset of hostilities. See Conlan, *State of War*, pp. 72–76.

31. HKSC, vol. 6, p. 299, doc. 413 and doc. 410, p. 298, doc. 338, 2. 10, 1398, Ogasawara Masamoto uchiwatashijō an, p. 252, doc. 366, the 8.7 Tanba no kuni shugodai kakikudashi an, pp. 275–276 and doc. 389, 9. 29, 1409, Tanba no kuni shugo dai Hosokawa Tōtōmi no kami kakikudashi an, p. 288.

32. The Nakazawa disobeyed repeated injunctions by the Ashikaga shogun, the Tanba *shugo*, and his deputies while defending their lands. See HKSC, vol. 6, doc. 334,

11. 14, 1397 Muromachi shōgunke migyōsho, pp. 249–250, and doc. 335, 12. 27, 1397 Tanba no kuni shugodai Ichinomiya Eishō jungyōjō, p. 250. For their 1411 defense of their lands, see doc. 393, 12. 17, 1410 Tanba no kuni shugo dai kakikudashi, p. 292 and doc. 400, 10.1411 Nakazawa Masamoto shojō an, pp. 294–295.

33. For the appointment of the Kasai, see ibid., doc. 412, p. 299; and doc. 422, p. 303. *Miuchi* were retainers of a "lord," who lacked autonomy in action. For Naitō Motosada's earlier career as the deputy *shugo* of Settsu province, and a good survey of the situation in Tanba, see Ogawa Makoto, *Yamana Sōzen to Hosokawa Katsumoto* (Shinjinbutsu Ōraisha, 1994), particularly p. 91.

34. *Manzei junkō nikki* (2 vols.; Hanawa Hokinoichi, comp. Zoku gunsho ruijū hoi, no. 1, Zoku gunsho ruijū kanseikai, 1928), vol. 2, 7. 24, 1431, p. 270.

35. Kasai Motosuke seems to have had difficulty in collecting funds to rebuild Shinomura shrine, whereas Naitō Motosada succeeded. Compare HKSC, vol. 6, doc. 519 (of 1430), Ōyama no shō daikan Tsuchiya Sōgen shojō an, p. 370, Shinomura tansentō irime chūmon with doc. 531, Ōyama no shō Shinomura Hachimangu zōei tansen irime chūmon, pp. 375–376.

36. Ibid., doc. 531, Ōyama no shō Shinomura Hachimangu zōei tansen irime chūmon, p. 376 for securing Nakazawa funds, and doc. 553, Ōyama no shō hyakushōra moshijō an, pp. 395–396 for the doubling of tax revenue.

37. Ibid., doc. 560, Ōyama no shō Ichii no tani hyakushōra moshijō, pp. 398–399.

38. Ibid., doc. 615, Ōyama shōmu kakukudashi an, pp. 449–450 for military provisions being shipped to the capital and doc. 619, Ōyama no shō Ichii no tani hyakushōra mōshijō narabi ni renshokishōmon, pp. 451–452, and doc. 638, Ōyama no shō ichii no tani shugo'eki fusen chūmon, p. 475 for *shugo* and their deputies conscripting hundreds of porters.

39. Ibid., doc. 750, Ōyama no shō tansen iriashi haitō chūmon, p. 581 and doc. 768, September 6, 1460, Shindō Toshisada Ōyama no shō ryōkegata Ōgatabun daikanshiki, pp. 591–592.

40. Ibid., doc. 803, Daikanshiki buninjō an, and doc. 804, Nakazawa Motoki daikanshiki ukebumi, p. 613.

41. For the pioneering study on the origins of the Ōnin War, see Paul Varley, *The Ōnin War* (New York: Columbia University Press, 1967). For a more recent analysis, see Elizabeth Berry, *The Culture of Civil War in Kyoto* (Berkeley: University of California Press, 1994), particularly pp. 14–34.

42. Katsumata Shizuo's "Jugo-roku seiki no Nihon," *Iwanami kōza Nihon tsūshi*, vol. 10, *Chūsei*, no. 4 (Iwanami shoten, 1994) and Nagahara Keiji's *Gekokujō no jidai, Nihon no rekishi*, vol. 10 (Chūō kōronsha, 1974) ignore Ōnin tactics, save for a brief description of lightly armored foot soldiers (*ashigaru*).

43. Varley, "Warfare in Japan, 1467–1600," pp. 53–86.

44. The Kuge, Nakazawa, Ogino, Honjo, Adachi, Yaku, and Ashida can be documented as follows: the Naitō in battle two years later, in 1469. See the "Chronicle of Ōnin" ("Ōninki") found in Gunsho ruijū, vol. 20, *Kassenbu*, no. 1 (Hanawa Hokinoichi, comp. Zoku gunsho ruijū kanseikai, 1931, pp. 355–419), p. 403.

45. See the actions recorded in 6. 29, 1467, *Kyōkaku shiyōshō* found in *Mukō shishi shiryōhen*, p. 275 and *Dai Nihon shiryō* Series 8, vol. 1 (hereafter 8.1) (Tōkyō teikoku daigaku shiryō hensanjo, 1913), pp. 283–287. Miyada Bingo no kami was the only Tanba warrior who fought against the Naitō. See Hyōgo kenshi, vol. 3, p. 99.

46. For an informative petition mentioning military forces from Kii, Settsu, Harima, and Tanba provinces, see *Mukō shishi shiryōhen*, March 1474, Noda Yasutada gunchūjō, pp. 272–274. The document is located most conveniently in *Dainihon shiryō* 8.1, pp. 33–37.

47. *Okayama kenshi iewake shiryō*, vol. 20 (Okayama, 1985), docs. 426–433, pp. 787–791.

48. *Dainihon shiryō* 8.1, pp. 238–269 for the battles of May 26, 1467. For the attack on the Isshiki, see pp. 238–242.

49. Ibid., p. 266. Much of the ensuing Ōnin narrative has been drawn from the varied chronicles, diaries, and documents appearing in *Dainihon shiryō* 8.1 for the fifth and sixth months of 1467, pp. 201–325.

50. *Dainihon shiryō* 8.1, pp. 238–270.

51. Ibid., p. 275, for the actions of 5. 30, 1467.

52. "Ōninki," in *Dainihon shiryō* 8.1, p. 285.

53. *Dainihon shiryō* 8.1, pp. 320–323.

54. Ōuchi Masahiro smashed into the capital and built an encampment at Tōji on 8. 24, 1467. See *Dainihon shiryō* 8.1, pp. 343–347, and 357–359.

55. A Kikkawa Mototsune jihitsu kassen tachiuchi chūmon mentions fighting in the vicinity of watchtowers 10. 4, 1467. See *Dai Nihon Komonjo Iewake*, Series 9, vol. 1, doc. 324, p. 277.

56. *Kikkawa ke monjo*, vol. 1, docs. 320–324, pp. 272–277.

57. "Ōninki" in *Dainihon shiryō* 8.1, pp. 454–459. See also *Dainihon shiryō* 8.1, pp. 441–464.

58. *Dainihon shiryō* 8.1, pp. 454–459. See also Ogawa, *Yamana Sōzen to Hosokawa Katsumoto*, pp. 184–185.

59. *Dainihon shiryō* 8.1, pp. 454–459.

60. "Ōninki" in *Dainihon shiryō* 8.1, pp. 454–459.

61. See the priest Unsei Daigoku's diary, *Hekisan Nichiroku* (*Zōho Zoku Shiryō Taisei*, vol. 20. Rinsen shoten, 1982), 1. 29, 1468, p. 181, and May 3, 1468, p. 202 for descriptions of deep trenches and high walls.

62. Ogawa Makoto estimated in his *Yamana Sōzen to Hosokawa Katsumoto*, p. 188.

63. *Hekisan Nichiroku*, 1. 29, 1468, p. 181.

64. Ibid., 11. 6, 1468, p. 231. For fighting around these towers, see *Kikkawa ke monjo*, vol. 1, doc. 324, Kikkawa Mototsune jihitsu kassen tachiuchi chūmon, p. 277.

65. *Hekisan Nichiroku*, 4. 14, 1468, p. 199. Ōuchi Masahiro erected another tower, named Daiseirō, to the southwest of this edifice 4. 25, 1468. See ibid., p. 200.

66. Ibid., 5. 27, 1468, p. 206.

67. *Hekizan Nichiroku*, 1. 5, 1468, p. 177, 4. 26, 1448, p. 200, and 6. 21, 1468, p. 210.

68. Ibid., 5. 17, 1468, p. 191.

69. Ibid., 6. 15, 1468, p. 209, 6. 21, 1468, p. 210, and 8. 2, 1468, p. 215.

70. For the former, see ibid., 11. 3, 1468, p. 234; for the latter, 6. 15, 1468, p. 209. These passages are difficult to decipher because of ambiguous terms. Pikes were anachronistically called *hoko*, designating a spear-like weapon that had not been used for centuries. I would like to thank Karl Friday for bringing this to my attention.

71. Varley, "Warfare in Japan, 1467–1600," pp. 59–60.

72. *Hekizan Nichiroku*, 9. 7, 1468, p. 221.

73. That villages were burned to disrupt supply routes is evident from the *Hekizan Nichiroku*, 11. 5, 1468, pp. 234–235.

74. *Hekizan Nichiroku*, 7. 21–25, 1468, p. 213 and 8. 9, 1468, p. 215. For the western army's final defeat on intercalary 10. 17, 1468, see p. 231.

75. For more on this contingent of 1,500 Tanba warriors, see *Hekizan Nichiroku,* 9. 21, 1468, p. 223, and Noda Tadayasu's petition for reward (*Dainihon shiryō* 8.1, pp. 34–35), 8. 24–9. 7, 1468.

76. *Hekisan Nichiroku*, 1. 29, 1468, p. 181.

77. Ibid.

78. Ibid., 11. 6, 1468, p. 235.

79. See the 10. 20, 2001 evening edition of the *Asahi shinbun*, p. 12, for the discovery of three of these ceramic projectiles in the wreckage of the Mongol fleet. See also Conlan, *In Little Need of Divine Intervention*, pp. 12, 73.

80. The 1972 catalogue, *Nihonshi ni mieru teppō ten* contains pictures of these early weapons on p. 2. For a reference to firearms (*hiryūsō*) being created in China by 1355, see the *Bubi Hiryūkyō*, in ibid., p. 2. For the best coverage of the early guns, see Hora Tomio, *Teppō-denrai to sono eikyō*, pp. 1–12; 36–56.

81. *Inryōken Nichiroku* (5 vols.; *Dainihon bukkyō zensho*, no. 133–137. Bussho kankōkai hensan, 1912–1913), vol. 2 (134), July 28, 1466, p. 670.

82. Toma Shi'ichi, "Hiya ni tsuite," *Nantō Kōko*, no. 14 (December 1994), pp. 123–152. I visited these structures on December 20, 2001. Portals in the walls of two castles, Akenajō and Nakagusukujō, are located within 18 inches of the ground, and are thus too low to allow for arrows to be fired. For more on Akenajō, Katsurenjō, and Nakagusukujō, see ibid., pp. 66–73, and Toma, "Hiya ni tsuite," pp. 129–139.

83. In the case of Katsurenjō, eleven stone bullets were uncovered, while one was made of fired earth and another of iron. See Toma, "Hiya ni tsuite," pp. 135–136, and

p. 152. Limestone, coral, and sandstone were used to make stone bullets, while metal bullets were cast from either copper or iron. See ibid., pp. 129, 134–135.

84. See Toma Shi'ichi, "Hiya ni tsuite," particularly pp. 123–129, 140–141. Chigira Yoshinori of the Okinawa Prefectural Museum generously helped in securing a photograph of one of the museum's *hiya*.

85. See Toma, "Hiya ni tsuite," pp. 127–128. Archaeological excavations reveal that numerous projectiles peppered the walls of Okinawan castles, the largest being the size of a softball. See Toma, ibid., pp. 129–136.

86. See Table 7.2. Toma Shiichi's discoveries suggest that most early bullets were made from rocks rather than lead. See his "Hiya ni tsuite."

87. *Yamaguchi kenshi shiryōhen, Chūsei*, no. 3 (Yamaguchi, 2004), p. 443 for the 5. 13 and 11. 27 documents.

88. *Yamaguchi kenshi shiryōhen, Chūsei*, no. 3, p. 971, for a 2. 7 and a 5. 30, 1569 letter by Tagayama Michisada. The former document explicitly mentions *teppō*. See also p. 972 and p. 1077 for 5. 7 and 5. 20, 1569, letters by Fukuhara Sadatoshi describing a total of twenty-three enemies being "shot."

89. *Hagi han batsu'etsuroku* (5 vols.; Yamaguchi ken monjokan, 1967) (hereafter *Hagi*), vol. 2, maki 79, p. 774.

90. See Table 7.2.

91. Of the 907 projectile wounds recorded in Table 7.2, 528 were by arrows, 257 by guns, and 122 by rocks. Percentages do not add up to 100 because of rounding.

92. The hapless Otsumaru Sakyō no suke was shot with bullets and arrows. See *Zōho teisei Hennen Ōtomo shiryō* (33 vols.; Takita Manabu, comp. Ōita, 1962–1971), vol. 22, doc. 29, p. 103. Among the Kikkawa casualties of 1600, one finds references to some men who were shot with bullets and arrows, or shot and stabbed at the same encounter. Each wound has been counted separately in Table 7.2. Multiple gunshots were also fairly common.

93. Guns caused 132 out of 165 projectile wounds in 1600, with arrows causing the remaining 33 wounds. Two distinct words are used for guns in the 1600 Kikkawa document. Both are homonyms for *teppō*.

94. For a list of armies organized according to units of pikes, guns, and horsemen, see the 2. 16, 1575 Uesugi ke gun'eki chō, *Dai Nihon Komonjo Iewake*, Series 12, *Uesugi ke monjo* (Tōkyō teikoku daigaku shiryō hensanjo, 1935), vol. 2, docs. 639–640, pp. 1–58. Hōjō Ujimasa likewise refers to formations of pikemen, bowmen, and gunners in a 1587 report. See *Sengoku ibun* (6 vols.; Sugiyama Hiroshi, comp. Tōkyōdō shuppan, 1989–1995), vol. 4, doc. 3229, 12. 9, 1587, Hōjō Ujimasa chakutō kakidashi utsushi, pp. 197–202.

95. For Takakage's actions, see Kurushima Noriko, *Ikki to Sengoku Daimyō* (Kōdansha, 2001), pp. 14–17, and Suitō Makoto, Asakura Yoshikage (Yoshikawa kōbunkan, 1981), pp. 5–22.

96. The Miyoshi led a revolt (*do-ikki*) against the *shugo* of Awa province in 1487. Despite this disobedience, they were appointed as the deputy *shugo* of Sesshū early in

the sixteenth century. See *Shōzui jidai Miyoshi Nagayoshi Tenka o seisu* (Shōzuijōkanseki Kokushiseki shiteikinen tobubetsu ten, Tokushimajō hakubutsukan, October 2001), and Nagae Shō'ichi, *Miyoshi Nagayoshi* (Yoshikawa kōbunkan, 1968).

97. See the "Ashikaga Kiseiki," in *Kaitei Shiseki Shūran*, vol. 13 betsukirui vol. 2 (Kondō katsuhanjo, 1902), pp. 132–264, for the description of the Battle of Bussharij on 7. 21, 1547, pp. 192–193. See also Nagae, *Miyoshi Nagayoshi*, pp. 90–95.

98. Miyoshi Yoshitsugu, Nagayoshi's heir, ultimately killed Ashikaga Yoshiteru on 5. 19, 1565. See Niigata *kenshi shiryōhen*, vol. 5, *Chūsei*, no. 3 (Niigata, 1984), doc. 3740, 6. 24 (1565?) Yasumi Munefusa shojō. The most accurate transcription of this document appears in *Jōetsu shishi sōsho* 6, *Uesugi-ke gosho shūsei*, vol. 1 (Jōetsu shi, 2001), doc. 288, p. 182. Nagayoshi had already died on 7. 4, 1564. See Nagae, *Miyoshi Nagayoshi*, p. 275.

99. This is particularly true for the years 1553 to 1558. See Imatani Akira, *Sengoku Daimyō to Tennō* (Kōdansha gakujutsu bunko, 2001), p. 194, and Imatani, *Sengoku jidai no kizoku* (Kōdansha gakujutsu bunko, 2002), pp. 188–210.