

CHAPTER 2

**THE OUTBREAK, SPRING–SUMMER 1918<sup>1</sup>**



Emergency military hospital during influenza epidemic, Camp Funston, Kansas, United States. (Image: Courtesy of the National Museum of Health and Medicine, Armed Forces Institute of Pathology, Washington, D.C.)

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<sup>1</sup> Fall and winter in the southern hemisphere.

Stealthily, in the spring of 1918, influenza became a factor in World War I. It entered army barracks in the United States, full of soldiers hastily recruited and trained to be sent to the front lines in Europe following President Woodrow Wilson's April 1917 declaration of war on Germany. It spread in the trenches along the Western front in Europe, sapping the strength of the troops on both the Allied and German sides of the conflict. Other early signs were observed simultaneously in Asia, meanwhile, in venues not all directly connected with war. This chapter chronicles the way the virus first crept into and then burst out into the history of human affairs in different parts of the world.

There are those who declare that Spain had nothing to do with the origin of the influenza and that using the term "Spanish influenza" is misleading and should be avoided. However, since in fact most people are well aware that Spain was not the place where the influenza had originated and since the purpose of this book is to chronicle the fury of the influenza pandemic and the way people perceived the pandemic—including the historical fact of its naming—I have used the term here and there throughout this book. This is also partly because the influenza has been known by that name not only in Japan.

### **First Recorded Patients in the United States<sup>2</sup>**

The U.S. army had issued orders to call up and train troops as quickly as possible, and within one year its forces, which were less than 200,000 strong in peacetime, had swelled to ten times that number. Preparations were far from adequate, and soldiers were recruited, housed in spartan barracks, and rapidly trained for battle; then in July 1917, they began to move across the Atlantic, landing at French ports in huge numbers. By March 1918, six divisions totalling more than 250,000 American troops were in Europe, while another 1,380,000 stood ready on American shores to reinforce them.

The divisions were formed with such speed, however, that the conditions of the barracks for housing the soldiers left much to be desired. U.S. Surgeon-General W. C. Gorgas had warned early in 1918 of the dangers that could result from overcrowding of the troops. Then on 4 March, a Monday, at the training facility at Camp Funston outside Fort Riley in Kansas,<sup>3</sup> soldiers began appearing at the camp hospital, complaining of

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2 It is possible that influenza patients had appeared before this, as discussed by Carol R. Byerly. She describes how the call-up of troops in the United States in 1917 and their concentration in close quarters in the barracks led to the outbreaks of several infectious diseases on twice the scale as in society in general. She attributes the spread of pneumonia and other respiratory illnesses to the overcrowding of barracks and inadequacy of hygienic facilities. See Byerly 2005, pp. 53–56. Even before March, patients diagnosed with influenza had been reported in Japan and China, but there is no clear evidence to indicate that this virus was identical with that of the 1918–1920 influenza pandemic. In the strict sense, much remains unknown about the outbreaks.

3 See <http://www.legendsofamerica.com/ks-fortriley.html>, viewed 22 February 2015.

fevers and headaches. These appear to have been the first patients to be recorded with symptoms later recognizable as those of influenza.<sup>4</sup>

At Fort Riley on the morning of 11 March, Monday, after several days of bad weather a soldier developed a fever before breakfast, a sore throat, and headache. Others with similar complaints began to come forward and by noon, the hospital was swamped with 107 patients with these symptoms. By the following weekend the hospital was overflowing with 522 patients; there were a total of more than 1,000 through the month of April.<sup>5</sup>

The illnesses of the soldiers at the two army installations in Kansas—despite the fact that 48 men died at Camp Funston that spring—were not reported in the media and the symptoms disappeared for the vast majority of the men within a few days, so no special attention was given to the situation. Indeed, the outbreak—known as the “three day’s fever”—was more or less dismissed.

According to Byerly, signs of an epidemic were afoot at other army installations. In April, Surgeon-General Gorgas received a letter from Hugh Scot, commander of the 78th Division based at Camp Dix in New Jersey, saying, “I feel perturbed over the pneumonia and scarlet fever” he was observing at his own camp.<sup>6</sup>

And yet, these symptoms were recorded not only at many army bases. In March they also appeared at the Haskell Institute, a vocational school for Native Americans in Kansas,<sup>7</sup> and at the Ford automobile plant in Detroit (more than 1,000 patients). In April–May, at the San Quentin Prison north of San Francisco, some 500 of the 1,900 inmates of the prison developed these symptoms and three of them died.<sup>8</sup>

### **Overshadowed by War in Europe**

Meanwhile, on the Western front of World War I Europe German troops began their final offensive. On the Eastern front Imperial Russia had collapsed due to the revolution of March 1917 and the newborn government of Soviet Russia was still quite unstable. In December that year, the Soviet government led by Vladimir Lenin had signed a ceasefire agreement with the Germans and the following March the two parties signed the Treaty of Brest-Litovsk. So with the war on that front over, the German army began to redeploy its forces on the Western front. On 21 March 1918, they breached the Allies line at St.

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4 Crosby 1989, pp. 17–36. Crosby cites this information about the situation in the United States in the spring of 1918 from the *Journal of the American Medical Association* 72 (11 January 1919).

5 See Iezzoni 1999, although Iezzoni does not cite her source for this information.

6 Byerly 2005, p. 14.

7 See Byerly 2005, p. 6. John M. Barry believes that the origin of the influenza epidemic was Haskell county, Kansas. He believes that someone from Haskell visited the army barracks between 28 February and 2 March, and, after a certain incubation period, the symptoms appeared among the soldiers. Barry 2004, pp. 91–97.

8 See Crosby 1989, p. 18.

Quentin and Cambrai, and soon fighting along the battle lines that had been largely at a stalemate for three years became active. The German army advanced to a point within shelling distance of Paris and began to bombard the city, sending in hundreds of shells that succeeded in damaging buildings and prompting partial evacuation from the city. On 30 March, the German army advanced close to Amiens and in early April launched an assault aimed at Flanders, puncturing a major hole in the Allies battle lines. The troops freed up from the surrender of Russia on the Eastern front had made this possible. The German forces struck hard against the French and British armies, took many prisoners, and seized abandoned weapons.

Toward the end of May, the German army launched the second battle of the Marne and advanced from Rheims, reaching a point within 100 kilometers of Paris that left the fate of the European front in the balance.<sup>9</sup> It would be a few months later that the American Expeditionary Forces (AEF) would participate substantially in the fighting, but the war in Europe had already entered its devastating and bloody final stages.

Given what was going on in Europe that spring, it is not surprising that few paid any attention when in the remote plains of Kansas, where only 40 years earlier General Custer had fought and died in the war with the Sioux and Cheyenne tribes, several thousands of new recruits in army bases were hospitalized and a few dozen of them died. Who would have thought it was to be the beginning of one of the most fearsome of pandemics in history? The U.S. economy was booming as a result of wartime demand and with large numbers of American young people headed overseas for the first time in the young country's history, most people were caught up in a kind of war euphoria.

The cause of death of the 48 men at Camp Funston is recorded as having been pneumonia. The camp's chief physician, Colonel Edward R. Schreiner, identified Pfeiffer's bacillus in the cadavers, but he did not know whether the microbe had had anything to do with the deaths. Even today it is not known *why* it occurred *there* and *at that time*. A most convincing view today is that the virus was brought by birds migrating through the area. Soon the remaining patients recovered, and the illness vanished. The exact number of patients with specific symptoms is not known either, and the number of persons residing at the camp at the time is not evident, so we cannot calculate mortality, but the fact that so many young men should die at one army camp hospital, even though no fighting was involved, is certainly abnormal. Amid the fever of preparations for going off to war in Europe, it seems the ghastly toll was discussed only among a few army physicians, and hardly noted by the public at large.

Surgeon-General Gorgas was also informed that influenza patients had been identified in California, Florida, Virginia, Alabama, South Carolina, and Georgia, but appar-

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<sup>9</sup> Regarding the European front in World War I, I have relied on Liddel Hart (Hart 1970), although his account makes no mention of the influenza pandemic.

ently no one thought to issue a warning that it was something to be seriously concerned about. In the United States at that time, influenza was not among the legally designated infectious diseases that had to be reported when diagnosed. Indeed, in several states it was not even required that a report of deaths by cause be submitted to the federal government in Washington, D.C. It was thought, moreover, that outbreaks of infectious disease on the battlefield were part and parcel of the realities of war. And the Camp Funston deaths came at the height of the excitement of mobilizing the country to strengthen the troops under the command of AEF General John Pershing and push back against the German armies in Europe.

The United States in 1918, moreover, was in the midst of an exhilarating transition. It was the time when new inventions that were becoming the symbols of a modern lifestyle—the washing machine, the electric refrigerator, the phonograph, and the automobile—began to spread in American households. Optimism was in the air and the streets reverberated with parades and fanfare advertising the sale of Liberty Bonds. The Kaiser of Germany was pilloried as the villain while the conductor of the New York Philharmonic Leopold Stokowski declared that the “enemy-nation” music of Bach and Beethoven should not be performed. Perhaps it was inevitable that signs of a looming pandemic would be ignored.

This “first wave,” or “spring herald wave,” in the army encampment cases clearly indicate influenza, given that the symptoms of the patients were swelling and hemorrhaging of the lungs and that, even though the death certificates recorded pneumonia as the cause of death, it claimed the lives of young people among whom mortality is normally the lowest of all age groups.<sup>10</sup> Yet no one noticed when the influenza spread beyond army barracks to the general populace. The symptoms were relatively light (if we discount the 48 deaths), and when the majority of patients quickly recovered, the possibility of something more serious impending was apparently not considered.

### **Influenza in Japan: Sumo Wrestlers, Soldiers, and Sailors**

There had been reports of influenza patients in other parts of the world the previous winter and in the spring of 1918. In Japan, a column for women in the *Yomiuri shinbun*, 29 January 1918 featured an article titled “The Current Influenza Outbreak.” But influenza outbreaks occurred every year just about everywhere, and it was not thought unusual for a certain number of people to die as a result. Japanese statistics for the years prior to the “Spanish influenza” epidemic of 1918–1920 show that 4,412 people died of influenza in 1916 and 2,390 in 1917.<sup>11</sup>

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<sup>10</sup> See Crosby 1989, p. 21.

<sup>11</sup> NTJDT for the years 1916 and 1917.

In April 1918, however, several sumo wrestlers on tour in Taiwan (then a colony of Japan) became ill and were hospitalized, and three of them died.<sup>12</sup> At that time, the world of sumo in Japan was divided between Osaka and Tokyo, but wrestlers from stables in both cities participated together in regular tours around Japan. The tour to Taiwan was part of those activities, and in March the group left the main islands and held matches in four locations on Taiwan—Taipei, Taichung, Tainang, and Kaohsiung. However, the very popular Tokyo wrestler Masagoishi, who was soon to have been promoted into the *san'yaku* (highest-three) ranks of sumo, became ill and died in a Taichung hospital on 5 April. The diagnosis of the stricken wrestler's condition was in most cases "colitis," but some newspaper articles mentioned complications of bronchitis and pneumonia, so it is difficult to be sure. Two other wrestlers died after showing the same symptoms, and several others including three Tokyo wrestlers as well as several Osaka wrestlers were hospitalized and did not accompany the other wrestlers for the return home. There had been no previous record of such a large number of wrestlers falling ill on tour and some reports say that more than 20 wrestlers were sick. Although there is no certain evidence, judging from the information above, the possibility is high that the ailment that struck the sumo wrestlers in Taiwan was influenza.

Looking briefly at the situation in Taiwan later that year, we find an article in the 20 June 1918 *Taiwan nichinichi shinbun*<sup>13</sup> headlined "Strange Fever Breaks Out: Infection Spreads." It described the symptoms as beginning with chills and fever and bringing on lethargy in the limbs, pain in the hips, and high fever of between 38 and 40 degrees C which eased after about the fifth day. It pointed out that the illness is distinct from the dengue fever that had broken out two years earlier (1916), did not result in rashes or eruptions (exanthema), but was infectious. The article reported that patients with the disease were numerous in Chilung at the time of writing but the infection appeared to be spreading to the south. An article on the following day gave important information: the same disease had broken out across the straits in Hong Kong.<sup>14</sup> On the Chinese-language pages of the same newspaper (dated 21 June) it was reported that a fever had broken out in the Penghu Liehtao Islands in the southern part of Taiwan Strait. This was only circumstantial evidence, but it seemed doubtless that the symptoms were those of influenza. Although as yet the disease was not serious enough to cause many deaths, we can say it was the first wave of the pandemic.

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12 I am grateful to director general of the Edo-Tokyo Museum Takeuchi Makoto for alerting me to information regarding influenza among the sumo wrestlers on tour in Taiwan.

13 This daily newspaper was published in Japanese in Taiwan under Japan's occupation from 1898 to 1944.

14 I am grateful to Itō Makoto, member of the Japan Academy for arranging access to the Kokugakuin University Library microfilm of the *Taiwan nichinichi shinbun*.

### Origin of the Virus

If the disease in Taiwan was influenza, where did the virus come from? One possibility is Haskell county in Kansas, as cited earlier. Other possibilities may be Hong Kong, across from Taiwan, and the southern part of China, where it was customary to shelter pigs and chickens under the roofs of human dwellings—an ideal habitat for a virus. The transmission of viruses brought to such places by migratory birds, first to other avian species, and then switching hosts to humans, was very possible. Southern China has therefore been the origin of several influenza outbreaks up until quite recent times, and some believe that it was also the origin of the 1918–1920 influenza pandemic. At present, however, based on records of patients, it does appear that the earliest cases of the outbreak of what seems to have been the pandemic were in the United States.

In Japan itself, a report indicates that in the early May 1918, more than 150 patients aboard the naval ship *H.M.S. Suwo* docked at Yokosuka (near Yokohama) were diagnosed with what appeared to be influenza.<sup>15</sup> The “influenza” spread to other sailors and Marine Corps members and to the general populace, and by the middle of May a large number of influenza patients were reported at the Fujigasu Cotton Mill also located in the Hodogaya area of Kanagawa prefecture. Cases had also been reported in the city of Tokyo.

The outbreak in Tokyo that spring came to be known as the “sumo flu.” The Kokugikan sumo arena in Ryōgoku had been burned to the ground in a fire the previous year (1917) at the time the chrysanthemum festival was held there in November. For the Tokyo Grand Sumo summer tournament in May the following year, an arena along with tent-covered spectator seating were temporarily set up at Yasukuni Shrine, but when there was a heavy rain, the arena was unusable and the tent leaked, so it was decided to hold the tournament on a total of ten fine-weather days, as had traditionally been done before the Ryōgoku Kokugikan arena was first built in 1909. Grand Sumo and the baseball tournament among a group of six universities in Tokyo were popular public attractions, and enjoyment of sumo in the heyday of the newly promoted grand champion Tochigiya in particular was a national pastime. The fact that the tournament had to be held in a tent and that so many of the wrestlers were absent with the flu caught people by surprise. As I shall describe in detail in Chapter 8, many of the wrestlers had developed fevers and were unable to train adequately, so the flu that went around that year came to be known as the “sumo flu.” Many of the wrestlers had fevers and were unable to appear in the tournament, but there were no deaths.

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15 See Kanagawa Report, p. 46. There were a total of about 700 crew members on the ship, meaning about 20 per mil contracted the virus.

### The Toll in the Japanese Military Forces

In June and July, however, there were many reports of influenza from army regiments in different parts of the country. The *Fukuoka nichinichi shinbun* (Kyushu) carried the story on 19 June in which the chief surgeon of the 12th Division based in Kurume stated that an “infectious flu” was spreading through the army divisions. The report indicates that some 10 per mil of each division had contracted the flu (1,500 of the Imperial Guard Division in Tokyo; 1,300 of the 1st Division, Tokyo; 860 of the 2nd Division, Sendai; and 670 of the 9th Division, Kanazawa). The *Shinano Mainichi shinbun* reported in its 10 July 1918 edition that 196 troops of the 50th Infantry Regiment at Matsumoto (Nagano prefecture) were affected with influenza at that time, bringing the total number of patients since the first outbreaks to 479. The *Iwate nippō* newspaper, reporting on conditions in the regiment in Hirosaki, listed instances of influenza in about 1,000 men of the 52nd Infantry Regiment, 700 of the 31st Infantry Regiment, 100 members of the field artillery corps, 700 men of the Akita Regiment, and 400 men of the Aomori Regiment, totaling some 4,000 patients since the first outbreaks, and noting that the men had recovered within about a week. When we consider that each regiment had between 1,000 and 2,000 members, we can get a sense of how seriously their ranks were attacked by the virus. At this stage there were no reports of death. The above cases all show the characteristic of the “first wave” of the pandemic, which was that although many contracted the virus, the symptoms were not so severe as to kill them. In this respect, the situation was similar to the first wave occurrence of influenza in March in the American Midwest.

According to statistics on patients at army hospitals in Japan in 1918, the figures for patients until April were similar to previous years, but in May the numbers sharply increased and continued rising through June and July. Adding patients of units in Japan’s colonies, the figures show that for June and July more than twice the number of patients in a normal year had been treated in hospitals.<sup>16</sup> The name of their illness was given under the category “Other,” indicating that, at the time, “influenza” was not one of the regular categories in army hospital statistics. In the figures for June, of a total of 43,289 patients, the condition for 32,234 (more than three quarters of the total), are shown under the “Other” category. The same situation held true in the navy, with the number of patients sharply rising in May and June.

The influenza outbreak at this stage did not spread much further. As of the latter part of July, there seemed to be a lull in the outbreaks in Japan.

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<sup>16</sup> NTTN 39 (1921). From *Shin kanja tsukibetsu* [New Patients by Month], Table 510, p. 541.



### May and June in Spain: Eight Million Patients

World War I embroiled most of the countries of Europe, yet a few—the Scandinavian nations, Switzerland, the Netherlands, Ireland, and Spain—were neutral powers. An outbreak of influenza had already occurred in February in Spain in the city of San Sebastian on the Bay of Biscay near the French border. The city authorities issued a warning to summer visitors to avoid coming to the area, but that initial outbreak was apparently local and did not continue for a long time.<sup>17</sup> In May–June, however, the Spanish government issued a statement saying that the first wave of influenza from France was hitting Spain. France rebutted the statement, declaring that the influenza had come from Spain. In any case, about eight million people contracted influenza in May and June in Spain, afflicting even King Alfonso XIII and his ministers. The institutions of government were paralyzed and even the streetcars in the city came to a halt. No one really knew what the cause was. The number of patients was great but the symptoms were relatively light and in the whole city of Madrid (population about 650,000), there were only about 56 deaths in May and 220 in June. At the time, Spaniards called this illness the “soldier of Naples,”<sup>18</sup> a nickname that derived from an operetta that was being performed at the time.

Outbreaks of influenza were occurring within the borders of other states in Europe, but since most of them were engaged in war, their governments did not bother to report figures on its spread. Spain, which had declared its neutrality in the conflict, did release figures on the epidemic unfolding there, which unfortunately associated it with the disease in the eyes of the world. The association was inevitable in Japan as well, where newspapers gave fairly large space to reporting about the epidemic in Spain, for example in the 6 June 1918 edition of the *Ōsaka Mainichi shinbun*. The article, based on a Shanghai Reuters report, mentions how the “strange disease” resulting in high fever, abdominal pain, and diarrhea, had affected even the king of the country, its cabinet ministers, and virtually a third of the population, causing theaters and other facilities to close. The reverberations of Spain’s experience around the world, therefore, must have led the influenza to be called the “Spanish influenza” from that time.

The early wave of influenza in the spring of 1918 did not result in many deaths in Spain, and by July and August, it had disappeared there.

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17 Ministry of Health of Great Britain 1920, pp. 236–37.

18 Echeverri 2003, pp. 101–109; Davies 2000, p. 58. In Germany it was called the “lightning catarrh” (*Blitzkatsrrk*), in England the “Flanders grippe,” in Persian it was “the malaise of the wind,” and in Hong Kong the “illness that harbors a high internal fever.”

### **Influenza on the Western Front**

The Western front was formed in 1914 as the advances of German armies that began with the opening of hostilities were stopped in the northern part of France and the ensuing trench warfare was prolonged, with high casualties on both sides. The stalemate occurred about two months after hostilities began when Germany had advanced to a point about 100 kilometers from the Belgian border and, while various skirmishes along the line continued, it was largely a standoff that lasted for about three and a half years. The lives of millions of soldiers sent into battle were lost as they became fodder for poison gas, tanks, and other newly devised weapons of warfare.

Then in 1917, as mentioned above, as a result of the ceasefire with Russia the German forces that had been needed on the Eastern front were shifted to the Western front. Around the same time, American forces began to enter the war, buttressing the beleaguered ranks of the British and French armies. Finally the stalemate was ended and conflict opened anew.

In March 1918, through the strategy worked out by de facto German supreme commander Erich von Ludendorff, the German army launched what was to be its final offensive in the second battle of the Marne. The German forces were initially successful in their advance, pressing toward Paris. They brought in a long-distance weapon by railroad, known as the “Big Bertha cannon,” and began bombarding Paris. The Allies decided not to wait for more reinforcements but sent in American troops. The German army attempted to use its momentum to press on through the Flanders region, and the situation hung in the balance for both sides.

The Allied forces were composed of mainly troops from France, Britain, and the United States. Field Marshal Ferdinand Foch was made supreme commander of the Allied armies and a unified chain of command was established to strike back. But by July, it was obvious that the offensive as well as defensive momentum of the German army was flagging. While neither side of the conflict would admit to it, the influenza virus was taking its toll on their troops and fighting strength.

Particularly the German forces were suffering from a shortage of supplies as the war dragged on, sapping the health of the troops on the battlefield and leaving them all the more vulnerable to the virus. Even when their officers ordered them to “charge!” they remained where they were; they *could not* go out and fight. The fever and lethargy resulting from the influenza rendered them physically powerless. Something was mysteriously wrong on the Western front.

General Ludendorff’s account of the end of the war in volume 2 of his autobiography mentions influenza five times.<sup>19</sup> As much as the account may be based on hindsight,

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<sup>19</sup> Ludendorff 1919. It is supposed that after the ceasefire, Ludendorff went to Sweden (which was a neutral nation in the war) and wrote this book between November 1918 and the following February and that he completed it in Berlin in June, on the day the Treaty of Versailles was signed. It is unclear how the book happened to be in English from the outset; whether it was based on an oral account or not, and how it could be published so quickly are further somewhat troubling questions.

it is clear how keenly he felt the curse of influenza obstructing his campaign. The first mention, which does not specify the time precisely but is probably April or May of 1918, goes, “The first cases of influenza appeared, but the medical officer classified them as slight” (p. 252). The second, around mid May when the offensive of the British forces had grown stronger, says “Influenza was rampant, and the army group of Crown Prince Rupprecht was particularly afflicted” (p. 277), and then are words that later became famous, “It was a grievous business having to listen every morning to the chiefs of staffs’ recital of the number of influenza cases, and complaints about the weakness of their troops.”<sup>20</sup> The third comes around the time when the desire to continue the war began to fade in the German homeland and the troops on the front lines were noticeably losing their will to fight: “Meanwhile there were many things affecting the spirit of the troops in the West” (p. 282). The fourth refers to the period of the 15 July Reims offensive, “Influenza was prevalent, but not more so here than anywhere else along the front” (p. 308). And the last mention refers to the period of the failure of the battle of Soissons on July 18–19, saying how the troop strength of all the divisions was weakened, “. . . the result partly of influenza and partly of the monotonous diet” (p. 317). His words may be an expression of his unwillingness to accept defeat, but it is certain that influenza did weaken the troops’ fighting strength.

A story of the strange goings-on on the Western front was published in the *New York Times*,<sup>21</sup> and such reports reached Japan as well. An article in the 17 July 1918 edition of the *Tōkyō Asahi shinbun* under the headline “Reason for German Offensive Slowdown,” says that the slowdown resulted not from the German inability to prepare a strong assault but for “some other reason” (International correspondent, Washington, D.C.).

A “big scoop” suggesting a relationship between the slowdown of the German offensive and the influenza appeared in the *Keijō* [present-day Seoul] *nichinichi shinbun* on 15 July 1918. The subtitle of the article is “Related to extended military council meetings?” but the short article reported that “some say the reason for the delay is actually the shortage of troops and the spread of influenza.” This article is identified as telegraphed from London and no other papers published such information. It is also unknown why this paper published such a story. Unlike today, when the major newspapers routinely send special correspondents abroad to send in stories, at that time, the newspapers relied on overseas news services for all their international news and information about conditions in other countries, and the domestic newspaper companies selected items from what was available. In that sense, the editors of the *Keijō nichinichi shinbun*—although we do not know how consciously they thought about it at the time—showed much foresight in this choice of articles. Even so, since the *Keijō nichinichi shinbun* was published in the colony of Korea, it is doubtful that many Japanese readers saw this article.

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20 Davies 2000, p. 58.

21 Byerly 2005, p. 73.

### **Influenza Sapped Energies on Both Sides**

The German army was not alone in being outflanked by the influenza foe. Censorship prevented the information from circulating, but Zylberman notes that “Influenza reached the Western front in April 1918, first among the VI Army (Chateau-Thierry, Soissons), then the IIIrd (Montdidier). Sweeping over the combat zone, it killed 7,401 men out of 139,850 cases between May and October.”<sup>22</sup> The British army along the Western front, too, was cruelly hit. Of the two million troops in the field, 1.2 million came down with influenza. How could anyone even think of fighting a war?<sup>23</sup>

The American Expeditionary Forces were still receiving reinforcements and had not been deployed in battle, but an American doctor at a military hospital in Bordeaux reported the appearance of a very infectious fever on 15 April and at St. Nazaire, the main port of entry for the American forces to the north of Bordeaux, 54 light cases of influenza were identified during a ten-day period in May. The diary of an American soldier who was serving as ambulance driver mentions in the 28 May entry that he had an extremely busy day transporting 60 victims of an infectious disease he called “grippe.”<sup>24</sup> There are several other accounts of influenza patients in the AEF in France, but on either side of the Atlantic Ocean, mortality was low for this first wave, and the situation was not considered especially grave.

As this brief overview indicates, while influenza spread widely among the troops on both sides of the Western front, mortality was low. The reason that military activity along the line—either advancing or retreating—was noticeably slow seems very likely to have been the result of influenza. The fateful day in the war came on 8 August—what is known as the German army’s “Black Thursday.” The Allied forces launched a carefully calculated feint operation and did their reconnaissance and then a surprise attack on the Germans east of Amiens.<sup>25</sup> Within a few days, some 20,000 Germans had been taken as prisoners of war. This may not have been such a great feat for one operation, but it proved the turning point after which the German army lost its will to fight, undermining the resolve of the Kaiser as well as General Ludendorff to continue the war. The Allied armies, meanwhile, with Field Marshall Foch in command and their ranks bolstered by American soldiers, kept pressing against the exhausted German forces.

All things considered, one would have expected the Western front to collapse much sooner. The German army may have engineered its retreat skillfully, but the outbreak of influenza clearly seems to have slowed the movements of both armies.

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22 See Zylberman 2003, pp. 191–201.

23 Barry 2004, p. 174.

24 Byerly 2005, pp. 70–71.

25 “So far as any one event of the campaign in the West can be regarded as decisive, it is the great surprise cost of Amiens that occurred on this day (8 August 1918).” Hart 1970, p. 541.

It was not long until the influenza spread from army ranks to the general populace in Europe. In Scandinavia and Switzerland, influenza was an infectious disease that had to be officially reported to the authorities, and in late July the first wave of outbreaks hit Denmark, where in Copenhagen (population then 539,000) 8,514 people contracted the virus in the last week of July alone, and in the three-week period before and after that a total of 18,523—a little over 3 percent of the city’s population—were struck by influenza.<sup>26</sup> This rate is the equivalent of about 60 percent of Copenhagen’s flu patients in early October, the peak of the city’s influenza epidemic.

In Norway’s Oslo (population then 259,627), the number of influenza patients was highest in the second and third weeks of July, reaching a total of 14,425. This figure was far greater than the 3,999 patients in the last week of October and the first week of November when Oslo’s mortality from influenza was highest. The peak for influenza patients in Norway’s second-largest city, Bergen, was July.<sup>27</sup>

Of London, Crosby writes that within three weeks in July 700 people had died of influenza and 475 of pneumonia. In Switzerland, 53,000 patients with influenza were reported in July.<sup>28</sup>

### **What Were the Early Signs?**

As this account shows, the “first wave” erupted in different parts of the world and spread. Rather than having simultaneously occurred in different places, the current view prevails that it all began at the army camp in the American Midwest and spread around the world from there, beginning with Europe. It being wartime, troops had to be transported to destinations fixed by the interests of war. Ships carrying them sailed almost everywhere, despite the threat of German submarines. In June soldiers who were carriers of the original virus landed at Murmansk, where Russia struggled with its own turmoil, and marched overland, spreading the virus wherever they went. People in Asia, Japan, China, and especially India became major victims of this first wave of the virus, which also immobilized longshoremen in Manila. Research by Patterson and Pyle mapped possible routes of transmission.<sup>29</sup>

In other words, the first signs of the epidemic appeared out of nowhere and spread around the globe, then seemed to disappear. Outbreaks were reported not only in the United States and Europe, but in Asia, causing some deaths. However, whatever the type of influenza, there are inevitably some patients who die, and at this point the virus was not well understood and methods of treatment and anti-influenza drugs had not

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26 Ministry of Health of Great Britain 1920, p. 216.

27 Ministry of Health of Great Britain 1920, p. 211.

28 Crosby 1989, p. 27.

29 Patterson and Pyle 1991.

been developed. In most countries, moreover, influenza was not an infectious disease designated by law so it is therefore difficult to obtain statistics on numbers of patients and deaths that would indicate the actual size of the “spring” wave of the pandemic. So all we can do is to note from available documents where the outbreaks occurred.

Regarding where the “spring wave” began, this book shows, following the chronology of records, that it can be traced to the March 1918 outbreaks in Kansas, but that does not mean that Kansas was necessarily the origin of the virus. Kansas does have many pig farms and poultry farms, so it is possible that strains of influenza found in pigs or in fowl could have infected humans. But in fact there are pig farms all over the United States, and there is nothing whatsoever to explain why it should start with Kansas. Some people, meanwhile, assert that the origin is the south of China, notorious as a region where people, pigs, and chickens often inhabit the same dwellings, which would greatly increase the possibility of a virus being transmitted from pigs or chickens to humans. Some believe that it was Chinese laborers from the region who introduced influenza to the United States and Europe. But there is no firm evidence for such a claim.

A more convincing story is that the influenza which originated in the United States crossed the Atlantic and the Pacific oceans within three weeks, spreading thereafter throughout Europe and Asia.

As suggested earlier in this chapter, an additional hypothesis is that the influenza virus that set off the 1918 pandemic was carried throughout the world not by humans but by migratory birds. The influenza virus is known to be an avian virus and of the animal kingdom, it is birds that are the carriers of all 114 strains of type-A influenza viruses. This hypothesis seems convincing when we consider that some of those strains are transmittable to pigs and human beings. There are a number of species of birds who are carriers of the virus yet show no apparent effects as a result of it. The habitats of such waterfowl as ducks and geese are close to human habitations, and the influenza virus inhabits the digestive organs of such fowl, but does not invade the respiratory system as it might in humans and cause death of the host. However, since the virus survives for a certain period of time in the feces of such birds, it may be communicated to poultry or pigs. It is therefore possible that humans in both the United States and Asia were infected simultaneously by the influenza virus carried by migratory birds.

It is not now or ever has been possible, however, to control the movements of migratory birds, which are of course beneficial to the earth’s ecosystem. It would be absurd and impossible—even technically—to eradicate such birds. All that can be done is for great care to be taken to keep the virus at a distance from humans.