

# The Influenza Pandemic in Japan, 1918 1920 : The First World War between Humankind and a Virus

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CHAPTER 4

**THE EARLY EPIDEMIC**  
**(AUTUMN 1918–SPRING 1919)**



Crowd of people attempting to buy oxygen for treatment of influenza patients.  
(*Tōkyō Asahi shinbun*, 21 January 1920)

The 1918–1920 influenza pandemic in Japan—widely known in those days as the “Spanish influenza”—can be divided into the Early Epidemic, beginning in October 1918, and the Late Epidemic, beginning in December 1919. The symptoms were slightly different between the two, and morbidity for the early phase was relatively high while mortality was relatively low. For the latter phase, morbidity was low but mortality high. These disparities have led some to conclude that a different strain of the virus was involved.<sup>1</sup> Previous studies have not presented persuasive evidence that such was the case in Japan, and my own research leads me to believe that the two phases of the epidemic were caused by the same H1N1 strain. This conclusion is based not on scientific, but on circumstantial evidence, as shall be explained in detail in Chapter 6.

Some explanation is needed regarding Japanese mortality figures. The primary sources—the *Naimushō Eisei Kyoku* (Sanitary Affairs Bureau of the Home Ministry), ed. *Ryūkōsei kanbō* (Influenza), the *Nihon Teikoku shiin tōkei* (Statistics on Causes of Death in the Japanese Empire), the *Nihon Teikoku jinkō dōtai tōkei* (Vital Statistics of Population in Imperial Japan), the latter two edited by the Cabinet Statistics Bureau—include “influenza” in their lists of causes of death. The numbers of deaths from *ryūkōsei kanbō* (epidemic influenza) given in these sources for the period of the “Spanish influenza” have generally been considered the archetype figures. The figure for deaths from “Spanish influenza” that has been cited by almost all research work heretofore is 385,000, because that is the figure given in *Ryūkōsei kanbō*. I am skeptical of this figure, however, so I have tried to obtain more accurate statistics by examining the concept of “excess deaths”—that is by looking at the disparity between the figures for normal-year deaths from certain illnesses and the figures for epidemic-year deaths caused by the same illnesses. As will be explained in detail in Chapter 6, I believe we can come closer to the actual numbers by calculations based on such disparities, taking into account deaths caused “indirectly” by influenza. These calculations resulted in a considerably higher death toll from the influenza pandemic.

### Onset of the Epidemic

The mutant influenza virus (H1N1) appears to have begun to spread in Japan from between the end of September and the beginning of October 1918. The *Shin Aichi* (today the *Chūnichichi shinbun*),<sup>2</sup> which was one of the papers that reported on the epidemic in greatest detail, carried an article on 20 September 1918 titled “Strange Illness Strikes Nichibō Ōgaki Factory” reporting how employees of a local spinning factory ran high

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1 See Rice and Palmer 1993.

2 At that time, regional newspapers tended to take a greater interest in the spread of influenza than national papers published in Tokyo. They reported not only on the epidemic that spread locally, but on the situation overseas.

fevers, suffered for three to seven days, but did not die, noting that there were features of the symptoms that seemed to resemble influenza (*ryūkōsei kanbō*). As in other countries, influenza spread widely in the ranks of the Japanese army. An article published on 26 September reported on an outbreak of some 400 influenza patients of the 9th Infantry Regiment in Ōtsu, Shiga prefecture. The *Shin Aichi*'s next relevant article appeared on 11 October reporting that two members of the Nagoya 3rd Division participating in Siberian Intervention of 1918–1922 died of influenza on 3 and 4 October. A large number of officers and men of the Siberia Expedition came down with the influenza and died, as I will discuss in Chapter 7, but it is not clear whether the influenza they suffered was the mutant strain (H1N1).

On 12 October the national daily *Yomiuri shinbun* carried a comment by the well-known Tokyo Women's Medical University founder Yoshioka Yayoi (1871–1959) in response to reports that more than 60 first-grade children at an elementary school in Yamaguchi prefecture (village of Takachiho in the district [*gun*] of Asa) were absent from school due to fevers of 39 degrees C and over and bleeding from the nose.

Nasal bleeding is a symptom of influenza, inhalation of poison gas, . . . and many other ailments, but I find it very puzzling that more than 60 first graders should suffer this symptom all at once. . . . If it is indeed the influenza, fever of around 40 degrees C and nasal bleeding could be seen as symptoms, but for that to be the case, members of their families would have had to be infected before all of these 60 children came down with the ailment . . .

Yoshioka thus suspects that the children may have been infected by the influenza but finds it difficult to believe it possible and avoids giving a definitive diagnosis.

Nevertheless, just such an “impossible” situation had occurred. The breakdown of cells and nasal bleeding caused by the influenza viral invasion of the upper respiratory tract and/or lungs was a symptom widely observed in the United States. In terms of timing, there had been plenty of time for the influenza virus that had spread across the United States in September to travel over the Pacific Ocean from the West Coast and arrive on Japan's shores. And it was only a matter of time before the virus or patients carrying it arrived in Japan via the Union of South Africa, the Indian Ocean, and Singapore from Europe as well.

Japan, being an island country, might have, even if only temporarily, held the epidemic at bay, as did Australia. But no measures were taken to that end. For some reason Japan's newspapers at this point did not even carry articles about the fierceness of the influenza epidemic that was sweeping the United States and Europe. It is unclear whether the government itself was sufficiently aware of the ferocity of the epidemic. The people in general, meanwhile, appear to have been so carried away by both the booming

economy and the exciting times of “Taishō democracy” as symbolized by the regime of the Hara cabinet (headed by “commoner prime minister” Hara Takashi), that they did not recognize the “calm before the storm” of a serious epidemic.

#### *Epicenter in the Military and Schools*

By the middle of October, however, the influenza had begun to spread here and there around Japan and talk of the “raging” of influenza was everywhere. One of the first reports was the *Ōsaka Mainichi shinbun* 9 October article stating that the 2nd Infantry Regiment and the 14th Battalion of Engineers, both in Mito (Ibaraki prefecture) had suspended exercises because of the outbreak of a virulent influenza in their ranks. As of 8 October, there were 20 cases among the officers and 1,189 cases among rank-and-file soldiers of the two divisions. Infantry regiments usually consisted of at least 2,000 men, which means more than half an average regiment was ill. As in the March epidemic in the United States, military camps were the starting point of the epidemic in Japan.

The focus of several other articles in papers in different parts of the country was schools.<sup>3</sup> The articles give the impression that the origins of the spread of the influenza virus were the military barracks and schools, but that may simply be because it was difficult to gather information regarding particular individuals.

On 19 October the *Shin Aichi* carried an article with the headline attributing an outbreak affecting 50 percent of students at several elementary school students in the Shiga prefecture Kurita and Yasu districts (*gun*), causing “a rapid succession of deaths,” to infection introduced from the 9th Infantry Regiment based in Ōtsu. Members of the Kurita Young Men’s Association had visited the regiment on 25 September and apparently picked up the virus that had broken out there in early September, and carried it back into their own community.

#### *Spread Throughout Country in Three Weeks*

As the above reports indicate, the epidemic of virulent influenza in Japan did not occur in a wave from one fixed point, but appears to have begun almost simultaneously in different parts of the country. Japan’s railway transport network was already well developed, a factor that may have been mainly responsible for the spread of the virus in a comparatively short period of time.

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3 Some examples of other articles are listed below:

- Schools closed in the districts (*gun*) of Kurita and Yasu in Shiga prefecture due to the “raging” influenza (*Kyōto hinode shinbun*, 15 October).
- Some 600 patients in the town of Ōzu, Kita district, Ehime prefecture (Shikoku), most of them boys’ middle school students and girls’ high school dormitory students, ran fevers of 39 to 40 degrees C for a week. The schools had been temporarily closed (*Tōkyō Asahi shinbun*, 16 October).
- Similar articles appeared on 17 and 19 October in the local Matsuyama (Ehime prefecture) newspaper *Kainan shinbun*.
- Report of influenza outbreaks in the city of Kyoto and school closings (*Kyōto hinode shinbun*, 18 October).

With the exception of the outbreak in Mito, the epidemic seems to have begun earliest in the western part of Japan and was transmitted to the eastern and northern parts of the country from there. Influenza was not a notifiable disease, so even when doctors and hospitals had information about patients who had contracted it, they were not duty-bound to report it to government authorities. As a result it is difficult to ascertain when and where the virulent influenza first struck. The Ministry of Home Affairs Sanitation Bureau *Ryūkōsei kanbō* report has appendices with statistics on influenza cases and those who newly contracted the flu by prefecture and by half month, but the records do not become detailed until around the last ten days of January 1919. For the year 1918, only very rough figures are given including cases and deaths in the first ten days of January the following year as well. This being the case, the information provided there is insufficient to get a grasp of the situation nationwide at the time of the outbreak of the epidemic. In this book, therefore, I rely mainly on newspaper and other reports tracing various specific cases.

After around 20 October, it was widely known that the epidemic was influenza, and newspapers, with headlines like “Raging Influenza,” “People Dying, One after Another,” etc., gave accounts not only of outbreaks in military barracks but of school closings due to its spread among children, absences from work in government offices, railway companies, telephone, and other communications offices, and so on. The national and semi-national newspapers had many articles about conditions in Japan and Japan’s territories overseas, but provided little local information for their own cities. The purely local newspapers mostly carried articles, naturally, about their own area only. This situation as far as information sources are concerned has led me, therefore, to trace the Early Epidemic mainly through newspaper articles. From here on, I will divide the country into six regions and, in accordance with the hypothetical path followed by the epidemic, begin with western Japan. However, the epidemic had begun in most prefectures by the latter part of September through the middle part of October. This shows that within a matter of three weeks, it had spread throughout the country.

### **Kyushu Region**<sup>4</sup>

In the spring of 1918, the “early signs” of the influenza epidemic could be seen in Fukuoka prefecture (northern part of the island of Kyushu) in a few patients in the military forces and in elementary schools, but its impact was slight. There were *Fukuoka nichinichi shinbun* reports, however, of cases of cerebrospinal meningitis between the end of June

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4 The Kyushu region consists of Fukuoka, Saga, Nagasaki, Ōita, Miyazaki, Kumamoto, Kagoshima, and Okinawa. The sources for this section are the *Fukuoka nichinichi shinbun* and *Kagoshima shinbun*, the former being a semi-national newspaper with coverage of foreign countries, Japanese overseas territories, Kyushu as a whole, and Yamaguchi prefecture.

and into July, and the 27 June edition reported cases of influenza among dormitory students at a teacher's college in Okinawa and children in its affiliated primary school.

Next, let me introduce an intriguing series of articles in the *Fukuoka nichinichi* about "swine cholera." They begin with one on 13 July, concerning the "spread of swine cholera" in the Kurume region of Fukuoka prefecture. Kurume was known for its pig farms, with farms in some 50 locations and some 450 pigs. Most of the sick pigs, however, had been purchased from neighboring Saga prefecture. The article related how there had been an outbreak of "swine cholera" twelve months earlier in Saga, and that because the Kurume-area pig farmers usually slaughtered pigs and sold the meat to the army and prisoner-of-war camps, the farmers may have concealed the fact that the "cholera" had broken out earlier. Another report on 16 July indicates that the number of sick pigs had increased, and on the 17th that the police had gone to discuss the matter with the pig farmers.

The article published on 18 July caught my attention in particular because of the observation that "at the time of the similar outbreak of swine cholera two years earlier, the infected pigs had all immediately died, but in the current [1918] outbreak, the pigs have not succumbed quickly, indicating that the infection is comparatively less virulent." At the time, no one denied that the infection that spread through the region was swine cholera and neither the authorities nor the *Fukuoka nichinichi* doubted its identification. The 18 July article notes that sick pigs had been slaughtered in the Kurume region in the wake of the relapse of the "swine cholera" there. On 1 August, the newspaper reports that "worsening infection led to a complete slaughter order," but notes "bewilderment over the fact that blood serum for use to treat the cholera had not arrived."

On 14 August, apparently because the serum had arrived by then, its application was reported, and an article appeared on 30 August stating that the "swine cholera" outbreak had been eradicated. On 6 September, it was reported that the committee office for quarantine in Kurume had been closed, and with that the "swine cholera" problem that had troubled the area for two months faded away.

The big question aroused by these reports is: was it really swine cholera? The true nature of the infection would have been confirmed if autopsies had been conducted on the sick pigs, but the reporting does not make clear whether such tests were performed. Although one can only conjecture, it is possible that this "swine cholera" was in fact swine influenza. There is ample room for the possibility that the influenza virus, introduced by a human host in the spring epidemic, passed over to pigs and spread among the swine of Saga and Fukuoka. The original host may also have been the pigs, which passed it onto humans. It may be that the observation reported in the 18 July article, that the pigs infected with "cholera" did not immediately die and that the infection seemed "comparatively less virulent" may be the hint that the outbreak was not one of cholera but of swine influenza. The veracity of this conjecture cannot be confirmed today, but it does suggest one possibility that ought to be considered.

The first article reporting a case that can be clearly confirmed as relating to the Early Epidemic appeared on 25 October. On that date the *Fukuoka nichinichi* carried an important article about the influenza epidemic overseas. Under the headline “Outbreak of Virulent Influenza,” it reports the information obtained by the foreign ministry through its consulate in Singapore of the terrible situation in the Union of South Africa, where several thousand people were dying every day. In Cape Town alone, the report went, within the first two weeks of October influenza had taken the lives of 5,000 people. It was indeed “Black October.”<sup>5</sup> The article includes brief notes about the influenza that hit the Malay Peninsula, taking the lives of 100 people in Singapore, and mentions warnings given to ships visiting ports in those parts. Information from Bombay indicated that more than 700 people had been dying daily from virulent influenza beginning in the middle of October and telling about the epidemic in Vancouver and San Francisco, where many schools had closed and many were dying, indicating that influenza was spreading all around the world.

By around this time, articles began to appear about the epidemic occurring in the Kyushu prefectures of Ōita, Nagasaki, and Kagoshima, and the 27 October edition of the *Fukuoka nichinichi* carried an article stating that elementary schools in Fukuoka prefecture had begun to close because of the spread of the influenza. The same edition carried the first article introducing conditions of the epidemic on the East Coast of the United States.

The 27 October edition of the *Kagoshima shinbun* reported that the Boys’ Normal School canceled classes because of influenza patients among the pupils enrolled. Earlier, on the 22nd, it had reported on an outbreak of influenza among children on a school trip in the southern part of Satsuma, although it is not clear whether the children contracted the virus while on the trip.

#### *Sudden Increase in Cases*

By the end of October, the influenza was striking not only among children and students, but postal and telephone exchange workers, with absences at rates that began to impair the functioning of these important communications services. It spread also among workers in the factories and mines of which there were many in Fukuoka prefecture, as well as employees of the Kyushu Railway Administration Bureau. For several days at the end of October, the pages of the *Fukuoka nichinichi shinbun* and the *Kagoshima shinbun* were filled with articles about the epidemic in their respective prefectures, throughout Kyushu, across the straits in Pusan, Korea, in the port of Kure (Hiroshima prefecture), and so on, with headlines like “Virulent Influenza Hits Like a Storm” and “Schools Close One After Another.” Many schools were forced to cancel their annual athletics meet, one of the much-anticipated annual events of autumn.

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<sup>5</sup> See chapter 3 of Phillips 1990.

The rate of influenza among elementary school students rose—in the case of the city of Yahata to about 25 percent. By this time, the newspapers began to publish their own advice on how to tend influenza patients and alleviate the symptoms. An article in the 1 November *Fukuoka nichinichi* gave advice on quarantining patients and advising that the air in patients' room should be kept dry.

Reports of workers in railway and telegraph businesses falling sick and dying of influenza began to appear, and on 2 November, the article entitled “Raging of Virulent Influenza” in the *Fukuoka nichinichi* reported that 1,500 to 1,600 employees of the Kyushu Railway Administration Bureau had come down with influenza, a rate of 13–14 percent of all its employees. The effects of the epidemic slowed the delivery of mail, until finally temporary postal workers were found among healthy young students. The following day, 3 November, “Schools Closed, Schools Closed” appeared in large letters over an article describing the schools that had been closed in different parts of the prefecture. It also indicated that 40 percent of post office employees were down with influenza, the number of deliveries being decreased, that fewer trains would run in the city, and that some of the coal mines had temporarily suspended operations. The *Kagoshima shinbun* reported that the influenza appeared to be “increasingly prevalent,” with the local factory of the Finance Ministry Monopoly Bureau<sup>6</sup> tallying 270–280 cases (increasing on 3 November to 500), and announcing that the city's trolleys would run on a less frequent schedule.

### *Sharp Increase in Mortality*

This situation continued until 5 November, and then on the 7th, the *Fukuoka nichinichi* carried an article with the headline “Influenza Turns Increasingly Virulent: Mortality Rising,” indicating the situation had entered its worst stage. Until then, most of the articles had dealt with the number of influenza patients, the closing of schools, and the cutting back of public services, but according to Fukuoka prefecture sanitation officials, the epidemic, rather than receding, showed rising mortality, meaning the situation was critical. The paper reported on the 8th that “citizens are filled with dread,” as the fear of death from influenza spread among the populace. Elsewhere in the same edition it was reported that 5 percent of influenza patients were dying. The prefectural governor announced a list of preventative measures, including the recommendation to wear a facemask, but the advice was otherwise limited to the already adopted practice of quarantining patients and avoiding crowded places. Since at this time even the experts did not know what pathogen was responsible for the epidemic, perhaps the lack of meaningful advice was unavoidable. From today's vantage point, we now know that this increase in mortality was partly the result of influenza-associated bronchitis and pneumonia.

With coal miners succumbing to influenza, the output of the mines declined, the number of coal trains decreased, and the 9 November paper reported that deliveries of

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<sup>6</sup> The Monopoly Bureau operated salt, camphor, and tobacco factories in various parts of the country.

coal had dropped by 40 percent. With the rising number of dead, local crematories could not keep up, so some of the deceased were taken to other towns for cremation. Another article reported how the production of ice could not keep pace with demand, as hospitals and households with patients competed for the supply. Because of the spread of influenza in the military, people were prohibited from entering or leaving the military camps; prisoners in the jails also fell ill, and of about 600 prisoners in the Kurume branch jail, 150 contracted influenza. Just as had been the case in other countries, since preventive measures were not known, the “Spanish influenza” struck society equally at all levels.

The *Kagoshima shinbun* reported about a person who died of influenza on the train from Kobe, from where he had been carrying the ashes of a deceased relative back to Kagoshima. On the following day, 7 November, the paper published an announcement that because of the spread of influenza among its employees, it would be forced to reduce its pages to four for the time being. Even the newspaper reporting on the epidemic situation was hit hard.

From around this time, a spate of articles appeared reporting deaths in Kagoshima prefecture from influenza or from pneumonia complications from influenza. On 7 November, a prefectural secondary school reported five deaths and on 8 November an elementary school in the village of Kōyama, the district of Kimotsuki, on the Ōsumi peninsula, reported ten deaths including a teacher. Many schools remained closed, the number of trains operating decreased, and at the Monopoly Bureau’s local factory, which employed 2,300 workers, 900 had contracted influenza, crippling its operations.

For those suffering in this dire situation, the headline on 11 November in the *Fukuoka nichinichi*, “Signs of Influenza Epidemic Subsiding” might have extended some hope, except that the content of the article was about what was happening more than 10,000 kilometers away from Japan, in France, Spain, and the Union of South Africa. An article the following day, 12 November, reported on deaths from the epidemic in different parts of the prefecture, particularly its industrial centers. In the steel-making city of Yahata, 8,662 people contracted influenza and 152 died. In the neighboring township of Kurosaki and two neighboring villages, the reports indicate that 98 people (60 men and 38 women) died on 5 and 6 November, of whom 36 were factory workers.

#### *Spread from Cities to Peripheral Areas*

In the city of Kagoshima, relief from the epidemic finally came around 15 November. On that day, schools began to reopen, and the next day the *Kagoshima shinbun* published an article entitled “[Epidemic] Peak Appears to Have Passed.” This article referred to an earlier influenza epidemic experienced in 1890, when the epidemic “ran its course in about a month but continued off-and-on for the following two months.” But this time, although mortality in the city declined, people continued to die of influenza in the outlying countryside, indicating that the epidemic had spread outward from the cities.

In the midst of this situation came a report on 13 November in the *Fukuoka nichinichi* headlined “Discovery of the Influenza Pathogen,” saying influenza had been identified in the laboratory of the Kyushu University Hospital department of internal medicine, but this did not mean they had discovered the flu virus; what they had detected was Pfeiffer’s bacillus and the pneumonococcus bacillus. Such “discoveries” were also reported in other countries, but they mainly suggest how desperately people were grasping at straws in the attempt to get at the cause of the epidemic and establish some sort of treatment.

By the second ten days of November, then, the raging of the epidemic had eased. There were still deaths, but the number of new cases had decreased, schools were reopening, and society and the economy began to function normally once more. The 15 November *Fukuoka nichinichi* reported 300,000 cases of influenza and 1,300 deaths in total prefecture-wide.<sup>7</sup> As surveys of the epidemic progressed, however, these figures increased, and the 17 November paper gave the figure of 400,000 cases and the 23 November paper between 800,000 and one million cases and 3,800 deaths. The population of Fukuoka prefecture at that time was about 2,000,000, meaning that 40–50 percent of the prefectural population contracted influenza and about 10 per mil of influenza patients died. A table of figures for influenza cases and deaths in the population of each city or district (*gun*) of the prefecture was published in the 27 December edition of the *Fukuoka nichinichi*.

Once the peak of the epidemic passed in Fukuoka prefecture, the *Fukuoka nichinichi* more or less ceased to report on local conditions. The only articles on influenza published thereafter were about the situation overseas, including the epidemic that devastated villages near Qingdao (Tsingtao) on China’s Shandong Peninsula (1 December), the terrible toll (50,000 dead) in the Union of South Africa, the 20 cases of influenza among 70 Japanese students studying at Columbia University in the United States, and the case and later death of a Kobe Commercial College professor while studying overseas.

Meanwhile, the influenza had apparently moved south to the islands off the southwest coast of Kyushu—Koshikijima, Tanegashima, Yakushima, and the larger Amami-Ōshima. Not much information was reported about the influenza there, possibly because of too great a time lag before the timing of publishing in Kagoshima and Fukuoka newspapers. What we learn from the few reports is how, in a 23 November article, the epidemic seemed to have run its course in some areas of Shimo-koshiki village (one of the islets making up the Koshikijima chain) but some schools were still closed; of one school of 360 children, only about 15 children had not been infected.

Regarding the large island of Amami-Ōshima, an article in the *Kagoshima shinbun* on 4 December under the headline “Influenza Epidemic Moves Southward” reported that

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<sup>7</sup> These figures, however, seem to be on the low side. The government’s Sanitation Bureau record of the epidemic, *Ryūkōsei kanbō*, gives the figures for Fukuoka prefecture, from the outbreak to 15 January 1919 at 676,798 cases and 7,125 deaths.

cases had erupted in the town of Naze-chō at the center of the island in mid-November and of the population of 5,300 in the nearby village of Sumiyō, there were 1,700 cases. The village had only one elderly doctor of Chinese medicine to tend to the needs of residents, so the prefecture sent a police force physician as an emergency measure.

On 20 December, under the headline “The Terrible Toll of Influenza on Amami-Ōshima,” the *Kagoshima shinbun* published an article based on the police doctor’s report after returning from his duties on the island. The sole doctor in the village himself contracted influenza, leaving the community temporarily without a doctor. The police doctor dispatch worked from 8:00 in the morning until 10 at night for two weeks, examining 310 patients, of whom two ultimately died. Because of the distinctive dialect used on the island, he sometimes had to have someone interpret the patient’s words. The article mentions that the epidemic hit Amami-Ōshima Island one month after the main islands of Japan, and mortality was comparatively higher.

The year 1919 began with relative calm as far as the spread of influenza was concerned in Fukuoka prefecture, but from the end of January, there was a spate of cerebrospinal meningitis cases. There is as yet no definitive evidence linking those cases to the influenza epidemic, but they were diagnosed not only among ordinary citizens but in the ranks of army regiments based in Kurume and Kokura.

### Chūgoku and Shikoku Island Regions<sup>8</sup>

Mortality rose sharply toward the end of October. The 17 October edition of the *Kainan shinbun*, based in Matsuyama, reported the epidemic at the Ōzu Middle School in Kita district, Ehime prefecture, and on the 22nd it announced that all the schools in the area had simultaneously been closed. The *Kagawa shinpō* carried an article on the 20th saying that classes had started being cancelled at the Sagita village elementary school in the district of Kagawa adjacent to the city of Takamatsu. The 24 October edition reported that 617 students of the 6,803 attending the eleven elementary and junior high schools in Takamatsu, or the equivalent of 9 percent, had contracted influenza.

Throughout October, all three newspapers were filled with reports of the epidemic and the outbreak, and in addition to school closings, its impact was felt keenly in the slower functioning of prefectural and district offices, cancellations of field trips and school athletic meets, postponement or cancellation of various meetings, and the preparation

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8 This region consists of the five prefectures at the westernmost part of Honshu Island (Okayama, Hiroshima, Shimane, Tottori, and Yamaguchi) and the four prefectures on Shikoku Island (Kagawa, Tokushima, Ehime, and Kōchi). My information gathering from the region is still incomplete. I could only rely on three newspapers, all in Shikoku: *Kagawa shinpō*, *Kainan shinbun* (Ehime), and *Kōchi shinbun*. Only the *Kagawa shinpō*, moreover, covered the entire period of the influenza epidemic. In describing the conditions of the epidemic in the region, therefore, newspaper articles published in other regions are sometimes cited.

and distribution of *takidashi* community meals by volunteers in urban areas. However, a report on 31 October in the *Kagawa shinpō* of the deaths of 26 people in the city of Takamatsu as of 29 October suggests that the situation had taken a turn for the worse, and an article on 1 November reported that of 19 people who died, the cause of death for 14 was influenza. The paper also published an apology to readers, saying that deliveries might be delayed because of the shortage of personnel caused by the epidemic.

People were dying of influenza not only in Takamatsu, but in the countryside. A 3 November *Kagawa shinpō* article reported that 70,000 people had contracted influenza in Kagawa prefecture (the population of the prefecture was then 710,000) as a whole. (The 23 November paper reported that there were 90,000 influenza patients and 2,069 had died.) Another article on the same day also related that trolley services in the city were paralyzed and that many doctors and school teachers were infected and some had died.

East of Takamatsu, in the town of Kan'onji-chō in Kagawa's Mitoya district (with a population of about 16,000), it was reported that eight died on 1 November and six on 2 November. By 22 November, within the Kan'onji police jurisdiction alone, the number of influenza patients had risen to 9,242 and the number of deaths was 173.

In small prefectural cities where the normal number of public employees was relatively small, it is easy to imagine how operations could be interrupted when an epidemic swept through their offices.<sup>9</sup> In the city of Marugame, west of Takamatsu, the *Kagawa shinpō* reported on 6 November that influenza among the city's postal workers and telephone exchange operators made it difficult to maintain normal operations.

In the same city, on 9 November the paper reported on a shortage of coffins.<sup>10</sup> A 7 November article describes how the crematories were unable to keep up with demand, resulting in some of the dead being buried instead (not a common practice in Japan), and devotes a few lines to the death of four prostitutes of the city's red-light district, which was also hit hard by the influenza.

Other outlying cities in Kagawa prefecture, like Zentsūji (population 16,000), Tadotsu (6,700), and Kotohira (6,900), were reported as each having the relatively high rate of 2,000–3,000 cases of influenza, but at that point in early November, some villages did not yet have any cases. In Inland Sea parts of the prefecture, several villages on Shōdoshima Island north of Takamatsu, and village islands like Takamijima, Sanagishima (although it was later reported on 14 November that there were 30 cases of influenza)

9 A report in the *Kōchi shinbun* on 12 November, for example, tells how the Kōchi city post office, which had 199 employees, managed to get over the crisis when 90 employees contracted influenza, by extending the working hours of the remaining 109 workers.

10 As discussed in chapter 3 in the case of the United States, production of coffins could not keep up with the sharp increase in mortality, and the same thing happened in the city of Kōchi. In Kōchi, as a result of the sharp increase in demand, the price of coffins skyrocketed from 35 yen to 60 or 70 yen per coffin. Quick to take advantage of the situation, some shrewd coffin-makers in the city bought up all the coffins from surrounding villages (*Kōchi shinbun*, 13 November).

and Awashima, as well as remote mountain villages on Shikoku itself, apparently eluded the virus by virtue of their isolated locations.

As elsewhere influenza spread rapidly in the ranks of the Kōchi 44th Infantry Regiment, afflicting 1,500 (total personnel per regiment was 2,000–3,000; *Kagawa shinpō*, 6 November). The 21 November *Kagawa shinpō* reported the death of one officer, one non-commissioned officer, and 12 rank-and-file soldiers. The end of the epidemic in the regiment was finally announced only on 26 November in the *Kōchi shinbun*.

The peak of the influenza epidemic in the city of Kōchi appears to have been between 1 and 4 November, as the *Kōchi shinbun* announced on the 1st that it would publish only two pages because the epidemic had reduced its personnel to four or five persons; that situation continued until the 4th. Mortality in general continued to increase after that, however. A detailed breakdown is not available, but the paper reported that on the 1st, ten died; on the 2nd, five; on the 3rd, 14 died; on the 4th, 14; and on the 5th, 16; the report states that of the total 69, 41 died from influenza and pneumonia complications from influenza.

#### *Coping with a Dire Situation*

The Kagawa Prefectural Government Sanitation Section apparently worked assiduously for the prevention and treatment of the influenza—even though its efforts may seem from our contemporary perspective to have been ineffective—publishing the views of experts in the newspapers, soliciting the views of scholars to publish, and so on. It obtained what were believed to be preventative vaccines and conducted tests. Although it did not include anything about the cause of the influenza, the “Guidelines for Prevention of Virulent Influenza” (*Akusei kanbō kokoroe*) it published on 8 November in the *Kagawa shinpō* provided detailed information and specific advice. At least, the guidelines reflect the seriousness with which the prefectural authorities tackled the issue. In Marugame, where the epidemic had hit hard, the prefecture established a free clinic and dispatched two police physicians to staff it (8 November article) but it was soon closed down after both doctors were infected (10 November article).

In Ehime prefecture the *Kainan shinbun* reported on 9 November that in the city of Matsuyama, of a population of 60,000, between 20,000 and 25,000 people had contracted influenza. Many schools had closed and unloaded freight was piling up on railway cars. The following day, under the headline “Uwajima Completely Down” the newspaper reported that 12,000 people in the town of 19,000 had contracted influenza, the schools were closed, public office work was at a standstill, and the streets were deserted at night.

The *Kainan shinbun* articles on 10 November included one in particular calling attention to the shortage of ice. As was true everywhere, ice was used to cool the high fevers of patients being cared for in both hospitals and households, so there was great demand for it. The price skyrocketed, in some cases with a block of ice that had previously sold for

12 to 13 *sen* (1 *sen* = 1/100 yen) per *kan* (3.75 kg) rising to 50 *sen* to 1 *yen* in the values of the time. Sometimes it could not be bought no matter how much people were willing to pay. The situation became serious when, on top of that, the Matsuyama Gas Company, which supplied the gas needed for the Iyo Ice Company that was manufacturing ice, suspended business for a time, but a crisis was avoided when the weather cooled down and the number of patients began to dwindle from the middle of November. The *Kainan shinbun*, however, learned from a reliable source in the ice industry that there was not really a shortage of ice; if there was it could have been shipped in from nearby Hiroshima prefecture for the reasonable price of 15 *sen* per *kan*. The price had risen, it reported, because of unscrupulous merchants taking advantage of the situation, and the paper called on the authorities to warn against such profiteering at the expense of the sick.

On 16 November, the *Kōchi shinbun* called for the “Urgent Creation of a Relief Agency.” The number of patients dying from influenza was rising, and those who fell ill were in agony, even if they did not die. Many people could not even get a doctor to examine them or purchase medicine. The paper urged the Red Cross Hospital, the Saiseikai Hospital, and the local medical association to establish a facility to provide relief for such people. The paper also called for a set-up that would not place the entire burden on doctors, but allow them only to perform examinations, make diagnoses, and issue prescriptions, and having patients obtain prescribed medicines at a pharmacy, thereby dividing up the burden. As a social policy, the article declared it was important to reduce costs of medical care and lighten the burden on patients. The author of the piece is not known, but considering it was written 90 years ago in 1918 the article was surprisingly progressive.<sup>11</sup>

From the latter part of November into December, the number of new influenza cases decreased, but many people were still dying. Then, at the end of the year we find an article of particular interest. On 16 December the *Kagawa shinpō* carried an article entitled “The Influenza in Marugame: Five Hundred Patients,” meaning that the influenza was again spreading. Doctors were again kept very busy, and this time with new recruits in the 12th Infantry Regiment in Marugame. In those days, new recruits joined the army on 1 December, and not only at Marugame, but elsewhere, influenza spread through the barracks, hitting newly enlisted men who had no immunity to the virus. The 12 January *Kagawa shinpō* reported that influenza had spread among the recruits in December and there had been two deaths in the 12th Infantry Regiment (Marugame), seven deaths in the 43rd Infantry Regiment (Zentsūji), and one death in the 44th Infantry Regiment (Kōchi).

In Ehime prefecture, influenza patients were reported even in the middle of March in the city of Matsuyama and the township of Uchiko-cho. There were also reports of

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11 The influenza in Kōchi experienced at that time is depicted in the 1972 Dazai Osamu Prize-winning novel *Kai* (Oar) by Kōchi-born writer Miyao Tomiko (1926), about a woman modeled after the author’s mother.

influenza from islands in the Seto Inland Sea, but the situation was not as dire as it had been the previous fall.

*Influenza Impact in Chūgoku Region*

The Early Epidemic began in the Chūgoku region, as far as my research has revealed, with the earlier-cited outbreak of high fevers and nasal bleeding among the elementary school students in the township of Asa, Yamaguchi prefecture, reported in the 12 October edition of the *Yomiuri shinbun*. The outbreak occurred among students of one particular school in the village of Takachiho, presumably because of its proximity to the San'yō trunk railway line as well as near the port of Moji, where ships from overseas were coming and going, both paths by which infection could easily travel.

The 26 October the *Ōsaka Mainichi shinbun* reported on influenza outbreaks in different parts of the country, mentioning the elementary schools closed in the city of Okayama, the San'yō Spinning Company in Ajino-chō, in the Kojima region of Okayama prefecture, and the Ōmi Canvas Company in the township of Kotoura, Tottori prefecture (both were factories with over 200 cases among the workers). In Hiroshima prefecture, elementary schools were closed in the port city of Onomichi and cases were reported repeatedly at Onomichi station. Regarding Yamaguchi prefecture, the article mentioned cases at the Ofuku village elementary school in the district of Mine, a mining area, and then the earlier-mentioned Takachiho village elementary school where 400 children and eight teachers had developed symptoms, confirming that the cases of nasal bleeding must have been the opening incident of the influenza epidemic.

The following day, 27 October, the same paper reported that the entire clerical staff of the Okayama Courthouse was down with influenza. It also recorded that students of the Okayama Commercial School went on a school trip to the Kyoto-Osaka region, Sanuki (Kagawa prefecture), and Hiroshima, and that several hundred came down with influenza upon their return home. The timing of the cases suggests that they caught the virus while at their travel destinations. There was also a piece noting that the Onomichi Commercial School was closed because of a spate of cases among its dormitory students.

By 28 October, influenza was reported among mine workers in the district of Mine in Yamaguchi and two people had died. Perhaps because the outbreaks in Osaka itself, Kyoto, and Kobe grew fierce, however, the papers in those cities ceased reporting on the more distant Chūgoku region. As seen in the case of the city of Hiroshima, the pace of the outbreaks had indeed slowed in this region.

## Kinki Region<sup>12</sup>

When the 1918 influenza struck the Kinki region, the major cities of Kyoto, Osaka, and Kobe were hardest hit, showing mortality by far higher than for Tokyo and Nagoya. This region suffered the most in Japan during the Early Epidemic.

Newspaper reports of the epidemic in this region, most notably the three major cities, are so numerous that it is impossible to introduce them all. The earliest articles published in the region appeared in Shiga prefecture. In Kyoto prefecture, from around 18 October, schools began to close because of influenza outbreaks, according to the *Kyōto hinode shinbun*, and the paper on the 19th reported the closing of elementary schools in the city of Kyoto itself. On the same day, the paper reported that from around 5 October, at the Tōyō Spinning plant in Fushimi (Kyoto) there were “many cases of high fever among the male and female workers,” so it appears that the influenza had begun to spread in this region from early October.

On 22 October, the *Ōsaka Mainichi shinbun* reported that elementary school pupils in the city of Osaka showed symptoms of influenza, and infection then spread rapidly. On the 29th it reported that not only elementary schools were closed but that more than 450 out of 2,000 trolley drivers had not reported for work; the situation was about the same for telephone operators.

In Hyōgo prefecture, the *Kōbe shinbun* reported in its 24 October edition about the first cases of influenza at the Kakogawa Nippon wool textile plant, and on the 26th the paper described the numerous cases at many factories around the prefecture. By the end of the month, the epidemic had spread even to the remote countryside of the prefecture, and in a 2 November article in the *Kōbe shinbun*, only six of all the elementary schools in the city of Kobe remained open.

Around the same time, influenza had spread widely in the city of Kyoto, and, as reported in the *Kyōto hinode shinbun*, work began to come to a halt as absences increased among factory workers and craftspeople making Kyoto specialty products, such as in the city’s Nishijin center of silk textile production. More than half the nurses at Kyoto’s hospital for infectious disease had contracted influenza themselves, making it all the more difficult to take care of victims. The paper also reported that the epidemic had spread throughout all of Shiga prefecture. Deaths in Kyoto were reported continually from the beginning of November. On 1 November alone the Nishijin police district reported nine deaths and the Nakadachiuri police district reported 14. The 6 November article in the same newspaper, under the headline “Many in Their 20s Die of Flu,” tells us something about the age of those dying of influenza between 1 and 4 November. The city at that time consisted of the Kamigyō and Shimogyō wards, and the number of deaths

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12 Consists of the metropolitan prefectures of Kyoto and Osaka as well as Hyōgo, Shiga, Nara, and Wakayama prefectures. Here I rely on the *Kyōto hinode shinbun*, *Ōsaka Mainichi shinbun*, and the *Kōbe shinbun*.

in Shimogyō ward for those four days was 292, with 179, or 61 percent, appearing to have died of influenza. The data given in the article also indicates that more than half of the deaths due to influenza were people in their twenties through forties, age groups in which mortality is normally low.

With the sharp increase in deaths where related persons were living, the three crematories in the city of Osaka were swamped. Each of these facilities normally cremated an average of 70 to 80 bodies per day but now had to deal with an average of more than 120, and the coffins were soon piled up. When the funeral hall and crematorium workers themselves contracted influenza, it became even harder to cremate the dead. Under these circumstances, many chose to send the bodies of their deceased to the countryside where they had originally lived, and cases of dispatch of coffins through Osaka station greatly increased. On 5 November, all the elementary schools in the city of Osaka were closed. On 4 November, a certain professor at the Osaka University Hospital died of pneumonia resulting from influenza. When, in accordance with his will, an autopsy was conducted, it was found that his lungs had been entirely affected.

Nowhere within the city limits or in the areas surrounding Osaka was immune to the deadly infection. Secondary schools also began to close. On 12 November, 419 people died in the city of Osaka (292 of them from influenza); mortality in the city peaked on that day, but gradually decreased in the latter part of the month. In the wake of the epidemic, it was found that many of the city's school teachers had died, an average of about one per school, and a total of more than 110. An editorial in the *Ōsaka Mainichi shinbun* (23 November) decried this situation as a reflection of the poor conditions under which teachers had to work. The epidemic then passed its peak and the situation began to improve.

The swamped condition of the crematories was the same in Kobe. The *Kōbe shinbun* reported how more than 100 bodies of the deceased were brought in at both of the city's two crematories, at Yumeno and Kasugano, far overwhelming capacity. Internment was considered in lieu of cremation, but extra ovens were quickly built, so the situation was kept under control. By the middle of November, the pace of the epidemic had slowed, and the schools began to reopen. However, about one third of the telephone operators were still out sick, so the operators who had remained healthy were asked to work more hours and offered special wages for overtime to tide over the crisis (*Kōbe shinbun*, 11 November).

In Kyoto as well, while the epidemic raged until the middle of November, finally in the 16 November edition of the *Kōbe shinbun* we find a headline with the words "Mortality Gradually Decreases." From then until the end of 1918, there were occasional reports of outbreaks, but not to the grave extent experienced earlier. In the city of Kyoto, then, the epidemic began around 20 October and lasted for about one month to the middle of November. The same applied in the cities of Osaka and Kobe. In the

outlying rural areas around these cities, as well as in neighboring Shiga prefecture, the dates of the outbreak and the end of the epidemic varied widely. For example, as late as 20 December, a new outbreak of influenza was described at a silk-reeling factory in Shiga prefecture's Hachiman-chō. The elementary school in the rural township of Gamō was closed after a number of people contracted influenza. The same was true in rural Osaka and Hyōgo prefectures, with scattered cases reported for the rest of 1918.

During this time, the newspapers continued to report on the epidemic in other parts of the world, on discussion in Japan about the source of the infection, vaccines and drugs to combat it, and discovery of new methods of treatment for patients.

#### *Resurgence in 1919 Differs by Area*

The following year, however, influenza began to spread once more in the Kinki region. Still, the virulence of the outbreaks was not as serious as had been the case in the autumn of 1918, and the reports do not record any clear reasons for the recurrence of outbreaks. The 18 January *Ōsaka Mainichi shinbun* headline read “Flu Rebounds: Outbreaks May Rage in February.” The article cites the chief of the Sanitation Section of the Osaka Prefectural Government as saying that already more than 20 people per day were dying from influenza in the city of Osaka. The 6 February edition reported that between 22 January and 4 February, 83 deaths had been reported at an Osaka hospital.

In Kyoto prefecture newspaper articles published in 1919 about the influenza, outbreaks appear to be rather scattered—by far fewer than during the previous autumn, and taking up much less space in the news. The 20 January edition of the *Kyōto hinode shinbun* reported outbreaks of influenza in the Fushimi area (southern part of the city of Kyoto) and the following day the paper announced the recurrence of outbreaks within the city of Kyoto.

One particular article, however, describes a tragic incident. The report tells how 125 silk-reeling factory workers from the village of Tsutsukawa in the district of Yosa, Kyoto prefecture<sup>13</sup> went to Tokyo on a pleasure trip on 20 January. When 25 members of the tour contracted influenza soon after arriving in Tokyo, they decided to cut their trip short and headed home, but some were so seriously affected that they had to be cared for in the nearby city of Miyazu before returning to their home village. According to the 7 February edition of the *Kyōto hinode shinbun*, in all, 76 of the group fell ill with influenza, of whom 11 died. The 13 February edition reported that the influenza subsequently spread throughout the village of Tsutsukawa, resulting in 270 cases. Perhaps because the village lay in a then-remote area where “snow accumulates in winter to a little more than four feet,” the population had been spared the outbreak that had swept this region in the

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13 Today part of the municipality of Ine, the village lies on the eastern side of the Okutango peninsula that juts into the Japan Sea on the north side of Honshu Island. In other words, this was then a very remote part of the country with heavy snows and long winters.

fall of 1918, only to be hit full force when its residents ventured forth into other parts of the country.

Combining information in the *Kyōto hinode* articles published on 25 and 27 February and on 12 March, shows the number of influenza cases in all of Kyoto prefecture totaled more than 27,000 during the two months from the beginning of 1919 until 28 February, when the raging of the flu entered a lull, and the number of deaths for the corresponding period rose to 1,451.

A table showing mortality from influenza in the fall of 1918 reported by Kyoto's police department by jurisdictional area (published in the *Kyōto hinode shinbun*, 28 November 1918) suggests that the figures were compiled when the epidemic was at its peak and that at the time mortality was falling, there were considerable differences in mortality from one part of the city to another. It shows that the areas where the epidemic claimed lives most intensely and with the longest duration centered on the Nakadachiuri and Nishijin jurisdictions, where medium-sized and small manufacturers of Nishijin fabrics and related factories were clustered together. The population of the city of Kyoto at the time was about 600,000, and, judging from the available figures, more than 100 people per day seem to have died from influenza at the peak of the epidemic in the fall of 1918.

According to figures given in the *Kyōto hinode* from 16 January and 15 March 1919, when the epidemic recurred, the figures for cases of influenza and number of deaths in the city of Kyoto and the rural parts of the prefecture during the period show that mortality in the city was much higher.<sup>14</sup>

The character of the epidemic changed after the beginning of 1919. During 1918, although many had contracted influenza, mortality had been comparatively low.<sup>15</sup> After the beginning of 1919, however, during a similar span of time, the number of people who contracted influenza dropped to one tenth, but mortality jumped more than five-fold, with close to half the number of deaths in the previous year.

In 1918, when there were far greater numbers who contracted influenza and who died as a result, newspapers had carried articles on the epidemic almost every day, devoting much space to the news, but in 1919, even though mortality had sharply risen, reporting dropped off. This may have occurred because the numbers of patients and the dead considerably decreased, but in fact the influenza of early 1919, which killed sufferers at a rate of more than 5 percent, was much more deadly.

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14 Cases in the city of Kyoto 13,891 and deaths 843; rural Kyoto prefecture cases 15,647 and deaths 759. Mortality among patients for the city would then be 61 per mil while that for the countryside was 49 per mil (from *Kyōto hinode shinbun*, 25 and 27 February, and 12 and 27 March 1919).

15 Between 1 and 10 November 1918, in Kyoto prefecture 112,427 contracted influenza and 1,325 people died from it, for a 1.18 percent mortality.

## Chūbu Region<sup>16</sup>

Influenza in the Chūbu region tended to be prevalent in smaller cities and the countryside. The feature of the influenza epidemic in this region was low mortality overall, and, with the exception of November 1918, generally higher mortality for peripheral areas as a whole in contrast to its urban areas. In other words, the influenza spread more widely not in the large cities with populations of over 100,000, like Nagoya and Kanazawa, but in smaller cities and the countryside. This sprawling region is made up of ten prefectures, which I divide into three subregions: the Tōkai prefectures along the Pacific coast, the landlocked Tōzan prefectures, and the Hokuriku prefectures bordering on the Japan Sea side of Honshu.

### *Increase of Mortality in November*

Looking first at the coastal Tōkai area, the first reports of the influenza epidemic came in the *Shin Aichi* newspaper on 20 October regarding an outbreak of high fevers among the children at an elementary school in the district of Nukata, Aichi prefecture, southeast of Nagoya. The next outbreaks to be reported were at a teacher's college in the city of Okazaki not far away to the north and the Monopoly Bureau's Nagoya factory. Influenza patients were also reported in the northern part of Mie prefecture not far from Nagoya (24 October article). By the end of October, many cases occurred in Nagoya's neighboring Biwajima-chō and in schools and ceramics factories in central Nagoya; as for cities, Toyohashi, followed by Tsu on Ise Bay, Gifu north of Nagoya, Yokkaichi (Mie prefecture), Nagoya, and Ujijamada on the Shima peninsula, in that order. The headlines to an article in the same newspaper dated 29 October reported "the 'flu demon' goes wild," in schools, businesses, and factories that had led to the virtual suspension of activities.

The *Shin Aichi*, being a semi-national paper, reported on news from outside the region as well as about conditions overseas. A 29 October article covered the tragic toll in Bombay from influenza, in which 700 people died in one day. Concerning deaths in the Tōkai region, on 28 October the paper reported the loss of one teacher in Mie prefecture and the following day it reported the loss of one student in the city of Okazaki. We also learn that absences of people who had fallen victim to influenza were affecting the business of post offices, railways, and the gas utility company, and that schools were beginning to close.

From the beginning of November, the *Shin Aichi* ran a succession of articles that recounted people dying from influenza.<sup>17</sup> The paper was filled every day with reports of

16 Chūbu consists of ten prefectures: Aichi, Gifu, Mie, and Shizuoka (Tōkai); Nagano, Yamanashi (Tōzan); and Fukui, Ishikawa, Niigata, and Toyama (Hokuriku). I referred to five newspapers: the *Shin Aichi* (Aichi), *Shinano Mainichi shinbun* (Nagano), *Hokkoku shinbun* (Ishikawa), *Toyama shinpō* (Toyama), and *Niigata shinbun* (Niigata).

17 On 2 November, ten died in the city of Toyohashi; the school doctor died at an elementary school in Mie prefecture; 17 mine workers at the Kune Copper Mine operated by the Furukawa Mining Company in Shizuoka prefecture died.

people dying in different areas and more than ten articles a day relating to influenza began to appear. Crematories in Nagoya were overwhelmed, as elsewhere, with the available ovens unable to keep up with demand. The 10 November edition reports that, according to a survey by the Nagoya Municipal Sanitation Section, the number of dead was 18 in October and as of 7 November, 230.

*The Later the More Virulent*

A decrease in the number of patients is finally reported by the *Shin Aichi* on 14 November, but that did not mean a decrease in the number of deaths. On the contrary, “it appears the influenza has grown even more deadly.” That may have been behind the reports of “even fiercer outbreaks” in Aichi prefecture’s remote Chita district and the Takayama area of Gifu prefecture, and of outbreaks and deaths in the army camps. Not just those units of the Army’s Nagoya 3rd Division that had been sent to Siberia, but the troops remaining in the home barracks were “attacked” by influenza. Aichi prefecture had a prisoner of war camp for German prisoners, who were infected as well, and ultimately three of the Germans died.

In December, influenza continued to spread. With new recruits entering the army camps on 1 December, those recruits from the countryside who had not suffered from influenza before did not have immunity, and they were infected immediately after enlisting; some of them died. This problem grew even worse the following year, but had already emerged at the end of 1918 (14 December article). A 17 December article tells of the “battle-front like scene in the army hospital” crowded with influenza patients. This situation was not limited to Nagoya.

*Heavy Toll in Silk-reeling Factory Areas*

Next, let us look at the inland part of this region centering on Nagano prefecture—the Tōzan area. The first reported instance of cases of influenza in Nagano prefecture appeared in the 23 October *Shinano Mainichi shinbun* under the headline “‘Sumo Disease’: Also Reported at Nagano Commercial School,” where students began to be absent in large numbers because of “colds.” The “sumo disease” (*rikishi-byō*) was the term that had come into use at the time of the “herald wave” of influenza that had hit Tokyo in May, believed to have originated with sumo wrestlers, as discussed earlier. While the virus had mutated and grown more virulent by autumn, the newspapers continued at this point to use the popular term. An article published in the 26 October *Shinano Mainichi*, reporting on outbreaks in the Nagano, Matsumoto, and Ueda areas, called it the “bad cold” (*waru kaze*). The 27 October edition, using the term “Spanish cold,” reported that the infection spread through the silk-reeling factories clustered in the area around Lake Suwa, with 50 to 100 workers contracting the flu at each factory. On 29 October the paper reported on the death of a student at the Nagano Middle School, saying that schools around the region began to close.

Regarding the influenza epidemic in Nagano prefecture, a relatively recent study was conducted by Maezawa Takeshi, who relied for source material on the *Nanshin nichinichi shinbun*, the newspaper that was sold in the southern part of the Ina Basin, centering around Iida, in southern Nagano prefecture.<sup>18</sup> The following is a summary of the findings of this study on the epidemic in the Shimo-Ina (Lower Ina) area. The influenza appeared there on 27 October 1918 when 20 out of the 92 staff of the Iida Post Office were absent from work with the flu. The 30 October *Nanshin nichinichi* reported that the infection had spread among silk-reeling factories in the town of Iida from 26 October, and starting on the 30th, the elementary schools had begun to close. The boys' middle and the girls' higher school soon followed suit (Maezawa shows the locations of the schools that closed and the duration of each school's closing at the end of his study). Not all the schools were closed for the same period; some were closed for ten days or more, others for only about four days.

Regarding the rate of infection, Maezawa found that in the first part of November, of 2,298 students at the Iida Elementary School, 29.8 percent or 677 students were infected. The rate was much higher, 50 percent each, at the Tatsue and Shimo-Seinaiji elementary schools. As for mortality, he found that from 1 to 18 November, 73 deaths had been reported to the Iida municipal office, of which a little over 50 were due to influenza. The population of the municipality of Iida in late 1918 was 17,795.<sup>19</sup>

In December, the number of articles in the *Nanshin nichinichi* dwindled, suggesting that the epidemic had subsided. Maezawa believes influenza broke out in the flatlands of Iida and along the Tenryū river, and in due course spread into surrounding mountain areas. In December and thereafter, only scattered articles appeared about influenza, but no very serious outbreaks were reported. As of February 1919, the number of cases of influenza reported in the Iida police jurisdiction was 57,885, and the number of those who had died from influenza was 510, for an 8.8 per mil mortality, which is quite low by comparison with that I found for the city of Kyoto. I would surmise that the difference in population density has something to do with the disparity in mortality.

Returning to Nagano prefecture as a whole, headlines begin to appear in the *Shinano Mainichi* from early November about an outbreak of "bad colds" that forced many silk-reeling factories to close. One report published on 6 November indicated that the influenza had gradually grown more virulent, resulting in higher infection and mortality. On the 8th, it was reported that workers at silk-reeling factories in the Okaya area on the northwest coast of Lake Suwa had collapsed and some had developed pneumonia and even died. Earlier, on 6 November six people had died from influenza at one factory. Initially the infection spread mainly in urban areas, but gradually it filtered out into

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<sup>18</sup> Maezawa 2005.

<sup>19</sup> *Nihon Teikoku jinkō seitai tōkei*, 1918, p. 88.

rural areas and a 16 November article reported 96,000 cases throughout the prefecture. Among the worst affected was the group of silk-reeling factories clustered in the Lake Suwa region. No doubt the interior of the factories, where the air was thick and full of fibrous dust, provided ideal conditions for the spread of the virus.

Then, on 11 November, a fairly strong earthquake measuring magnitude 6.1 occurred along the Fossa Magna fault running through the Ōmachi area north of the city of Matsumoto.<sup>20</sup> The quake damaged even the relatively well-built middle school buildings and caused landslides. Many stayed outdoors day and night because of frequent aftershocks. The train line from Matsumoto came to a halt, causing shortages in the supply of food and medicines, and resulting in “the death of many influenza patients whose symptoms only grew worse due to evacuation.”<sup>21</sup> For the residents of the area, it was one disaster after another.

The spread of influenza in Nagano prefecture began to subside from around 20 November, with the first report in the *Shinano Mainichi* that “deaths decrease” appearing on that date. By 21 November the count of those who had contracted influenza stood at 100,829 and deaths at 1,471 (end of 1918 population of prefecture estimated 1,526,100). In the mountainous areas of the Ina valley and Kiso, however, because the spread of the epidemic had come somewhat later than elsewhere, its end was delayed, with reports of infection and death continuing even into December.

Many recruits who had joined the 50th Infantry Regiment at Matsumoto on 1 December were reported as being in the army hospital with influenza and three died (*Shinano Mainichi*, 9 December). This was an area in which each year several thousand female factory workers would migrate from their homes in the Ina area to work in the Suwa silk-reeling factories, but with the spread of influenza among the workers and many deaths reported, fewer applicants than in normal times answered the factories’ efforts to recruit workers. The same article reported on the resulting shortage of workers in the mills. As this suggests, the Early Epidemic in Nagano prefecture continued for a long time through 1918, and even into 1919, influenza was reported to be widespread throughout the prefecture. The 27 February 1919 *Shinano Mainichi* published a “prefectural survey” reporting on the impact of the pandemic by city and district (*gun*) as of 31 January, tallying 622,533 cases and a total of 6,051 deaths. The figures show that mortality was actually lower in urban areas of the prefecture.

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20 Usami 1975, pp. 157–60. There were two major tremors, once early in the morning and then again in the evening, and apparently the shaking was severe. The early morning tremors were felt from Niigata on the north side of Honshu to Hamamatsu on the south side, and the evening tremors were felt from Tokyo through the region as far south as Lake Biwa (Shiga prefecture). Near the epicenter in Ōmachi, the earth rose as much as nearly 20 centimeters. Six houses collapsed completely and more than 300 were partially damaged. The *Tōkyō Asahi shinbun* reported 15 November 1918 about “the terrible conditions in the quake-affected area, the shortage of food, threatening starvation, and the afflicted without shelter suffering from exposure.”

21 Usami 1975, p. 160.

*The “Bird Flu”*

Regarding the pandemic in the Hokuriku area of the Chūbu region along the Japan Sea side, detailed reports appeared in the *Hokkoku shinbun* and the *Niigata shinbun*, along with the *Toyama shinpō*. The first article regarding influenza appeared in the 24 October edition of the *Toyama shinpō* reporting on a rash of absences of workers in offices of the prefectural and municipal governments and local industry. Regarding school closings, the earliest were the closing of a girls’ school in the city of Nagaoka as reported 26 October (*Niigata shinbun*) and of an elementary school in the city of Kanazawa on 27 October (*Hokkoku shinbun*), indicating that this result of the pandemic came comparatively later than in other parts of the country.

The first articles about influenza mortality appeared on 1 November in the *Niigata shinbun*, reporting the deaths from influenza of two small children of the same family on 29 and 30 October in the town of Muramatsu. On 10 November several persons died in Ishikawa prefecture. The 10 November edition of *Hokkoku shinbun* reported that mortality in normal years for the township of Komatsu was about one per day, but for 1918 with the spread of cases of the influenza-associated pneumonia, it had risen to two to three people per day.<sup>22</sup> From then on articles continued to appear reporting on deaths from the influenza in Ishikawa prefecture as a whole and the city of Kanazawa in particular. On 12 November alone, 50 deaths had been reported to the city authorities, a very large number for a city with a population at the time of 150,000. In Kanazawa alone, 78 percent of children at elementary schools in the city were said to have contracted influenza (report of 16 November).

The outbreaks of influenza that had occurred mainly in Kanazawa and surrounding flatland areas gradually spread into the countryside and mountainous areas, prompting numerous reports of school closings and deaths. The local tourist industry, centering on the prefecture’s well-known hot spring resorts, was hard hit. A 16 November article in the *Hokkoku shinbun* reported that, “visitors from the Kyoto, Osaka, and Nagoya areas, who usually occupy the bulk of tourists, have drastically decreased.”

Among the articles printed around this time, one in particular stands out for its mention of “influenza among chickens” (*Niigata shinbun*, 18 November 1918). The article explains that many chickens on poultry farms were developing symptoms of “what is similar to an influenza,” but that the report calls “bird diphtheria.” Poultry farmers are instructed to check their fowl by opening their beaks and examining the base of the bird’s tongues. If they find a thin membrane at the base of the tongue and gullet, they were told, the mucus should be removed using tweezers. At the time, it was not known, as it is today, that the influenza virus could be transmitted between birds and humans; no one can be blamed for not recognizing the connection between the sick chickens and the epidemic then spreading among humans.

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22 The population of the township of Komatsu was recorded as having been 14,781 at the end of 1918. See *Nihon Teikoku jinkō seitai tōkei*, 1920, p. 111.

*Sado Island Besieged*

The first article mentioning that the influenza epidemic in the city of Niigata was subsiding appeared in the 22 November 1918 edition of the *Niigata shinbun*. But an article on the 23rd said that influenza on the large island of Sado (45 km. northwest of Niigata city) “has yet to wane” and mortality in the district of Kita-Kanbara (just north of Niigata city) continued to increase (24th). At this time, influenza was still raging on Sado and in the countryside, although the 24 November paper reported the sad story of a husband and wife who were teachers at an elementary school in the city of Niigata who both died from influenza.

The epidemic finally subsided in Niigata in the latter part of November (*Niigata shinbun*, 26 November), but the 29 November edition ran a grievous report from the village of Ōkanbara, southeast of the city, where an entire family of four died between the 26th and 27th.

As the report that the outbreaks of influenza in Niigata prefecture were finally on the wane appeared in the 16 December newspaper, a new outbreak occurred in the local army barracks. The 19 December paper reported that, as seen in other areas, influenza had hit the new recruits who joined the Shibata Regiment there, and nine recruits had died. The reports indicate that there were 394,000 cases of influenza and 4,763 deaths in the prefecture between October and the year’s end, but given that the prefectural population at the time was 1,916,000, these figures seem to be a bit low.

Regarding the western part of the Hokuriku area (Ishikawa and Fukui prefectures), spread of influenza in the city of Kanazawa continued to be serious even in the middle of November. Nearly half of the telephone operators were out sick and the crematories were swamped (*Hokkoku shinbun*, 17 November 1918). Around the same time in Fukui prefecture, outbreaks in urban areas were subsiding, but influenza was raging fiercely in country areas (19 November). The 21 November *Hokkoku shinbun* edition carried an article which, under the headline “Whole Village Succumbs to Flu,” reports a serious development in the area of the Omodani Mine run by the Mitsubishi Mining Company in the mountainous upper reaches of the Kuzuryū river of Fukui prefecture. Of the population of the village of Omodani of some 1,000 people, 980 had fallen ill, and 70 had already died as of that date with another 70 near death.

In Toyama prefecture, a 23 November *Hokkoku shinbun* article stated that in the three weeks between 20 October and 10 November alone more than 200,000 of the prefecture’s population of 840,000 had contracted influenza. It indicated that about 75,000 had consulted a doctor and that some 800 had died. The business of the Toyama medicine industry<sup>23</sup> had tripled as of the end of November (3 December article).

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23 Toyama is known for the manufacture of medicine and its traveling medicine salesmen (*Toyama no kusuri-uri*) who delivered traditional and patent medicines to customers throughout the country.

*Life Insurance Sales Opportunity*

An article published on 3 December in the *Hokkoku shinbun* gave the figure for deaths in the city of Kanazawa in November at 538, which were 307 more than for the corresponding period of the previous year. We may surmise that the difference was due to the spread of influenza. An article published on 28 November noted that at least in the case of the city of Kanazawa, the increased number of the deceased had not had a major impact on the insurance companies. Only four of the people there who had been insured by the big three (Teikoku, Meiji, and Nippon) life insurance companies of the time died of influenza, and even for the other 12 insurance companies the number was only 19. These figures suggest that the use of life insurance was not widespread in the city at that time. The article says that the epidemic offered a prime opportunity to convince people of the need for life insurance policies. In Tokyo, meanwhile, the impact of the epidemic on the insurance companies was likely much greater because use of life insurance was much more widespread there.

The influenza epidemic in the Hokuriku region did subside after the beginning of December, but as was the case with other regions, when a new crop of recruits joined the Toyama Regiment in December, it flared up again. A 15 December report indicates that, while none of the second-year soldiers fell ill, 134 recruits of the regiment contracted influenza and one died, suggesting that these recruits had not developed immunity.

**Kantō Region**<sup>24</sup>

Newspaper reports on the influenza epidemic in the Kantō region tend to concentrate on Tokyo metropolitan prefecture and the city of Tokyo; reports on the surrounding prefectures are not detailed. We can learn about the details for Kanagawa prefecture and its capital city Yokohama, however, from local newspapers published there and reports from the prefecture's Sanitation Bureau, so I will take up those areas later in Chapter 8.

The first article about the influenza epidemic in the Kantō region appeared in the *Jiji shinpō* on 13 October 1918, reporting that, starting on the 9th of the month, cases of an "infectious cold" had broken out at Odawara Middle School in Kanagawa prefecture, southwest of Tokyo, and "nearly half its 200 dormitory students have come down with the flu." On the same day, in the Gunma prefecture city of Maebashi north of Tokyo, the *Jōmō shinpō* reported cases of what was called cerebrospinal meningitis. Given that the infection was extremely virulent and that doctors were unable to easily identify the cause, there is a very good possibility that it was influenza.

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24 The Kantō region consists of the metropolis of Tokyo and Kanagawa, Saitama, Chiba, Ibaraki, Tochigi, and Gunma prefectures. This section is based on articles appearing in the *Tōkyō Asahi shinbun*, *Yomiuri shinbun*, *Jiji shinpō*, *Miyako shinbun*, all published in Tokyo, and the *Yokohama bōeki shinpō* (Yokohama), *Shimotsuke shinbun* (Utsunomiya [Tochigi]), and *Jōmō shinpō* (Maebashi [Gunma]).

Regarding Tokyo, on 24 October the newspapers reported influenza outbreaks, trumpeting its rapid spread at the boys' normal school in Aoyama and at the women's normal school in Koishikawa in headlines like "Schools Close Due to Flu: Infection Very Potent" (*Tōkyō Asahi shinbun*), "Flu Rages On: More than 200 Normal School Boy and Girl Students Suffer" (*Yomiuri shinbun*), "Virulent School Flu" (*Jiji shinpō*), and "Schools Close Due to Flu Outbreaks" (*Miyako shinbun*). In fact, the influenza virus must have entered the city some days before and begun to prey silently on the respiratory tracts of its citizens.

From the following day, 25 October, the articles register awareness of the seriousness of the situation. The Ministry of Home Affairs issued an official notice to all prefectures, warning that this flu, which it said was known as "Spanish influenza" overseas, had taken a terrible toll in other countries around the world. Since there was no known treatment and the pathogen that caused it had not been identified, however, the officials could offer no instructions other than the formulaic advice to "provide appropriate treatment" (25 October 1918, *Tōkyō Asahi shinbun* and other newspapers). From this time on influenza was popularly called "Spanish cold" (*Supein kaze*).

Throughout October, most of the reports on influenza focused on its spread, school closings, cancellation of school field trips, and absences of factory and office workers, along with its impact on public transportation and communications services; but there were few articles mentioning anyone dying. After the beginning of November, however, we can detect a sharp increase in mortality from a 5 November article in the *Miyako shinbun* headlined "Crematories at Full Capacity: Half Died from Influenza." The article recounted how "an endless stream of the bodies of those who died from the epidemic flows into Tokyo's four crematories at Sunamura, Machiya, Kirigaya, and Ochiai. . . . The crematories have announced that they are booked to capacity and asked people to apply three days in advance for a cremation. More than half of the deceased from the epidemic, it is said, perished from complications of pneumonia and meningitis resulting from influenza." At this stage, none of the newspapers reported anything about deaths among residents of Tokyo, but we can see from the state of the crematories that the influenza virus had sunk its talons silently and deeply into the Tokyo population.

That reality began to get attention on 6 November in the headlined reports of the death before dawn on the 5th of well-known author and playwright Shimamura Hōgetsu (1871–1918). Hōgetsu had contracted influenza on 29 October at the headquarters of the independent Geijutsuza theater group in which he was active at the time and died there within a matter of days (for details, see Chapter 8).

On 9 November the *Tōkyō Asahi shinbun* published a statement by the head of the Metropolitan Police Department Sanitation Division that of 4,031 deaths in October, 95 had been from the influenza, 79 from bronchial catarrh, and 308 from pneumonia. 15 percent of the deaths, in other words, were related to the spread of influenza. This

indicates that mortality resulting from influenza had already been on the rise in October, so we even begin to suspect something intentional on the part of the papers in not mentioning the death toll. Yet even at this serious stage of epidemic, the number of articles in any of the main newspapers about the conditions of the epidemic in the city was curiously small. On the other hand, a quite large number of articles appeared in the newspapers concerning other countries and other prefectures in Japan itself. One wonders if it had something to do with some sort of editorial responsibility as “national” papers. Or was there some other reason, perhaps?

It was not long, of course, until the situation could no longer be ignored, and reports of deaths in the city of Tokyo suddenly began to make headlines. One report gives the number of deaths for the four days between 1 and 4 December for some of the wards of the northeastern part of Tokyo: Honjo 143, Asakusa 137, Fukagawa 97, Shitaya 91, and Ushigome 46 (*Miyako shinbun*, 8 November), but how many of these were due to influenza is not made clear. In an article appearing in the same newspaper on the following day, however, the Metropolitan Police Department Sanitation Division chief was cited—as evidence of the intensity of influenza—as saying that in the first five days of November the percentage of deaths from influenza and its complications had jumped to 26 percent.<sup>25</sup>

The 15 November *Miyako shinbun* article headlined “Influenza Subsides” was very small, but reported that the average daily number of deaths in the first part of November had been between 230 and 240, but had dropped to between 150 and 160, and that some of the schools that had closed had begun to reopen. At around that time doctors centering on specialists at the Imperial University of Tokyo and at the Kitasato Institute<sup>26</sup> debated about the pathogen causing influenza at the university lecture hall, and on 1 November talks and lectures were held on the subject at the general meeting of the Japan Medical Association.

### *Hundreds of Thousands Contract Influenza*

Now let us look at the situation in Tochigi and Gunma prefectures. The first report of infectious cerebrospinal meningitis in the city of Maebashi appeared on 13 October in the *Jōmō shinpō*, but after the afflicted patient died on the 14th (reported on the 15th), no similar reports were seen for some time. On 26 November, however, an outbreak of

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25 The influenza epidemic affected human affairs in all manner of unexpected ways. One example can be seen in the headline “Curse of the Flu: Public Baths Suffer Heavy Blow” (*Yomiuri shinbun*, 9 November 1918) reporting that users of public baths had dropped by half, or even two-thirds, forcing some of the baths to temporarily close their doors.

26 Founded by physician and bacteriologist Kitasato Shibasaburō (1852–1931) after the Institute for Study of Infectious Diseases, which he had founded in 1891 with the assistance of Fukuzawa Yukichi, was incorporated into the Imperial University of Tokyo in 1914. Kitasato was the first president of the Japan Medical Association.

influenza hit the elementary school in the township of Itahana (in present-day city of Annaka, southwest of Maebashi) and the school was closed. After that, influenza spread through many parts of Gunma prefecture and more schools were closed. An article on 30 October in the *Jōmō shinpō*, headlined “Virulent Influenza Runs Rampant: Sharp Increase in Mortality of Patients with Complications from Flu,” testifies to the worsening situation. The shortage of coffins at crematories, as we saw in other parts of the country, was a problem in Maebashi as well. The paper reported on the 31st that the epidemic had spread throughout the prefecture.

After the beginning of November, the reports reflected the increasingly grave situation and on 7 November, the prefectural Sanitation Department reported figures based on a survey made in early November: 45,212 influenza patients, of whom 146 had died; another 186 had died in cases of influenza-associated pneumonia, so there were a total of at least 332 deaths from influenza. The report noted that since influenza was not among the diseases that were required to be reported to the authorities by law, the above figures were taken from among only those who consulted a doctor; it estimated that several hundreds of thousands of people had suffered from influenza since the epidemic began.

On 10 November, a *Jōmō shinpō* report says that “Mortality is steadily increasing,” and emphasizes especially the high number who have died from influenza-associated pneumonia. The situation had reduced the workforce at the post office practically to half in the southeastern Gunma city of Tatebayashi. Telephone calls went unanswered for a while. Finally, the paper reported, work was resumed, but the delivery of mail and telegrams was much delayed.

By the latter part of November, the epicenter of the epidemic had shifted from urban and flatland areas to the mountain areas (17 November, *Jōmō shinpō*). As of 14 November the number of dead for the city of Maebashi (population then 58,320) stood at 109, of whom 49 had died of the influenza epidemic; of 40 people who had died between the 8th and the 14th, 21 were victims of influenza, indicating that the virus was responsible for half of deaths.

#### *Influenza and the Shortage of Eggs*

In Tochigi prefecture, beginning with an article in the *Shimotsuke shinbun* on 21 October 1918 about the severe outbreak of influenza among students at the Prefectural Girls’ High School, reports of outbreaks in different parts of the prefecture continued to come out until the end of the month. Although by no means limited to Tochigi, deaths from influenza that year had been generally thought to be small in number (as reported in the 3 November edition), but even if mortality is low, when the number of patients rises, the number of deaths naturally rises. In the city of Utsunomiya, as in other urban areas, the crematories found they had to perform many more than the prescribed number of cremations, and were often backlogged (3 November).

The *Shimotsuke shinbun* reported on flu patients at an elementary school (3 November) and in the dormitory of a school of agricultural and forestry (4 November) in the Tochigi town of Yaita in the district of Shioya, near Fukushima prefecture. The 1 December edition carried the story of several members of a family who died all at once of the infection, and in the neighboring village of Ōmiya, shopkeepers who fell ill closed their shop doors and remained in their beds. The paper also recounted how so many postal workers contracted influenza that collection and delivery of mail was delayed (4 November).

Amid the continuing reports in the *Shimotsuke shinbun* of the spread of the epidemic in different parts of Tochigi prefecture—sometimes also touching on conditions in neighboring prefectures—came a small article on 14 November titled “The ‘Karasuyama flu’ and Eggs” noting that the price of eggs had risen sharply. The cause given was the shortage of eggs. We can presume that the shortage occurred because the production of eggs declined due to influenza among the hens. From the perspective of what we know today, the virus had made the jump from humans to birds and spread among the hens on the egg farms.

Well into the latter part of November, the human influenza epidemic continued to rampage through the northern part of Tochigi prefecture, causing for example the death of one of the leaders of a certain village (24 November). The number of dead in Tochigi’s main city, Utsunomiya, as for Gunma’s capital, Maebashi, was double the previous year (6 December). On top of this came the outbreak of influenza among the new recruits of the Utsunomiya Division of the army; of 98 patients in the local army hospital, 23 died.

As indicated by the fact that the first notice in headlines that outbreaks of influenza were subsiding in Tochigi comes on 27 December, it appears that among areas in the Kantō region, the epidemic extended over quite a long period in the prefecture—from October through the end of December, in some areas even into the following year. One reason may have been because it is the home of the Ashio Copper Mine, and many of the miners came down with influenza and mortality among them was high, as in other mines. Outbreaks continued there until the following year.

#### *A Valuable Doctor’s Record*

In research on the Early Epidemic, Tochigi prefecture is known as the source of a valuable document written by Gomibuchi Ijirō, a doctor with a private practice in the above mentioned town of Yaita in the district of Shioya. His book, titled *Taishō 7–8 nen no sekaiteki ryūkōsei kanbō no kenbunroku: Narabi ni kore ni “jifuteria” kessei o ōyō seru chiryō jikken* (A Personal Account of the World Influenza Epidemic of 1918–19: With Remarks on the Use of Diphtheria Serum).<sup>27</sup> This document appears to be the only available record

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<sup>27</sup> This 26-page document was published by Nankōdō (Hongō, Tokyo) in May 1919. I used a copy in the National Diet Library.

by a physician about the influenza epidemic in Japan. Its content is summarized in Sugaya Norio's book on the subject,<sup>28</sup> and internationally, New Zealand scholars Edwina Palmer and Geoffrey W. Rice have made the content of this document accessible in English in their article "A Japanese Physician's Response to Pandemic Influenza: Ijiro Gomibuchi and the 'Spanish Flu' in Yaita-cho, 1918–1919."<sup>29</sup>

Dr. Gomibuchi first learned of the incursion of the "Spanish flu" in the town of Yaita when on 26 October 1918 he diagnosed students of the Yaita School of Agriculture and Forestry who had been on a field trip to Tokyo. His account then tells of how, on the 28th he diagnosed cases in employees of the Yaita railway station and the town hall. Soon after that, it recounts, the outbreak began to spread rapidly, sweeping through elementary schools and among residents of the town. In many cases whole families were bedridden at the same time. Some patients developed pneumonia and many of them died, and the virulence of the flu seemed to increase, becoming even fiercer by the middle of November.

He tells of how, in the neighboring village of Kataoka, in a hamlet of about 110 households called Yasuzawa, 30 people died in November and December. On his rounds to visit patients Gomibuchi would encounter funeral processions and hear the wailing of family members as they sought to prevent their loved ones from passing through death's door. One day when he returned home, he found that the 15-year-old girl he had hired as a nanny was in serious condition and, by the next morning she was dead.

Dr. Gomibuchi recorded the condition of his patients in detail, and the symptoms are typical of the "Spanish influenza." His idea, however, was that the ailment was caused by a diphtheria-type of bacillus. Between 8 December 1918 and 11 March 1919, he administered diphtheria serum injections a total of 214 times to 99 patients. Of the 99, two died, and four more died before he could administer the full series of injections, for a total of six deaths. He writes that he gave the injections "multiple times for the more seriously afflicted patients." Even before he gave the injections to his patients, after developing a fever himself after returning at night from his rounds on 8 December, he gave himself the serum injection. He also used the injection when his younger sister fell ill on the 16th.

By today's standards of medicine, of course, Gomibuchi's treatment might not seem commendable at all. But as he observed patients in agony every day and saw them die before his very eyes, what he did does show his fervent hope of using his medical knowledge to save patients by whatever means possible. How to judge the fact that 6 percent of the "more seriously afflicted" patients died is a dilemma, but we can readily imagine this country doctor, bicycling through the fields to visit patients, and keeping up his solitary

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28 See Sugaya 1999, pp. 12–15.

29 Palmer and Rice 1992b.

battle against a cruel microbe. There may very well have been other physicians like him in other parts of the country, but his is the only known record of those who tried to fight back against the influenza.

*Survivors of the Autumn 1918 Outbreaks Succumb*

Having spread widely from October 1918 onward, the outbreaks of influenza appeared to subside for a while after the beginning of December. People were reminded of its dreadful impact in events after the New Year 1919, including the suicide of Matsui Sumako, popular actress and mistress of the above-mentioned leader of Japan's modern theater world, Shimamura Hōgetsu. The number of people who developed pneumonia from influenza and then died began increasing in January. Even in the average year, there were outbreaks of respiratory ailments during the winter months and mortality from such ailments was fairly high, but in late January into early February, a new outbreak of influenza began to strike people who had managed to survive the outbreak in autumn of the previous year. Those who had not developed immunity to the virus were now easy prey; among these, a high percentage died. In late January the newspapers in Tokyo reported on the latest rampage of the flu with headlines such as "World Influenza Strikes Again: New Cases at Universities and Research Institutes—But Less Virulent Than Previously" (*Yomiuri shinbun*, 20 January), "Flu Recently Renews Its Rampage" (*Miyako shinbun*, 22 January), "Renewed Attacks of Influenza on Elementary School Children" (*Jiji shinpō*, 31 January).

The increasing seriousness of the epidemic in Tokyo is reflected in the 25 January report in the *Miyako shinbun* noting that those who contracted the flu were primarily those between ages 15 and 40. On the following day the same newspaper reported on the scarcity of nurses available for care of the sick. During January, the *Jiji shinpō* newspaper had reported on the epidemic overseas, in other prefectures, and on-board ships, but by February its articles have turned to detailed reports of conditions in Tokyo. The 1 February article notes that "there is a huge backlog of coffins at the crematories as those dying of influenza increase day by day." The coffins of the dead piled up, overwhelming the capacity of the crematories in Tokyo prefecture, which were running two shifts per day, and often with a backlog of several hundred. The article says that the crematories have asked permission from the Tokyo Metropolitan Police Department (TMPD) to operate night and day.

On 3 February, the headline of the *Tōkyō Asahi shinbun* report on the situation in Tokyo read "Fierce Influenza Hits: 1,300 Dead Prefecture-wide in the Past Two Weeks." A TMPD official is quoted giving figures for number of deaths<sup>30</sup> and warning

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30 "The number of deaths from influenza between 11 to 20 January was 289 and 417 died from influenza-associated pneumonia . . . Between 21 and 25 January, a further 202 died from influenza and 406 from influenza-associated pneumonia (*Tōkyō Asahi shinbun*, 3 February 1919).

of the extreme virulence of the influenza. The intensity of the symptoms appears to have increased, with patients developing pneumonia immediately after symptoms first appeared, and resulting in a sharp increase in mortality, the official said. Hospitals were overflowing and starting to turn patients away, according to the article.

The 4 February edition of *Jiji shinpō* reports that the TMPD authorities could only look on helplessly and schools were closed throughout the city of Tokyo. The paper also cites an education ministry health official as saying, “We lately have received investigation reports concerning the influenza from the villages, towns, cities, and prefectures across the country, and according to those reports, the influenza appears to be not as fierce as last year.” Aside from those who died, there were perhaps fewer flu patients because of a large presence of those who had gained immunity. Toward the end of the month the *Jiji shinpō* headline finally announced that the epidemic seemed to be subsiding.<sup>31</sup> An article reporting on the spread of influenza among the horses of the army cavalry speculates that the cause is the same pathogen that has been attacking humans.<sup>32</sup> This report suggests the possibility of transfer of influenza virus from humans to horses, a notion that was considered out of the question in those days.

#### *Response in Tokyo and Tokyo Prefecture*

One wonders why the city of Tokyo and Tokyo prefecture did not take more decisive steps to stem the epidemic. The truth is that the authorities probably had no idea what they *should* do. On 5 February, the mayor of Tokyo issued a notice advising citizens to observe cleanliness, both personal and in homes and offices; to avoid crowds; to frequently rinse out their mouths; and to quarantine patients. Regarding this notice, I reflected that, should a new-type influenza epidemic break out in Japan, this is exactly the kind of advice that would be issued by informed people. Even after the passage of 90 years, these points may still be the basic means we have of preventing an epidemic.

Tokyo City Hall brought in specially appointed school doctors to take the lead in instituting unified measures to prevent infection in the public schools in the city. These doctors made the rounds of the schools to speak about the subject and disseminate information about prevention and treatment. On the prefectural level, free medicines and coupons for treatment were handed out to the poor who could not afford treatment in hospitals. The effectiveness of such measures in preventing or alleviating the influenza epidemic is doubtful, but in the face of a situation where hundreds of people in the city and the prefecture were dying each day, it did represent something that the Tokyo city and prefectural officials could do. At the same, it must be noted that even until the epidemic had run its course, the theaters and movie houses were not closed.

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31 *Jiji shinpō*, 26 February 1919. The headline of this article contains the figure of 1,300,000 dead from influenza since the beginning of the epidemic.

32 *Tōkyō Asahi shinbun*, 26 February 1919.

The newspapers were full of articles about the famous people who fell ill or died, about the tragedies involving ordinary people as a result of the epidemic—the suicides or crimes committed by patients dreading their fate, and so on. Many people on the Izu-Ōshima, Miyakejima, and the other islands off the Pacific coast of the prefecture contracted influenza and there was a serious shortage of medical help, so, in response to their requests the prefectural government did arrange for doctors to be sent to those major islands (to Ōshima on 20 February and to Miyakejima on 27 February; as reported in the *Yomiuri shinbun*, 20 and 27 February 1919).

#### *Reporting in Northern Kantō*

The situation in the northern part of the Kantō region was much the same, with early reports of recurrence of influenza in Gunma prefecture coming around the middle of January (*Jōmō shinpō*, 17 January) calling attention to the large number of deaths. An article in the same paper on the 25th related the tragedy of a family in the village of Fujimi (district of Seta) who died all at once of influenza. The virus swept through every community in this relatively cold and dry region, urban or rural, without mercy, as recounted in one article:

The crematories operate without cease, even on the Tomobiki or Tora no Hi days they are usually closed,<sup>33</sup> and with every passing day two or three coffins are left waiting in the constant stream. Carpenters and laborers who see coffins off grumble about the crematory profiteers and the opportunist doctors, but even the most respected of doctors are not immune. When their wives and their children fall victim, some doctors sorely wish they could give up their profession. Then before we know it, the horror strikes close to home, and we suddenly find to our surprise that a friend's child or wife has died or members of our own households are coughing in pain. At the public bath and the barber shop people engage in conversation about the flu until they feel chills go down their spines and hurry back home, turning up their collars against the cold. Tradesmen with many customers find themselves attending funerals day after day or helping with funeral-related chores, some days attending funerals at the crematory multiple times a day. (*Jōmō shinpō*, 8 February)

The account may be a bit exaggerated in tone, but it does give a sense of the mood of the times.

The tone of the *Shimotsuke shinbun* (Tochigi) is a bit calmer, beginning with the report on 2 February of the outbreak at the Ashio Copper Mine. The report on the 7th

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33 Days according to the traditional calendar that are inauspicious days for holding ceremonies involving death.

of the month that many were dying from influenza in the city of Utsunomiya was given only very small space, and later articles, too, were of very limited length, so reporting on the epidemic in different parts of the prefecture was slim. Articles about conditions in neighboring Gunma prefecture actually received more space. Finally on 20 February, there is an excellent article with data from the report by the Tochigi prefecture's Sanitation Department stating that, "since the first outbreak of influenza, over 310,000 people have contracted the flu and some 4,000 died." According to the report, the number of dead from the infectious flu had been calculated, in an early case of application of the "excess deaths" method, by examining the difference between the mortality figures for 1917 and for 1918. The article says that victims die within six to ten days; by occupation, cases are most widespread among laborers at 32 out of every 100 and next among skilled workers at 25 out of every 100. The following day came a report that the influenza had finally begun to subside in the Koga area of Tochigi, but outbreaks continued in the prefecture until reports of Early Epidemic there ended with a report of statistics on 21 March.

### **Tōhoku (Ōu) Region<sup>34</sup> and Hokkaido**

Here I will first look at the prefectures of the northern part of Honshu Island, a region traditionally thought of as remote and even "wild," and also called the "deep north." I was unable to access the local newspaper in Fukushima prefecture, so I will begin with Yamagata prefecture, which stretches between the mountains on the east and the Sea of Japan coast on the west. The spread of influenza came late to this region, beginning around the end of October 1918. The first articles about influenza in the *Yamagata shinbun* were published in early October, but it was not until the 29th of the month that reports of actual outbreaks in the prefecture first appeared. The paper reported that day about school closings in the city of Yonezawa and the Shinjō area of northern Yamagata, and on the following day published a large piece on the closing of different elementary schools in the city of Yamagata. At the beginning of November, we find reports of outbreaks at the district of Okitama silk-reeling factories as well as in the district of Murayama, indicating that the epidemic had spread quickly throughout the prefecture. As of 3 November, however, most of the articles centered on school closings and absences in workplaces, but as yet no articles about deaths from influenza. A 4 November article reported that more than 20 of the 90-some employees at Yamagata railway station were absent from work.

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34 This region consists of the northern prefectures of Honshu: from south to north, Fukushima, Yamagata, Miyagi, Iwate, Akita, and Aomori. The newspapers I used as sources were the *Hokkai Times* (Sapporo), *Tō-ō nippō* (Aomori), *Akita sakigake shinpō* (Akita), *Iwate nippō* (Morioka), *Kahoku shinpō* (Sendai), and the *Yamagata shinbun* (Yamagata).

A 7 November report states that in the district of Murayama, influenza had gradually spread from areas along the railway lines, and many became infected, but their symptoms were comparatively light. By the latter part of November, however, articles about people dying of influenza had begun to stand out. According to a survey by the prefecture's Sanitation Department, between 1 October and 10 November, 212,227 people had contracted influenza and 172 had died, so we know from this other source that there had been already some deaths during October from this cause.

By the end of November, the tune changed completely, with headlines declaring "People Dying Everywhere from Virulent Flu: Tragedy Befalls Some Families," noting that the death toll was especially high in the district of Akumi (northwest corner of the prefecture along the Sea of Japan). The papers also reported on the horrible incident in which a man, plunged into grief at the death of his eldest son from influenza, killed his wife and remaining three children and committed suicide (*Yamagata shinbun*, 3 December). In December the infection spread through the ranks of new army recruits and as early as 11 December, it was reported, some of those in the Yamagata military hospital had died.

In Miyagi prefecture, facing the Pacific Ocean, there was a newspaper report of outbreaks in early October of the "three day's fever" in the Normal School dormitory, in the army, and in the police force, all in the city of Sendai (*Kahoku shinpō*, 12 October). Since during the initial outbreaks of spring, influenza had been called the "three day's fever," so it is quite likely that what had occurred then was also influenza. But it was not until the end of October that we see articles about the real onset of the epidemic in Miyagi. Following the *Kahoku shinpō* report of an outbreak in the Second High School and other secondary schools in the city of Sendai (30 October), schools began to close one after another around the prefecture. On 7 November the paper also described the numerous absences of switchboard operators and the slowdown of the telephone exchange.

The first reports of death from influenza in Miyagi came on 14 November when two children of the Wakuya Elementary School in the district of Tōda (north of Sendai) died. The 23 November *Kahoku shinpō* reported that 64 people had died from the flu in areas other than the city of Sendai up to that date. The following day, figures from the Sendai police department showed that of the city's population at the time of 151,857 people, 13,436 had contracted influenza. Mortality in November was relatively low and the number of cases had begun to decrease toward the end of the month, so an article on 30 November had the optimistic headline "World Influenza Subsiding: Mortality is Fortunately Low and Blow to Production Minimal." The number of dead, however, was as many as 711 throughout the prefecture as of the end of November (*Kahoku shinpō*, 14 December). In December, when new recruits joined the army, as in other prefectures, the rate of influenza cases sharply increased, and as of the report on 15 December, 21 of them had died in regiments of the imperial army's 2nd Division in Sendai.

In the countryside of Miyagi prefecture mortality has risen, with the figure reported by the Natori, Kesennuma, and Toyone police departments alone totaling 237 dead as of 16 December, not a “fortunate” situation at all.

### *Railways Channels of Infection*

The epidemic hit Iwate prefecture, on the northeastern tip of Honshu, even later, with the first article appearing in the *Iwate nippō* newspaper on 2 November. The article observes that the outbreaks appear to follow the railway routes into the countryside, suggesting that the railways were the carriers of infection. According to the article, the spread of influenza in the city of Morioka resulted in the closing of shops, suspension of work in factories, and the closing of schools, with many children absent. On the 5th, the paper reported that two children of Kuriyagawa Elementary School had died and the 6 December headlines register the impact of more than 20,000 people down with influenza, the severe blow to various spheres of society, and the whole city of Morioka “brought to a standstill.” Few had died during the month of October from the flu, but the number of dead steadily rose in November (nine people on the 1st of the month; one on 2nd; 12 on 3rd; seven on 4th). More than half the deaths were attributed to influenza-associated pneumonia (*Iwate nippō*, 7 November).

The epidemic spread along the train lines from urban areas into the countryside, but even on 10 November, the city of Morioka was still suffering from the continued raging of the flu. Half of the doctors were falling victim to the infection themselves and supplies of medicine at pharmacies were running out. In the middle of November, the number of new patients began to decrease, but many developed pneumonia and the death toll rose, throwing the citizens of Morioka into “a despair of dread” (12 December article). On 13 December, 31 people died in one day alone in the city, a five-fold increase over the normal mortality. Milk, eggs, and other foods began to run short, and the same situation occurred also in the countryside in the second half of the month.

The epidemic only subsided, offering people some relief in the latter part of November (reported 20 November). The 6 December *Iwate nippō* wrote “Influenza on the Wane in Prefecture” but a new outbreak flared up in the army barracks after recruits joined the army in December. In the end, between October and the end of November, 251,683 people were afflicted and 1,808 died from influenza and its complications in Iwate prefecture. The mortality was highest among the young and the elderly, with 1,007 of 130,379 patients dead. The number of elementary school students who died was relatively small by comparison (*Iwate nippō*, 11 December).

In Akita prefecture, as in other parts of the Ōu region, influenza arrived rather later with the first article appearing in the *Akita sakigake shinpō* on 27 October reporting on outbreaks in elementary schools in the city of Akita. In October the paper reported only on the affliction of elementary school students and closings of some schools. In Novem-

ber, it told that middle schools began to close and on the 11th, it reported that postal services had been delayed because postal workers were out sick. Around the middle part of November, deaths from influenza began to be reported and from around the 16th more than ten people per day died in the town of Ōdate (20 November article). The epidemic was at its fiercest in the mining town of Kosaka on the northernmost border, with 3,500 cases and 20 deaths (26 November). There does not seem to be any report on the situation in the city of Akita at this time.

#### *Epidemic Prolonged in the Countryside*

Reports of influenza outbreaks in Aomori were the latest of any on the Japanese mainland. An article in the *Tō-ō nippō* newspaper on 31 October related how students of an animal husbandry school in Sanbongi (in the present-day city of Towada) appeared to have picked up the infection while on a field trip to Tokyo. Then in early November, an outbreak was reported in Hirosaki in the western part of the prefecture, which spread quickly through that city. During the first week of November, the influenza hit the city of Aomori in the north and Hachinohe on the east Pacific coast, and on the 9th the paper reported that schools had been closed and that numerous cases among newspaper deliverymen resulted in a suspension of newspaper publication for a time.

The first reports of deaths from influenza appear in a 10 November article about the death on 9 November of a female elementary school teacher in the village of Ōwani, in the district of Minami-Tsugaru (western part of the prefecture). Many elementary schools closed in the Aomori (city) and Tsugaru areas and soon after in the Hachinohe area. In most cases, schools were closed for five days to a week, but as the spread of the flu did not slow, the closings were extended. Crematories in the cities of Aomori and Hirosaki were faced with three times over the usual number of bodies and became backlogged.

By the end of November, headlines declare “Influenza on Rampage: Many People Dying” (*Tō-ō nippō*, 27 November), with dozens perishing in a single village. Partly because of the frigid temperatures of this northernmost region of Japan’s main island, even when the epidemic subsided in urban areas, it would continue to rage in the countryside, where there were many victims and widespread misery from its symptoms. Perhaps the place hardest hit was the village of Kase in the district of Kita-Tsugaru. The *Tō-ō nippō* report of 2 December states that in this village of population 6,756 at the time, 47 people had died by the end of November. Some 3,000 had contracted influenza from early October and at the time of reporting there were about 500 patients confined to their beds, and the epidemic still appeared to be spreading. The article says that the village has no doctor and although they have asked a doctor from another village to come, every village doctor is too busy with the influenza epidemic. More than half of victims suffer their symptoms without the benefit of medical treatment. Many victims continued to die in Kase; as of 4 December, the count was 67.

December, as elsewhere, was the month when new recruits joined the army, and indeed influenza struck the regiments of the Hirosaki 8th Division and it was not long before some of the young recruits died (*Tō-ō nippō*, 12 December). Other than the army, however, the epidemic began to subside by the second half of December.

*Hokkaido: Impact Not So “Comparatively Light”*

After reporting quite a bit about the influenza epidemic in Tokyo and overseas until around 28 October, the *Hokkai Times* carried its first article about influenza in Hokkaido. An article on the 29th reported that six members of the staff and 325 students of the elementary school in the village of Higashi-Asahikawa near the city of Asahikawa were absent and the school was closed. The following day, the paper published articles about further school closings in Sapporo, Hakodate, and after the beginning of November, in Otaru.

The 30 October edition of *Hokkai Times* reported on the epidemic in urban areas including Sapporo, Asahikawa, and Hakodate. The 4 November edition gave the number who had contracted influenza at each school in Sapporo. According to that report, of the 3,572 students at the eight middle schools in Sapporo, 366 students (about 10 percent) had contracted influenza. At the elementary school level, of 11,175 children enrolled, 940 or 8.4 percent had been infected. There do seem to have been disparities among the schools, however, with some having no influenza patients and others an infection rate as high as 36 percent. Determining who had “contracted influenza” must have been somewhat difficult.

The 5 November *Hokkai Times* carried the first notice about the influenza from the Hokkaido Prefectural Government, but it was limited to health and hygiene cautions for individuals and did not call for the closing of theaters and the like. The epidemic continued to spread and by 10 November, there were serious outbreaks in Kitami, Yoichi, Yūbari, Obihiro, and Tomakomai.

*Hokkai Times* articles about people who had died from influenza began with the 12 November report about the death of 16 people of 368 who had contracted influenza at the Bibai Coal Mine. In Sapporo, of the 23 reports of deaths in total on 9 and 10 November, three had died of influenza and seven of acute pneumonia; on 11 November, of 24 reports of deaths, nine had died of influenza or acute pneumonia. As elsewhere, the crematories were “overcrowded” (14 November). In the city of Abashiri, on the northeastern coast of the island, as of 11 November 37 people died and the local post office virtually ceased to function (14 November). In Otaru (central part, near Sapporo), as of 13 November, more than 2,000 people had contracted influenza and 35 people had died. Considering these figures, the epidemic in Hokkaido was far from light, although it has been suggested that it did not have as great an impact as in other parts of the Japan.

From the beginning into the middle of November, as the weather grew colder, the number who died from influenza rose even further. In Asahikawa (population then

69,421), 72 died of influenza-related causes between the 1st and 15th of the month (influenza 19; pneumonia 50; heart attack 3). The 21 November *Hokkai Times* precisely analyzed the age-related characteristics of those who died: “Examining the age [of the deceased], 15 children between the ages of one and five years died, and with people between ages 21 and 50 making up half of all the dead . . .” It was toward the end of the month that the epidemic finally subsided in Asahikawa (reported 25 November). In Sapporo, the peak of deaths from influenza was on the 17th, when 16 died.

In areas further from the centers of population in Hokkaido, however, the epidemic continued to spread, and in Wakkanai (on northern tip of Hokkaido), the *Hokkai Times* reported “continuing influenza outbreaks” even on 23 November. In the Kitami region of the island, influenza “raged” mercilessly, with the estimated number of dead at “more than 500” (26 November). In the Nemuro region, the easternmost part of Hokkaido Island, even after the beginning of December, “the epidemic increases with each passing day, and people run fevers of over 40 degrees C, develop pneumonia, and many die . . .” (3 December). In the township of Wakkanai (population 10,086), 18 people died on 4 December alone.

The number of articles about the influenza epidemic in central areas of Hokkaido decreased at the end of November, but in more remote areas such as Obihiro and Esashi, there were more reports of outbreaks before the year was over. Ultimately 470,000 people were infected by influenza and 8,000 people died in Hokkaido (population 2,178,000) during 1918 (23 January 1919).

#### *Fatal to Whole Villages*

The year 1919 began with the reverberations of the epidemic of the previous year still being felt. At the end of January there appeared shocking reports in newspapers published in far distant places about a village in the Adatara mountains in the Aizu area of Fukushima prefecture where virtually the whole population of 267 people contracted influenza and died (*Fukuoka nichinichi shinbun*, 30 January 1919 and *Keijō nichinichi shinbun*, 31 January 1919). The heavy snows of the Aizu area in Fukushima cut off contact with other places, there were no doctors to administer to the sick, and food was in short supply. Ultimately, the reports went, “more than 200 died tragic deaths” from illness and starvation there. Strangely enough, no Tokyo newspapers carried these reports, although they are labeled “wired from Tokyo” in these faraway newspapers. Even the *Hokkai Times* published the same “wired from Tokyo” report the same day, saying the village had been “wiped out” with 270 dead.<sup>35</sup> Since the veracity of this report deserves further investigation, we may simply note that it was published, and yet it was the fate that many isolated and remote communities in those days might very well have suffered.

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35 If a whole village had been virtually wiped out in this way, one would expect it to be taken up by all the newspapers as a major incident, so some further investigation of the background of this report may be needed.

The new outbreaks of influenza in Yamagata prefecture that recurred in February displayed the characteristic of this phase of the epidemic in that the number of cases was small but that the mortality was high. In Yonezawa, “people are dying one after another,” and a little over 190 died during the period from the beginning of the year until 18 February, and among them the cause of death for 87 was influenza-related (*Yamagata shinbun*, 20 February 1919). During the same period the number of influenza patients in the whole Yamagata prefecture was 391,842. Of these 1,480 died. By the latter part of March, however, articles about influenza in Yamagata had ceased to appear.

In the mountainous parts of Miyagi prefecture, influenza patients continued to appear into 1919, and in early February there were reports of influenza (*Kahoku shinpō*, 9 February), after which it spread throughout the prefecture. The newspaper reports were restrained, however, registering much less alarm than in the previous autumn. This may have been because the number of people affected was comparatively smaller. The main articles published in March for Miyagi prefecture feature the outbreaks in the army and the “horrors” of cerebrospinal meningitis. But the number of dead was by no means small.

The situation was much the same in Iwate prefecture. Some flu patients appeared after the New Year, and new cases occurred even as late as April (*Iwate nippō*, 20 April). Other than that, however, there are virtually no other reports regarding outbreaks of influenza in Iwate.

In Akita prefecture, other than a report of the death of two policemen from influenza at the end of January, articles on the subject had by then decreased sharply, appearing only sporadically thereafter. For Aomori prefecture as well, the *Tō-ō nippō* mostly reported on the severity of the epidemic in Tokyo and Osaka and on conditions in regions where mortality was high, but for Aomori itself, articles were sporadic and dealt mainly with methods of preventing infection. Crematories, too, went back to normal operations in Aomori.

The *Hokkai Times* (5 February), commenting on the epidemic raging in Tokyo (see 7 and 26 February editions), makes a point of stating that “fortunately, there are as yet no outbreaks in Sapporo,” showing that at that point, the virus had not attacked, but by early March sporadic outbreaks began to be reported in Ishikari, Otaru, Asahikawa, Iwanai, Ashibetsu, and other central parts of the island.

Reporting on the influenza epidemic in the Chishima (Kuril) Islands is extremely scarce, but one article tells how it spread out from the village of Shana on Etorofu (Iturup) Island, affecting virtually everyone in the village, including the village doctor, and how the village had sought help from the Nemuro branch office of the Hokkaido Prefectural Government (*Hokkai Times*, 21 May) to deal with the situation. Once the influenza virus was transmitted to such remote islands, it was likely to affect everyone living there, but in some cases, that very isolation protected residents from the epidemic.

## Overview

According to official figures, the Early Epidemic, which stormed the country for about half a year from autumn 1918 to spring 1919, affected 21,168,000, leaving more than 257,000 dead.<sup>36</sup> It then ceased abruptly. Change of seasons, or the arrival of spring, may have had something to do with the end of the outbreaks, but it may also have been due to the fact that many people, after suffering from the infection, had developed immunity to the virus. This is conjecture, but since at the time not even the pathogen causing the outbreaks was known, it seems certain that the epidemic did not end as a result of preventative measures or some kind of medical treatment. What medications doctors had were mainly effective in preventing and treating pneumonia, but they were ineffective against the influenza virus itself. Indeed, it may be fortunate that the number who died was not much greater. Since the population of the home islands of Japan at the end of 1918 was estimated at 55,663,000,<sup>37</sup> the rate of infection by influenza was 38 percent and mortality among the flu patients was 12.1 per mil. Mortality for the entire population was 4.6 per mil.

Of the figures available, the weakest statistics are for those affected by the influenza. It is not difficult to imagine how many who contracted the virus ended up getting well without ever seeing a doctor. What we do know is that at least nearly four out of every ten people were infected. At a time when there was no knowledge of how to prevent infection or treat the symptoms, some people relied on folk remedies and amulets, but the importance of these cures cannot just be laughed off. A medicine made from roasted earthworms ground into a powder was taken quite seriously at the time. The “vaccine” that many people received at the time was actually a serum injection developed against Pfeiffer’s bacillus. Neither the blood serum from healthy persons that was used for injection nor the diphtheria serum Dr. Gomibuchi experimentally administered on himself and others had any effect on the influenza virus.

What may have been most effective was people’s scrupulousness in avoiding crowds, washing their hands often, gargling and rinsing their mouths, and purifying their clothing and bedding in the sunshine, and other habits aimed at slowing the spread of the virus.

What seemed to be fortunate was that the influenza virus would linger in one place for no more than three weeks to a month before moving on elsewhere. If it had stayed in each locale longer, the toll in lives would have been much greater. Although its impact on the various functions of society was often substantial, the situation passed in a comparatively short period of time. Despite the misery of the symptoms and many who died as a result, people kept surprisingly calm, and there were no major panics. The outbreaks subsided, but the virus had only gone into hiding. It was just a matter of time until it reared its head once more.

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36 Figures are from *Ryūkōsei kanbō*, chapter 8, figure 1.

37 Figures for the population of Japan before the 1920 National Census are well established. For the figure quoted here, see chapter 2 of Hayami and Kojima 2004.