The Eruptions of Sakura-jima prior to 1914.

By

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The eruption of the insular volcano of Sakura-jima on January 12th, 1914,¹⁾ was not only unusual in its magnitude, but also in its bilateral eruptions accompanied with copious outpouring of lava-flows which plunged themselves into the surrounding seas. The event was known all the world over, and the literature upon the catastrophe was not meagre both in foreign and mother tongues. It may be of some interest to put here on record a succinct account on the historic eruptions of the volcano prior to the paroxysm of 1914, in order to give a general survey of its vulcanicity in past ages.

A. The Eruption-period I.—IV.

The building up of Sakura-jima is stated in various works to have taken place in the years 708 A. D. (1st year of Wadô era), 716 (2nd year of Reiki era), 717 (1st year of Yôrô era), and 718. The island is said to have welled up and risen in a night.²⁾

‘The frontier of Ôsumi and Satsuma was in the 8th year of the Tembiô-Hôji era enveloped in dark clouds in which the lightning darted about. After seven days it became clear. In the sea of Shinui-mura (present Shikiné?) three islands were formed of sand, stone and lava, the eruption being accompanied by flames. The islands so formed appear conjointly like an open shed. Sixty-two

1) A paper on the recent eruption will appear under the title, ‘The great eruption of Sakura-jima in 1914,’ in *Jour. Coll. Sci. Imp. Univ. Tôkyô*, vol. XXXVIII, Art. 3.

2) From 708 to 718 Kagoshima Bay seems to have been the seat of violent volcanic activity, constituting one eruptive period, having in common a hypo-centre of activity. It is impossible for the writer to locate the exact points of vents, nor can he say whether they lie exclusively within the area of the present Sakura-jima or not.

divisions of houses were destroyed and eighty people killed' (*Zoku-Nihongi*). Other books say that the islands referred to are Kamizukuri or Kojima, by which is meant the ruin-like Kojima group off Kokubu Station. In July-August, 766, they were visited by terrible earthquakes. That the whole story was an erroneous interpretation of ancient records is elucidated elsewhere.

For a long interval of seven centuries Sakura-jima remained apparently in quietude. The third period of activity began in 1468 (2nd year of Ōnin era) with a moderate explosion on the southern top-crater. Another eruption occurred on October 25th, 1471 (3rd year of Bummei era) near Kurokami on the east coast, ejecting stones, sands, and overflowing lavas, resulting in the formation of Cape Ōmoyé-zaki.

On September 15th, 1475 (7th year of Bummei) a violent eruption took place above Nojiri on the southwest coast, inflicting great damage to the inhabitants and domestic cattle. Cape Moyé-zaki, which lies between Nojiri and Yuno,¹⁾ was then formed. Ash fell during five days, and Karasu-jima rose from the sea.²⁾

An ash explosion of the same intensity occurred in 1476 (8th year of the same era). On September 29th it culminated in the greatest outburst. During five days before the event the land was incessantly shaken by weak and strong earthquakes. Eventually the top (which one?) was in flames and disrupted, throwing out rains of burning stones and ejecting ash and pumice for seven days, which enveloped Kagoshima and the neighboring districts, turning day into night. It was followed on October 6th by lava-flows, which caused an increase of land 8 km. in circumference on the southwest coast (Nojiri-Furusato and (?) adjoining land). Many people and animals were killed and wounded. Afterwards Okoshima rose from

1) The statements in old documents concerning the activity of 1475 and 1476 seem somewhat redundant and repetitive, and the succession of events is not entirely clear to the writer.

2) Geologically speaking, Karasu-jima is of Diluvial age.

the sea off the shore of Yuno.

The eruption of 1476 seems to the writer to have been of the same type as that of the An-ei era, shortly to be described, though it was on a somewhat smaller scale than the latter.

The after-effects continued till 1478, when the mountain erupted again and the shore of Fukuyama on the opposite coast of Ôsumi was converted into a desert by rains of ash and pumice.

During the whole period the Kirishima group, the northern neighbor, kept a profound silence, or at least there is no record of its activity. In 1554 (23rd year of Tembun era) and 1556 (2nd year of Kôji era), Kirishima was, however, active. In 1615 (1st year of Genna era) Kaimon, this time the southern neighbor, made a great eruption. Thus, while Kirishima and Kaimon were displaying activity from 1554 to 1615, Sakura-jima was not in the least affected.

On April 1st, 1642 (19th year of Kwan-ei era), an eruption took place.

On March 1st, 1678 (6th year of Em-pô era), eruption took place.

In January, 1706¹⁾ (2nd year of Hô-ei era), an eruption (?) took place.

In April, 1742 (2nd year of Kwan-pô era), an eruption took place.

In September, 1749 (2nd year of Kwan-yen era), Mt. Ôhira-yama erupted violently, spreading an apron of lava-flow just to the south of Hikinohira (Hiyoku-oka).

On September 9th, 1756 (6th year of Hô-réki era), a *hot-spring* in Yokoyama gushed out, but has since disappeared.

On May 21st, 1766 (3rd year of Mei-wa era), a great inundation of mud-flows took place from the top (which crater?).

1) In reading the phrase, "the mount 'burnt' or erupted," we must guard against falling into mistake. To cite an example, the writer found in the record of the same year the following clause: The Sakura-jima shrine located on the slope of the south crater about nine-tenths from shore was burnt by accident from the tobacco pipe of a farmer of Akamizu.

B. The Eruption-period V.

Fig. 1.—Southern view of the first phase of eruption at noon, on the 8th November, 1779, as seen from Tarumi, Prov. Ôsumi, the active center being at this moment the south crater-cone. Copy of a sketch by S. Izichi.

a) THE ERUPTION OF THE AN-EI ERA. The activity of the An-ei era¹⁾ was the most terrible one ever recorded of Sakurajima, especially from 1779²⁾ to 1781, though it was persistently turbulent for twenty years, gradually declining in intensity and finally coming to rest in 1799, having exhausted its volcanic energy.

From November 7th, 1779, Kagoshima and the environs in a radius of about 40 km. were violently shaken, and people became

1) There are several works, both Japanese and foreign (Milne, Friedlaender, etc.) on the eruption of An-ei, all telling the same story. The present version is chiefly based on *Chiri-sankeô*, a 'Compendium of the Geography of Hyûga, Ôsumi, and Satsuma.' 1898, Kagoshima.

A full list of the literature is given in the 'Explanatory Text to the Sheet Kagoshima,' by the late K. Nakashima, and in the late Milne's 'The Volcanoes of Japan,' *Trans. Seis. Soc.*, IX. 1886.

2) From 1772 to 1880 the Kirishima group remained remarkably tranquil.

very much excited with fear. From 10 A. M. to noon of the next day (8th) water in all the wells of Sakura-jima boiled up, spouting at several points, and the color of the sea became purple.

Soon after 2 P. M., a thread of white cloud rose from the south

Fig. 2.—Sakura-jima in eruption in 1779, viewed from Kagoshima. Four active centers, the southernmost (on the right) being on the slope at Anei-zan vent; the second at the crater of the south cone; the third and fourth (on the left) on the northeastern slope of the north cone (cf. Fig. 3). The northern vents were very active on November 7, the southern on the next day. Copy of a sketch in possession of M. Hamasaki in Kagoshima.

crater, and then black smoke was thrown out in cauliflower form¹⁾ from the *slope* between the middle and south top-craters, followed immediately by tremendous roaring and violent quaking. In the house one felt as if sitting on a rocking chair, and out of doors it was like being on the sea. When persons lay down they were rolled about, and when they stood up they were thrown down, and when they sat down they swung to and fro. Flames shot out from *both* (Figs. 2 and 3) sides of the mountain ejecting pumice and sending

1) According to A. Imamura, the height of the column of smoke-cloud was measured at that time by the compilers of an almanac in Kagoshima to be 12,029 m. (3 ri 2 cho 16 ken)—an altitude that is already in the windless and cloudless zone of constant temperature.

Fig. 3.

a—Lava ends of historic lavas prior to 1779.

v—Vents of the An-éi eruption, 1779.

Sketch-map by S. Izichi at the time of the An-ei activity.

down avalanches of mud,¹⁾ at first at Shirahama near the northern coast and then at (?) Minamidaira. Soon the island was enveloped in dark smoke periodically illuminated with flashes of lightning and projectiles of red-hot stones like meteors with tails.

This threatening state lasted for five days, when the intensity abated somewhat, though for a month every 3 or 4 hours, or every 2 or 3 days, it burnt and roared. The whole aspect of the mountain island was then entirely changed, elevations were engulfed and hollows filled up with ash (?) and later by lava-flows.

On this calamitous occasion 153 people were killed and many more wounded; 1,576 horses and 135 oxen were also killed, besides other domestic cattle and fowls. Two thousand islanders fled to

1) It seems highly probable that the ejection of mud-flow took place at the early phase of activity from one of the top-craters, either the middle or the south.

Kagoshima, and on the other hand the citizens were thrown into confusion by an unfounded rumor of 'tsunami' or encroaching boisterous sea waves. Heavy damage resulted in Yuno and Arimura on the south, Kurokami on the east, and Kômen on the northeast coast. Headlands of *lava* were formed in Kômen and Kurokami, both bearing the same name, (?) Moyézaki or 'burning cape.' On the southern flank a lava stream crawled down to the shore from a large explosion-hollow of An-ei-Zan or *Shin-moyé*, forming Cape Tatsusaki. In Arimura a new *lava-island* rose but disappeared later.

A *hot spring* ceased to flow in Arimura,¹⁾ while two new ones began to gush forth on shore at the east and west ends of the lava-field between Furusato and Yuno-hama. They originated probably from meteoric water descending the slope, being warmed on the way by cooling lava and later mixed with sea water. The temperature and level were said to have changed with the phases of tides.

There is another hot spring, 36°C., which is located at the bottom of what seems to have been once a small cove in Kurokami. The spring is of an old date and of saline nature with alkaline reaction. It once ceased to flow, but revived in 1779. This is also located at the margin of the An-ei flow on shore.

Ash fell in enormous quantities, especially on the Ôsumi side of Kagoshima Bay, *viz.*, the villages of Tarumi, Kishiné and Fukuyama, and a sheet of pumice covered the bay to a thickness of 5 or 6 feet, so that the terror-stricken people fled on foot, on November 9th, to the opposite Ôsumi coast over the narrow channel of Séto, and wild boars crossed to the Kagoshima side (the high flat of Yoshino), over the floating pumice. During the eruption the whole island of Kyûshû, the provinces of Isé, Shima, Owari, Mikawa, and farther

1) The hot-spring revived during 1835-'36. It is of saline nature with a weak acidic reaction and little content of carbonic acid, the temperature being 39°C. The two new ones have a temperature of 45°C., and saline character with alkaline reactions. See p. 16.

east became dark and ashes fell there. On the 17th November ash fell in Tôkyô, a distance of 1,000 *km.* from the vent; Ôsaka on the 9th. Patches of pumice were seen floating on the shore of Inaba, Hôki, Tajima, and Tamba in the Japan Sea.

b) THE FIVE NEW ISLANDS.¹⁾ In consequence of the eruption of the An-ei era, many islands made their appearance within a year. During the eruption Sakura-jima was entirely enveloped in dust-smoke and cloud. When the air cleared the island came into sight, five days after the ever-memorable outburst of the 8th of November, 1779. After a few days (November 11th or 12th) from the bottom²⁾ of the sea off the northeast shore of Sakura-jima unearthly sounds issued, like bellowing, accompanied with seething and broiling of the sea, ejecting of stones, pumice and mud (fine pumice splinters), resulting in the creation of shallow banks and small islands, which constantly changed their forms and positions. At first, fountains of yellowish mud rose to a height of 30 to 40 feet, which fell back and flooded³⁾ villages on the shore of Sakura-jima and the adjoining lands of Kagoshima Bay. The islands so formed became finally fixed. They are the following (see Fig. 4):

No. 1 was created on November 21st, 1779, near the shore, only 327 *m.* (3 *chô*) from the coast of the village Kômen (Mukômen).⁴⁾ Its diameter was about 100 *m.*, but height only 3 *m.*

1) As much doubt was cast upon the origin of the new-born islands, the writer in April, 1914, made a short visit to the islets and rocks in order to collect rock-specimens and also to study their structure.

2) Said to have been 70 fathoms deep in 1779, and this will by no means appear an exaggeration if anyone examines modern charts.

3) People call this *tsunami* or *shiwo-agé* (潮揚ゲ) signifying sea-wave or tidal wave.

4) It is to be remarked that the distances and directions mentioned in *Chiri-Sankô* are not entirely intelligible to the reader who takes up a modern map for reference. The writer thinks this is solely due to the fact that the once large village of *Mukômen* (Fig. 4) along the coastal plain perished under lava-flows. The buried part, as villagers told the writer, stretches between the present *Urano-mayé* and *Kômen*, which space is now covered with confused masses of block-lava, as indicated in the figure 4.

This ephemeral lapilli island disappeared on August, 1st, 1780.

No. 2 rose from the sea on November 22nd at a distance of 138 m. (1 *chō* 16 *ken*) eastwards from No. 1. This pumiceous-rocky mass (hypersthene-andesite) forms the present INOKO-JIMA¹⁾ which after the late eruption appears above water only at low tide. The islet or pointed rock off Ōseko-zaki in Fig. 5 is the one here referred to. A shoal, lying 200 m. south of Inoko-jima, may represent the ephemeral island No. 1.

Fig. 4.—An-ei lava-field and new islands to the northeast of Sakura-jima.

1) The writer identified the new islands on modern maps from circumstantial descriptions given in a book, 'Chiri-Sankō.' Recently, K. YAMAGUCHI (*Geogr. Jour. Tōkyō*, Jan., 1915) went over the same line of study as the writer, with a result which does not harmonize well with the one at which the writer arrived. He wishes to leave the judgment to others who may care to pursue the same course of historic interpretation.

Nos. 3 and 4. The former appeared on December 13th, 1779, at a distance of 1,600 *m.* (15 *chô*) eastward, and the latter near by (6 *chô*) on January 15th, 1780; both are rocks, and once emitted a sulphurous odor.

The two afterwards coalesced into one.

It is Iwô-jima (Kuro-shima or Sé-jima)

—the ‘sulphur island.’ This compound islet appears

hook-shaped during low tide as if it were a submerged

rim of a small crater-wall. This is the only new islet built up of white-spotted black rock¹⁾ that the writer has seen among the new islets. See Fig. 6, *I*.

Fig 5.—The Inoko-jima rock in foreground and Shin-jima *S* in distance—the two new islets of 1779–1780. (After Yamaguchi.)

No. 5. Two islands welled out on May 11th, 1780, in the direction S.S.W. at a distance of about 1,500 *m.* (14 *chô*) from No. 4. On June 3rd, they amalgamated into one. This is gourd-shaped, pumiceous, and the largest island (700 by 450 *m.*), and received the name SHIN-JIMA (An-ei-jima or Moyé-jima). Many people went out daily in boats to see the remarkable spectacle displayed by submarine eruptions near the present west coast of the island, where on April 21, 1781, one of the vessels was hurled up by a paroxysmal outburst, killing twenty-three of the sight-seers. The island is a gourd-like island in plan as well as in relief, lying prostrate in meridional direction (Figs. 5 and 6, *S*). In the low central portion there is a group of fishermen's cottages.

1) The black rock is dense and somewhat slaggy. Phenocrysts are of the same habits as in rocks of Sakura-jima. Brown glass is full of augite-microlites dusted with magnetite. A few elongated enstatite-augite (?) crystals with resolved terminations and skeletal forms are also occasionally found.

The island is built up of a lapilli-ash bed (*A*) underlaid by loose sandy tuffite (*B*)—a complex which *reminds*¹⁾ us of the *Diluvial lapilli bed of the Kagoshima environs*. A slightly saline water seeps out from the junction of the two beds on the south shore which induced five families from Akamizu of Sakura-jima to settle here

Fig. 6.—Three new islands, Shin-jima, Iwô-jima, and Yébisu-jima, of 1779–1780, viewed eastwards off Kômén. (After Yamaguchi.)

twenty years after its formation. A pumiceous gray lava-flow covers both edges of the central low stretch, which seems to the writer to be a ruined crater-bottom of a submarine vent or secca. The cliffs which bound the island are solely due to marine abrasion.

1) K. YAMAGUCHI (*loc. cit.*, footnote p. 9) is inclined to believe the island of Shin-jima to be of an old date in spite of frequent citations about its new creation during the An-ei eruptions in the literature of that period.

Sandy tuffite and lapilli beds, which YAMAGUCHI mentioned, build up a large portion of the island, and closely resemble the Diluvial Plateau Formation of Kagoshima; but if these beds are really identical with the latter, then the island must be considered to be a detached geologic block of the Plateau Formation, similar to Oki-Kojima and four other islands briefly outlined. The writer, however, found no crystals of hornblende or biotite in shore sand in his collection, which are important constituents of the basal andesite from which the old tuffite and lapilli beds are derived elsewhere. Moreover, the pumiceous andesite, which intrudes and partially covers the underlying sedimentaries, is of the same kind as that of the An-ei lava—a fact indicating close genetic relation with the neighboring islets raised during the An-ei eruption.

A remarkable fact discovered by YAMAGUCHI, is, however, the presence of molluscan shells and diatoms entombed in the surface soil, 44 m. high, which, according to his interpretation, are not of recent origin.

In short, the question as to the origin of Shin-jima awaits further researches.

On August 9, 1786, a storm swept away the south-eastern headland leaving a shallow which was once occupied by land.

No. 6 welled out on June 12th, 1780, at a distance of 1,500 *m.* (over 14 *chô*) in the direction E. 15° N. from No. 5. Nos. 7 and 8. The first rose on September 29th in the direction S. 45° E. from No. 6, and the second (No. 8) near by on November 9th. Afterward Nos. 7 and 8 united, and later No. 6 also coalesced with them so that this compound island, resulting from amalgamation of the component islets Nos. 7, 8 and 6, is designated by the people No. 6. This is YÉBISU-JIMA (Nakano-shima), and is like Iwô-jima built up of pumiceous andesite¹⁾ clods, thinly covered with pine, and fringed with a shell-mixed sandy shore. This is the only islet that looks white from the distance. A slight depression in the centre may be an indication of a defunct vent (Y in Fig. 6).

The islands Inoko-jima (Nos. 1-2), Iwô-jima (Nos. 3-4), Shinjima (No. 5), and Yébisu-jima (Nos. 6-8) are called the New Five Islands, though in reality there are only four independent islets.²⁾

In passing, the writer may mention the islet of HAMA-SHIMA³⁾ (Nii-shima) off Kurokami village. It is a mere lapilli bank, elliptical in form. It is said to have been formed by submarine eruption

1) The rock is dull-gray white-porphyrific porous hypersthene-andesite with porous groundmass, built up of colorless glass with a felt-work of augite-microlite and a little skeletal plagioclase.

2) There is a shallow bank, 1 *km.* westward from Yébisu-jima (Nos. 6-8). The writer could not find any description that corresponds in position to this shallow. This *Doro-shima* ('mud island') or Kani-shima (Fig. 4) is a submarine pumice bank of yellowish-brown color, 436 *m.* (4 *cho*) in circumference, which appears above water only during low tide. This may be the phantom island, known only by tradition, which is said to have appeared in the Tembiô-Hôji era (764 A.D.), and lately referred to as Ko-jima. An old book says, according to Yamaguchi, that an island appeared on October 18, 1781 at the west of the new islands only for a few days. Again in June or July, 1786, another one rose at the west of the former and soon disappeared. The shallows to the south of Doro-shima are said to be the positions of these short-lived islands.

3) 濱嶋

during the An-ei activity. The old lapilli accumulation is commingled with recent ejecta, in which the writer picked up pieces of cordierite-bearing ones (ceramicite) thrown out from the Nabé-yama vents during the first phase of the recent volcanic activity.

c) ORIGIN OF THE NEW ISLANDS.—The foregoing pyrogenic islands made their appearance as the outcome of attendant submarine effusion of lava during and after the eruption in 1779. The following views as to their origin may be mentioned: *a)* They are sometimes spoken of simply as vents on the rupture line that traversed the body of Sakura-jima, as the Nabé-yama vents in the last eruption. *b)* It may also be suggested, although no one seems as yet to have given utterance to this view, that they are the loci of ventholes on the front of the gas-pent and cooling submarine lava that plunged into the sea down the mountain slope in a fiery stream from the twin vent, the east and west *higona* or 'fire-holes' near the northern top (Fig. 4). Neither view is applicable here as a working hypothesis, if the bathymetric condition of the surrounding sea be critically examined.

The new-born islands occur in diffuse manner and rise precipitously from the bottom 60 fathoms deep. Local depressions of the same depth intervene between the shore and the islands, so that there is no room for doubt that there exists no real connection of lava-flows between the insular masses and Sakura-jima (Fig. 4).

It seems to the writer that they represent the positions of ventholes of what Wolff¹⁾ styles the central eruption upon a local magma reservoir of satellitic injection fed through a narrow channel from the main macula under Sakura-jima, just as, according to Daly,²⁾ Kilauea is fed by Mauna Loa in the Hawaiian islands. The

1) F. v. Wolff, 'Der Vulkanismus.' Bd. I.

2) 'The Nature of Volcanic Action.' *Proc. Am. Acad. Arts and Sciences*, Vol. 47, 1911.

bottom, 60 fathoms deep, was under pressure and comparatively cool. The feeding channel from the main was closed by consolidation, and the accumulation of liberated gases in the cooling secondary reservoir under high tension corroded and ate away the roof, finally opening the way for the access of water to the small hot macula.

Soon subaqueous outbursts followed, ejecting mud (fine splinters of pumice) and lapilli in the shape of fountains, and disturbing the body of water which caused *tsunami* or sea-waves to the surrounding shores. The shallow bank, outlined with a 10-fathom line, rose from the bottom by accumulation of the submarine ejecta (Text-fig. 4), and likewise the lapilli-ash bed of Shin-jima (No. 5), 44 m. high, was deposited and raised at this time. As in normal development of submarine islands, a massive dome or tholoide rose through the aqueo-pyroclastic deposit in the final phase, which is typically represented in the form of Iwô-jima (Nos. 3-4).

One of the writer's motives in visiting these islands was to see the products of subaqueous consolidation of lava, the *modus operandi* of which is exactly known from authentic records.

In contrast to subaërial lavas, compact submetallic-clinking lavas were not found in the surface rocks in the whole region over which the writer rowed. The rocks are all more or less pumiceous and sometimes slightly slaggy, they have the appearance of a *darky coke* from lignite and are also light. Under the microscope the intratelluric plagioclase-phenocrysts are compound crystals with brilliant birefringence, and the crystals are full of glass due to temporary regressive and corroding action of the magma during crystal-growth. Hypersthene and augite are as in terrigenous lavas. In the glassy groundmass one finds only slender pyroxene with stiff fibrous terminations in brown glass. The latter contains abundant globulitic bodies, and is often locally decolorized, appearing macroscopically as light flecks. The pyroxene may be mostly enstatite-augite as in artificial slags. Magnetite and feldspar-microlites are wanting in

the rocks from Inoko-jima, while in those of other islands magnetite-dust and skeletal plagioclase-microlites occur in moderate quantity. The rock is cloddy, due to contraction-fissures variously traversing the whole body, formed by a sudden quenching of the hot mass in water, the clefts so produced are afterwards lined with a limonitic substance, and filled with black dust which marks the direction of flaws.

Some of these characteristics differentiate the subaqueous from the lavas of subaërial consolidation.

The great paroxysmal eruptions of the An-ei era (1779-'80) echoed for many years.

On April 11th, 1781 (10th year of An-ei, or 1st year of Temmei era), an eruption took place (where?), and the people in the island were greatly frightened. They made a vow to the God of the mountain, and refrained from fishing on the 18th (lunar calender) of every month. This day they still keep. While the writer was in Kago-shima last year, he heard people talking about this sacred 18th, which had lately not been strictly observed by the inhabitants, causing the wrath of the God Gongén whose shrine is located on a little elevation (400 m.) on the western slope, and the principal centre of the late eruption on the western flank was near the said shrine now entirely blown off with the hill.

On January 18th, 1782 (2nd year of Temmei era), the mountain was active?

On September 3rd, 1783, it sent out flames, and ash fell as far as Kyôto.

On November 20th, 1785, it again erupted.

On July 29th, 1790 (2nd year of Kwan-sei era), the top was much shaken and flames came out.

On September 11th, 1791, it again burnt.

On October 11th, 1792, it again burnt.

It erupted in 1794.

It sent out flames in 1797.

On March 27th, 1799, it sent out flames.

C. THE ERUPTION-PERIOD VI.

During the year 1835-'36, a hot-spring in Arimura gushed (cf. 1779, p. 6).

In February or March, 1860 (Ansei or Mannen era), the Yamano-yu hot-spring (?) in Takaguma, and another, a lukewarm sulphur spring in Tobi-oka on the north of Tarumizu, both in Prov. Ôsumi, gushed out. The south crater of Sakura-jima was rather active.

In 1876 (9th of Meiji era), a hot-spring in Shinmidô (?) in Prov. Ôsumi gushed out (Milne).

At the end of the winter 1878, and in March, 1879, the south crater sent out flames (Friedlaender).