



Tanegashima Space Center



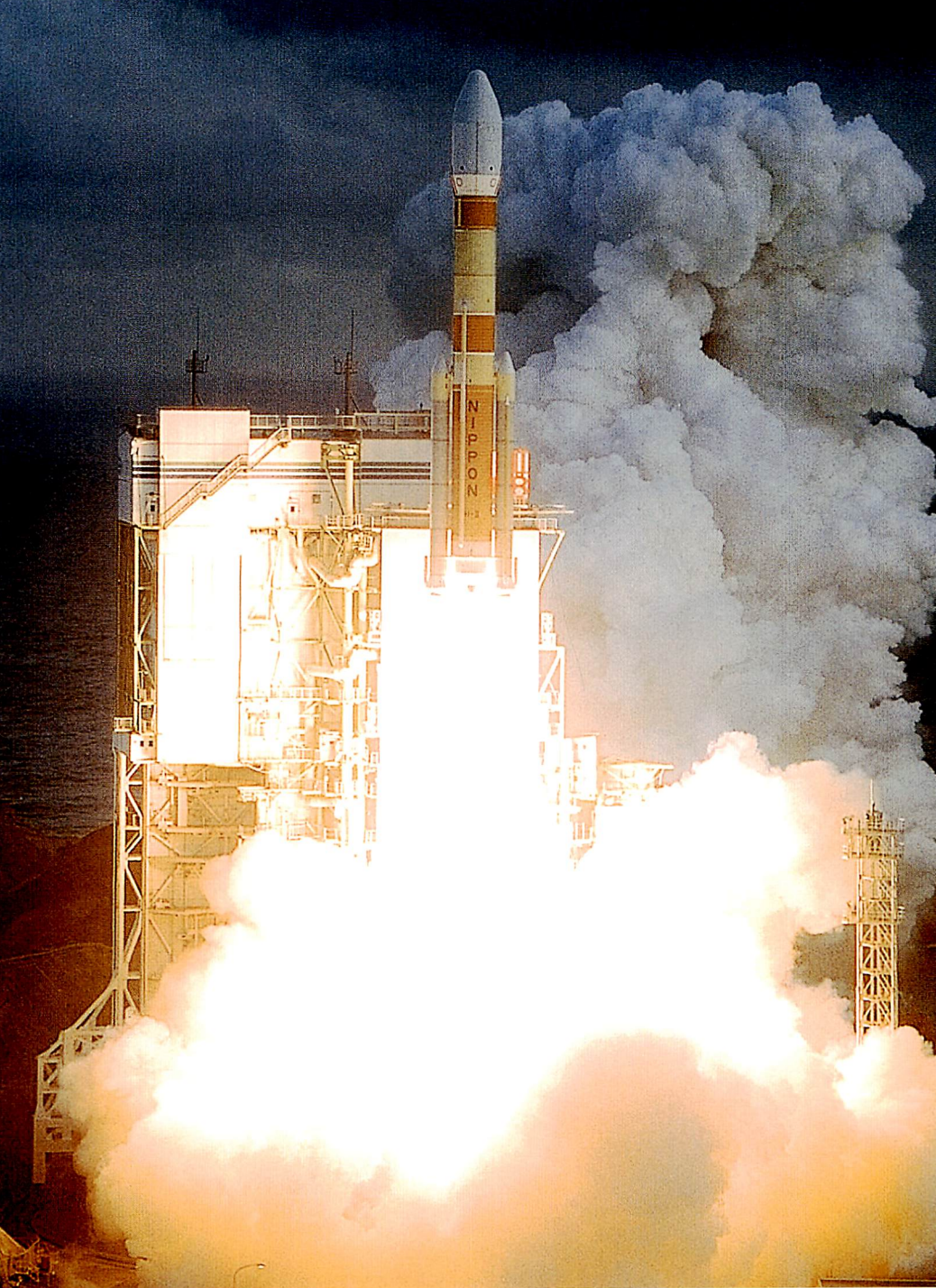
Chapter 3

Japan's Closest Island to
Outer Space

Tanegashima

Tadahide Noro

Education and Research Center for Marine
Resources and Environment, Faculty of
Fisheries, Kagoshima University



Launching a rocket at the Tanegashima Space Center

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Tanegashima Space Center is a launch base constructed by NASDA (National Space Development Agency of Japan) to launch application satellites. It is located on the southern tip of Tanegashima Island in a town called Minamitan. With a total area of 860 square kilometers, it is the Japanese version of the NASA's Kennedy Space Center in Florida. The center went into operation in 1967. So far, 39 satellites have been launched from Tanegashima Space Center with H-I and H-II launch vehicles. All of them remain stationary in the upper skies over the equator and are used for satellite broadcasting and weather forecasting.

Mamoru Sato, professor of analytical chemistry in fisheries at Kagoshima University, spent three years here in Minamitan in the 1950s as a high school teacher. He remembers his surprise upon arriving at the island to see that some of the other passengers of the bus were barefooted. He also remembers that the record player he brought all the way from Kagoshima City on a 6-hour ship ride was useless on Tanegashima because of unstable voltage. Incidentally, the ride to Tanegashima was shortened to one hour when a high-speed ship called *Topy* went into service in 1989. The ship was named after flying fish called *toppi*, which are caught around the islands.

Tanegashima, one of Japan's southern islands, was selected as the launch base site for two reasons. One reason was that it is close to the equator, which is the

geostationary orbit for satellites, and the other was that it had retained a wide expanse of nation-owned land necessary to accommodate the base. Today, Japan's southernmost islands are those of Okinawa Prefecture, but they had been under U.S. occupation at the time so they could not be considered for selection.

Tanegashima is an island of farms. One third of the island's population is still engaged in sugarcane farming. The whole town of Minamitan, with its modest population of a few thousand, takes advantage of the island's temperate climate to produce early harvested rice and red rice, both for which the area is famous. But the construction of the Tanegashima Space Center, which is the aggregate of Japan's multifarious cutting edge technologies, metamorphosed Minamitan into a supporting town.

Sixty NASDA personnel presently



High-speed ship *Topy*

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staff the Tanegashima Space Center. But about four hundred people surge into the town every time a rocket is about to be launched. The visitors include scientists, engineers and reporters, some of whom are from foreign countries. Some of the inhabitants who were booted out of the area to make room for the launch site now work for NASDA in the launch base. Others work at nearby hotels and inns.

In Minamitane, Takao Asao and his wife run a four-storied hotel called Sun Pearl. Engineers from Osaka, Nagoya and other distant places who temporarily leave their families to work at the space

center find solace in the family-like atmosphere of this 30-room hotel.

About seventy thousand tourists a year, which is virtually every tourist to the island, visit the Space Museum next door to the Tanegashima Space Center. The launch base surrounded by meticulously maintained lawn is seen in the background of the Space Museum. Farther in the background is emerald green sea very unlike anything seen from the mainland islands. When you enter the Space Museum, you feel in your bones that you are at Japan's closest point to outer space.

Portuguese Matchlock

In 1543, a trading vessel from Ming (China in those days) drifted ashore on Cape Kadokura, which is the southern tip of Tanegashima. The village head who conducted the investigation with the crew happened to be good at reading and writing Chinese, which was fortunate for the trading vessel and also fortunate for Japan from then on.

Although Japanese and Chinese cannot communicate with each other through their spoken languages, they can communicate in writing. In much the same way the European intelligentsia was cultivated to read and write Latin, the Japanese intelligentsia of those days had to acquire the ability to read Chinese

literature in its original script.

Written characters originating in ancient China were conveyed to Korea and Japan, and are still used in writing Korean and Japanese today. Unlike the English alphabetical characters or other phonograms, Chinese characters are ideograms, each with a meaning. Japanese today cannot pronounce written Chinese with Chinese pronunciations, but they can grasp twenty to thirty percent of the meaning of simple sentences.

The Tanegashima village head and the Chinese crew communicated by writing in the sandy shore with sticks. And through this, it became clear that the ship was a Ming trading vessel that had drifted ashore. The islanders were dumbfounded to see very conspicuous Caucasians among the Orientals aboard the



Demonstrating Tanegashima
guns in the Tanegashima Teppo
Festival, Nishinoomote
© Nishino-omote City Office

vessel and were curious about the long tubular matchlocks they were carrying. They were flabbergasted to see that they were new weapons that could pulverize a target placed dozens of meters away instantaneously at the sound of a blast.

Tokiaki, feudal lord of the Tanegashima Domain, was awe-stricken with the matchlock guns and purchased two of them for two thousand flat gold coins, which was an astronomical amount in those days. After Tokiaki became proficient at using them, he made up his mind to order his swordsmith vassals reproduce them. He then made Kinbei Yaita responsible for producing the guns and Kojiro Shinokawa responsible for producing the gunpowder.

Iron manufacturing and forging had already been conducted on Tanegashima in those days. Black iron sand still speckles the sandy shores around the island today. Examination of the iron sand indicates that iron manufacturing had

begun in the 10th century and that it was fueled by high-quality charcoal made from enormous amounts of wood. In the 15th century, iron mine experts were invited from the mainland islands and the iron manufacturing industry began.

The inhabitants of Tanegashima had already been producing swords and farming equipment when the matchlocks arrived. For the steel-making technology and swordsmith skills on Tanegashima in those days, reproducing the matchlocks brought over by the westerners was not such a difficult task.

At first the swordsmiths couldn't figure out how to make the screw used in the root of the gun barrel but they learned how to make it from a blacksmith on a Portuguese ship that visited the island the following year. One year later, the Tanegashima Domain had succeeded in producing several dozen matchlocks, which brought the islanders successful military victories in battle against the

powerful Satsuma Domain (Shimazu Clan).

Throughout Japan, these matchlocks later became called "Tanegashimas." Feudal domains in Osaka, Sakai, and other cities near the capital of Kyoto also started reproducing them in large quantities thirty years after the matchlocks first arrived to Tanegashima Island. Eventually, in the Warring States period, feudal lords were vying with each other to purchase these Tanegashima guns.

Feudal lords of every domain in Japan engaged in many kinds of large and small-scale battle in attempts to expand their domains. The feudal lords used to base their battle tactics on man-to-man combat using swords, bows, arrows and other such weapons. But with the advent of the state-of-the-art Tanegashima gun of Portuguese origin, battle tactics suddenly changed from man-to-man to group-to-group. And the gods of victory

always favored the side with the most Tanegashima guns.

The Tanegashima guns dramatically changed the balance of power among the feudal lords, and drove Japan into a new era of political unification conducted under commanders called *shoguns*. It is a fascinating historical fact that it was the new weapon from a miniscule island about a thousand kilometers away from Kyoto that spurred on this unification.

The arrival of the matchlock at Tanegashima Island was the first of European civilization to be conveyed to Japan. In 1549, Jesuit missionary Saint Francis Xavier, who was the first person to propagate Christianity in Japan, traveled to Satsuma via Malacca, Macao and Tanegashima. At this time in Britain, Queen Elizabeth I was about to begin her reign. And Spain and Portugal were busy establishing Manila and Macao.

Tanegashima- Scissors

With a population of 20 thousand, Nishino-omote is the largest city on Tanegashima. Up a small alley in this Nishino-omote stands a factory called Makise Cutlery Shop where Yoshifumi Makise and his younger brother Hirofumi produce scissors, knives and other cutlery,

which are specialty products of Tanegashima. The brothers, who are the descendants of 37 generations of Tanegashima swordsmiths, strictly adhere to the traditional methods in making each piece.

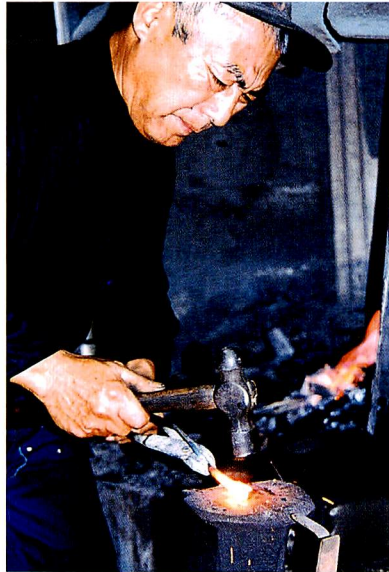
Law prohibited the manufacture of Tanegashima guns after the Meiji Restoration so gunsmiths on Tanegashima changed their product line to scissors, knives and other cutlery. In 1900, there were eighty scissors makers on Tane-

gashima who produced scissors on a small scale in their own homes. But today, aside from the Makise brothers, there are only three workshops producing scissors. Using the traditional techniques inherited from their parents, the Makise brothers produce ten pairs of completely handmade scissors every day.

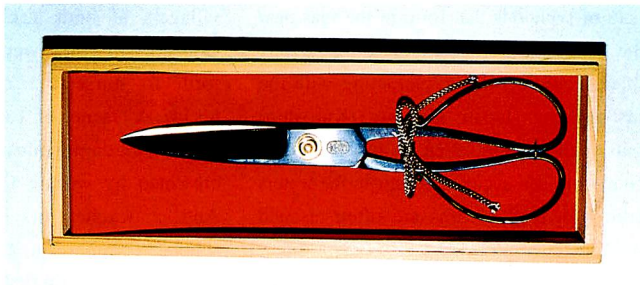
Tanegashima scissors (called *tanebasami*) have a unique design in the style of the scissors of ancient China's Han Dynasty. It is believed that a Ming trading vessel introduced them to Tanegashima at the time of the matchlocks. The scissors can be handled by the right or left hand with equal ease. And the more they are used, the better the blades fit together for unequaled cutting quality, so many people demand to have a pair. They are also designated as traditional craft of Tanegashima and are popular with the tourists as souvenirs.

As with the Tanegashima guns, Tanegashima blacksmiths also used to utilize high-quality iron sand as the raw material to make Tanegashima scissors.

Unique design and ease of use make the scissors very useful in everyday applications. But some cutlery dealers point out that the quality of the steel used as raw material in Tanegashima scissors is inferior to that of modern scissors.



Forging Tanegashima scissors, Makise Cutlery Shop
© Nishino-omote City Office



Tanegashima
scissors
© Nishino-omote City
Office

In addition to the scissors, the Makise brothers also make Tanegashima knives (called *tanebocho*), which are perfect for slitting and slicing the flying fish and other fish caught around Tanegashima. The housewives and fishmongers

on the island insist on them. The knives made by the brothers are rarity goods with professional specifications. To get one, you must first place an order and then wait almost one year to receive it.

Cashmere: USA Wrecked Vessel

Loaded with 30 thousand barrels of oil, the *Cashmere*, an American 936-ton wooden sailing vessel, departed Philadelphia for Kobe in April 1885. It passed the Cape of Good Hope at the southern tip of Africa and continued its journey. When it finally reached the open sea 300 kilometers southeast of Tanegashima on September 11, it encountered a menacing typhoon.

Since ancient times, seamen have been apprehensive about the sea around Tanegashima, which is in the northbound path of typhoons that form in the seas near the Philippines. The complex topography of the remote islands interacting with the fast-flowing Japan Current (Kuroshio) makes the waters even more dangerous. Numerous sea accidents occur in the waters and shipwreck victims are often rescued on Tanegashima.

The *Cashmere* was big for a cargo

liner of those days but it lost all of its masts from the overwhelming force of the typhoon. In the early dawn of September 13th, ship captain Alexander Nicol and two navigators got washed away by a giant wave and were never seen again. By the time the storm had subsided, the ship was no longer in sailing condition. It was badly flooded, its hull was severely damaged, and the crew had no more food or drinking water.

Seven of the twelve remaining crewmen, who had barely managed to remain aboard, took a lifeboat and drifted ashore at Tachiyama in Nishino-omote City. The other five crewmen drifted farther north on a makeshift raft to Iseki. Farmers and fishermen working nearby at the respective shores happened to find all of them.

Chronicles reveal that all of the villagers at both Tachiyama and Iseki stopped what they were doing and came forth to nurse the crewmen back to health. A teacher of Tachiyama's elementary school communicated with a Chinese crewman by writing Chinese characters. And a teacher of Iseki's elementary school communicated with the other crewmen in English. Through the

exchange, the villagers learned that the crew were survivors of a shipwreck.

The rescued crew later took a ship to Kagoshima City and, through the good offices of Kagoshima Prefecture, returned safely to the USA on ships leaving Japan from Kobe and Yokohama. The son of Alexander Nicol, captain of the *Cashmere*, was one of the crewmen. One century later in 1980, Junya Arizono, Minaminihon newspaper reporter (now president), located the whereabouts of his descendants.

In those days of primitive weather forecasting and navigation skills, wrecked ships were often attacked by pirates or plundered by nearby inhabitants. So the goodwill shown to the *Cashmere* crew by the Tanegashima villagers deeply touched the hearts of not only the Americans, but of people around the world.

The American government sent fifty yen in Japanese currency and a gold medal as a token of praise for the goodwill for the villagers who rescued the *Cashmere* crew. Three years later in 1889, U.S. President Grover Cleveland presented five thousand American dollars to the village. That amount is equivalent to six thousand yen at that time and 200 million yen today (2001).

With that gift money, the two communities that rescued the *Cashmere* crew established an education fund from which the interest was utilized for school operating expenses and scholarships for



Medal presented to the villagers of Tanegashima by the U.S. government as a token of gratitude for rescuing the *Cashmere* crew, Tanegashima Gun Museum (Teppokan)

© Tanegashima Gun Museum

a long time. Monuments that display a detailed account of the shipwreck have been erected in the schoolyards of Anjo Elementary School and Iseki Elementary School and still stand today. In Iseki, a festival is still conducted annually on September 22 to celebrate the rescue of the *Cashmere* crew.