

Lecture 5 “The Historic Villages of Shirakawa-go and Gokayama”

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ABSTRACT

The Geography of Shirakawa-go and Gokayama

The property, "The Historic Villages of Shirakawa-go and Gokayama", inscribed on the World Heritage List is composed of three mountain farm villages, namely Ogimachi village in Shirakawa-mura, Ainokura village in Taira-mura and Suganuma village in Kamitaira-mura (*Note*: Taira-mura and Kamitaira-mura merged with other mura and cho, and became Nanto-Shi in November, 2004). The area where these three villages are located is a remote valley in rugged high-mountain terrain near the center of the main island of Japan. This area has been known historically as Shirakawa-go / Gokayama.

At the center of this area is the Sho River, flowing from south to north toward the Japan Sea along the deep valley winding through this range of 1500-meter-high mountains . Because of the steepness of the mountain slopes, most of the villages in this area -- including Ogimachi, Ainokura and Suganuma -- are located in the narrow strip of land along the river valley floor.

This is also an area which has particularly heavy snowfall. In winter Japan frequently experiences cold winds which blow in from the Chinese continent. These cold wind fronts pick up moisture while crossing over the Japan Sea, then hit the high mountain ranges in this area and leave deep deposits of heavy wet snow on the slopes facing the Japan Sea coast. The deepest accumulation on record was 4.5 meters, in 1981, and the total snowfall for that year was approximately 22 meters.

Until quite recently, before long tunnels were constructed and new bridges were built across the deep valleys, the relations between this area and the outside world were very limited. Due to the difficulty of access, for a time this was called "the last unexplored area of Japan".

This geological and climatic condition gave rise to a unique culture which has been passed down to the present generation. One outstanding example of this culture is the wooden thatched-roof farmhouse, a type with unique structural design and features known as the "Gassho style" of architecture, as well as the beautiful village landscapes with their clusters of Gassho-style houses set against the surrounding fields and forests.

The Gassho style itself is not the typical type of Japanese farmhouse. But this type of architecture, despite its uniqueness, is important to help us understand the general history of Japanese architecture, because these houses demonstrate the most highly-developed example of Japanese wooden house construction -- in terms of its structure, its fabrication and construction methods, and the usage pattern of the internal spaces.

History of the Protection of Gassho-style Houses and their Villages

As Gassho-style houses were not a common farm house type, they did not exist in large numbers at first. But by the end of the 19th century there were over 1800 Gassho-style houses in 93 villages in the Shirakawa-go / Gokayama area. Due to the dramatic advances in the economic condition in Japan after World War II, the lifestyle in the mountain regions underwent drastic change -- resulting in the disappearance of many traditional Gassho-style houses and the destruction of the unique village landscapes. By today, all Gassho-style buildings in 60 of the original villages have disappeared (among those 60 villages, 17 have been abandoned entirely,

several of which were sacrificed to hydro-electric dam construction projects) -- with the result that only 144 Gassho-style houses remain in existence today. It is a shocking fact that in one century 92% of all Gassho-style houses have disappeared, mostly within a single quarter-century period.

In the 1970's, residents started a preservation movement in cooperation with the municipal governments in three villages, Ogimachi, Ainokura and Suganuma, where Gassho-style houses had remained in relatively good condition up until at that time. People had felt that if they failed to take some positive action immediately, their village environment would ultimately be destroyed. The concept of preservation covers the entire village landscape together with the surrounding natural environment -- not only the buildings but also the fields, canals, roads and forests. Residents' conservation societies were established and national legal protection systems were introduced in each village. Subsequently these three villages have been well maintained under the legal and traditional protection systems.

Protection by the Traditional Social System

In each village in the Shirakawa-go / Gokayama area there are mutual help organizations called "kumi", composed of neighborhood households, operating under a special cooperative system which has been followed continuously since the Edo Period (17th -19th century) and which is still active now. "Kumi" in each area organizes seasonal or daily tasks, done together in cooperation or shared in rotation, including such tasks as cutting a grass along the mountain roadways, cleaning the canals, making the rounds to call out fire-prevention warnings, and performing roles in religious functions. In addition, the traditional mutual help system, the custom of *koryaku* or *yui*, is followed in the case of ceremonies such as marriages or funerals or in work projects such as house construction or the rethatching of roofs. These are also performed under each "kumi" unit.

It can be said that this type of social system based on mutual cooperation was essential for survival in a deep mountain area with very limited production capacity under severe natural conditions, but it should also be pointed out that the evolution of this social system was no doubt influenced by the strong spiritual connections generated among the people by the *Jodo Shin* Sect faith.

(Inset Article)

What is the Gassho-style House?

The Gassho style house is defined as one which has a thatched gable roof, with a truss-like *sasu* structure and a roof slope steep enough to provide adequate space for active use inside the roof volume. This type of farmhouse is very unique, not found in any other part of Japan outside the Shirakawa-go / Gokayama area.

The *sasu* structure is a series of triangular frames composed of two sloped members called *sasu* attached by pin connections to the *usubari*, the bottom chord of the truss frame. In Japanese houses, the most typical type of roof structure is framed of multiple short posts (*tsuka*) and beams, but the *sasu* structural frame is also common among traditional houses.

Unlike short-post frame structures, the *sasu* structure allows the roof to be steeply sloped, an important advantage in this area of heavy wet snow. The slope of the *sasu* structure is normally 45 degrees or less, but in Gassho-style houses the slope reaches roughly 60 degrees.

In the *sasu* structure, with no vertical members intruding into the attic space, there is a large volume of potentially usable interior space, but in ordinary Japanese houses the attics have seldom been used or have served only passive functions such as storage. In Gassho-style houses

the attic space was divided into two or three levels which were actively used for raising silkworms. This functional attic space is another of the unique characteristics of this style, found only in this area.

The basic *sasu* structure has an inherent weakness against external horizontal forces (i.e. wind or earthquake forces) in the direction of the longitudinal axis. To compensate for this the typical *sasu* structure adopted the hipped or hipped-gable roof end styles which stiffened the main roof structure. In Gassho-style houses, however, the pure gable style was adopted -- primarily due to the need for adequate lighting and ventilation for silkworm production, made possible by the provision of large window openings in the gable end walls. To resist the longitudinal horizontal forces, diagonal bracing members (*hagai*) were used in the plane of the truss rafters. These braces, as part of the combination of *sasu* structure and gable style, are also quite unique in Japan.

The construction of the main house-frame structure had to be done by skilled professional carpenters, but the assembly of the roof structure could be done by non-professional village residents. The villagers worked together under a traditional system of mutual labor exchange called *yui*. This was the most practical solution for constructing houses in an isolated mountain area where it was difficult to obtain sufficient cash income to pay for professional labor. For the same reason the roof thatching work has also been done under the *yui* system. Besides these points there are many examples of other ideas in Gassho-style houses which were innovated to suit the local climate and the traditional way of life in the mountains.