The relationship between intangible culture and tangible cultural heritage, including monuments and sites which constitute the target of the ICOMOS activity, is so close that it is impossible to separate. Intangible culture produces tangible cultural objects which require intangible culture. This relationship may be compared with the twisted rope, but is not so simple. It should be our common task to study this relationship. In order to do so, there may be many subjects to be discussed, but, since we are at the early stage of discussion, I would like to raise some basic topics first.

What is Culture?

One the one hand we feel proud of our specialty that we are professional experts on monuments and sites, but on the other hand, we have to confess that we are neither specialists nor scholars of culture. That is the reason why we are starting from this point based on my personal idea. Culture is commonly recognized as the way of individual or family life such as food, clothing and dwelling, social activity, including politics and economics, humanities and science, creative activity for arts and crafts, and for performing arts, manners and customs, and various kinds of beliefs and religions. Nowadays, the discipline that deals most basely with culture is cultural anthropology. Some time ago, an anthropologist taught me about an interesting anecdote: In Japan, a group of monkeys was living on a small island surrounded by the sea. Once, a child monkey washed its food, a potato, with sea water, and, maybe, found it clean and tasty. That was the moment a new culture was born. This child monkey continued the same action and got its own custom. This custom soon spread out to other children and female monkeys. Male monkeys did not join this custom first. However, afterwards, when the children grew up, all members washed their potatoes. So, a new culture became common among the group.

Intangible culture is the mother of all cultures.

As etymology shows, culture is the human product moulded and matured in an inspired or cultivated brain. In this sense, all kinds of culture is, in the earliest stage, intangible, and, therefore, extremely private in nature. So, many intangible cultures are apt to disappear or change to another one. However, in some cases, as in the above-mentioned monkey anecdote, intangible culture can be spread and handed down. Anthropologists say the keywords of this phenomenon are “sharing and learning”.

Does intangible cultural heritage exist?

As anthropologists say, since intangible culture is destined to be lost or changed, it is meaningless to try to fix and preserve intangible culture. In this sense, there exists no intangible cultural heritage. I think it is theoretically true, but, as a matter of fact, human beings have been tried to fix, spread and preserve their intangible cultures by handing them down to younger generations or recording them in various ways, for example, oral and gesture teachings, material expressions such as manuscripts, books, art objects or monuments and sites, or physical expressions, such as music, dance, drama and other performing arts. All these ways should be understood as the manifestation of efforts to hand intangible culture down to the posterity. Nevertheless, it should be noted that these ways are not intangible culture itself but merely the means taken by the persons who hold intangible culture. Among them, material expressions which can be recognized only with visual sensation are classified into tangible or physical cultural objects, both movable and immovable. When these objects belong to the past, they are called physical cultural heritage, or simply cultural property.

Can we recognize and protect intangible cultural heritage?

In Japan we believe that cultural heritage can be recognized and protected. Here, let me briefly explain about the policy of protecting intangible culture in Japan. In the Law for the Protection of Cultural Properties, which is the only and comprehensive law for all kinds of cultural heritages in Japan, intangible cultural heritage is divided into two categories. The first category, simply called Intangible Cultural Property. (In my view this naming is rather strange, and should be called intangible cultural heritage). It is composed of two sub-categories. The first sub-category is sophisticated performing arts, including music, dance, drama etc. of high artistic and/or historic value, and the second sub-category is craft skills, including those for ceramic, textile, lacquering, metal work, etc, of high artistic and/or historic value. However, the second category, called Intangible Folk Cultural Property, is defined as customs and manners related to food, clothing and shelter, occupation, belief, yearly events, etc and folk performing arts.
In short, our intangible cultural property includes both highly sophisticated and rather basic, folk categories. However, the concept and measures for the protection are almost the same. The first point is how to identify the value of intangible cultural property. Fortunately, Japan has a lot of historical documents and evidences. Therefore, we can recognize the value by the help of historians, anthropologists, ethnologists; those specialized in folklores, performing art scholars, and other academic researchers. However, intangible cultural heritage has been changing in the course of history. Therefore, we must carefully check if the said intangible cultural property can be authorized as having enough essence to be handed down from original days.

Next, what are the steps for protecting intangible cultural property? The Japanese government designates the most prominent person or persons as the holder or holders. In some cases, a group of eligible persons is designated as the Holding Body. They are commonly called “living national treasures”, but it is only a nickname generated by mass media.

The holders are requested to keep their ability and transmit it to their successors. For this purpose, the government grants subsidies every year. Here, we have a very difficult and delicate problem. The holders are at the same time persons living in the contemporary society, being highly regarded as actors, craftsmen, etc. To solve this difficulty, the holders are expected to keep and transmit the essence of their intangible cultural property. I think it is a wise method in order to protect intangible culture.

Although it is my personal interpretation, the essence can be reworded as the highest level of spiritual achievement and technical formality. Japanese craftsmanship and performing arts are known for its high formality which is rigidly inherited from master to successor.

I must add another delicate point peculiar to Japan. In Japan religion is a subject to public assistance. After World War II, religion was defined a completely private matter. This strict attitude comes from the bitter experience that certain religions were once adhered to the existence of religion. But the relationship between religion and architecture has been constructed without the existence of religion. The real correspondence was hidden inside the brain of those involved in designing that architecture.

Is intangible culture or cultural heritage necessary for the protection of monuments and sites?

It goes without saying that intangible culture makes the background of tangible cultural property, such as monuments and sites. For example, it is obvious that no religious architecture has been constructed without the existence of religion. But the relationship between religion and architecture is not clear in the state of one-to-one correspondence. The real correspondence was hidden inside the brain of those involved in designing that architecture.

There may be many other difficulties. Many disciplines are dealing with intangible culture, but no comprehensive science. Some humanity disciplines, for example, history, archaeology, etc. already have universally recognized concepts and a methodology. However, in Japan, ethnologists specialized in folklore research domestic traditional manners customs through old tales, folk crafts etc. It is presumed that the folklore is a unique humanity developed in the special conditions of Japan. Therefore, Japanese studies of folklore do not have a global scape.

We should not be hasty

I would like to say that we should not be hasty to connect any intangible culture and tangible monuments and sites without careful consideration. Especially, any trial to boost the value of tangible property by the help of intangible culture may be unsuccessful. We should make close connection with specialists in social science disciplines and wait for their establishment of universally recognized understanding of intangible culture through a scientific approach.

Intangible cultural heritage involved in tangible cultural heritage

Let us change our point of view and now pay attention to the intangible culture involved in the tangible cultural heritage. Although there may be many subjects to be discussed, I would like focus on the skill/technique necessary to construct buildings and places. It may sound strange to hear that skill/technique is intangible culture, but I would say “yes”. Since the construction of buildings and places is a kind of human cultural activity, skill/technique involved in the construction should be recognized as intangible heritage. I would like to discuss some points following the process of construction.

1. On basic planning: Buildings and places must be orderly spaced. Length, width and height are essential preconditions which should be determined prior to the actual design. The shape of buildings and places is also a very important factor. Buildings with geometrical shapes, such as squares, rectangular, or circles, represent a certain philosophy. However, they are many examples of irregular land use and construction planning. The concealed concept of such irregular planning should be carefully explored.

2. On measuring unit: The rulers with measuring unit have a very complicated history. Generally speaking, in every part of the world, measuring units were based on the length of some parts of the human body or a natural product and a phenomenon. The lengths of arms, feet, width between two fingers or the arm span are typical examples of such units. One shaku (approximately one foot), a measuring unit of ancient China that prevailed to the Korean peninsula and Japan, originated from (1) the size of millet seeds or (2) the length of a musical pipes which play one standard scale.
These measuring units differ in every place and region. However, with the development of political systems, men of power wanted to establish authorized units. Since some of the ancient Chinese Emperors wanted to establish longer measuring units and bigger crop measures to increase tax income, the measuring unit shaku underwent many changes depending on the Emperors. Japan was influenced by its neighboring country, China.

3. On the decision of the right angle: It is a long tradition of Japanese carpenters to determine the right angle as a basis of planning, by making a big rectangle with the proportions of 3:4:5. 3 shaku: 4 shaku: 5 shaku is common. For smaller straight angles they use L-shaped squares which will be mentioned next.

4. Long measuring rods and L-shape squares: In Ancient Japan, the government distributed a certain number of one-shaku rulers all over Japan. Therefore, not all carpenters had those authorized rulers. It must have been possessed by only high-ranking master carpenters. At the construction site, hand-made measuring rods, as long as 10 shaku, were used by supervisors of each construction site.

Next, I would like to introduce the unique L-shape square. This is a rectangular 2-side ruler, in the shape of an alphabetic L. The long side is as long as approximately 50 cm and the short side measures about 30 cm. Today, the ruler is made of steel, but formerly it was made of bronze. On the front side of both, long and short sides, ordinary scales are inscribed; while on the rear side a longer (1.414) scale on the long side and an ordinary scale on the short side were used. Using this L-shape square, carpenters can make various complicated calculations and put necessary ink lines. An easy example: If a mark of a unit length (assuming 1) along the long side of the front side and another mark of any length (tangent value, for example 0.5) along the short side are marked, then one can get the line of hypotenuse. If the unit length is now replaced with the actual length of the horizontal beam, one obtains the length of the roof rafter. Moreover, if one uses the longer scale marked on the rear side, the length of the horizontal corner beams as well as the pitch of the roof corner is obtained.

5. On lumbering and processing timber: In old Japan, in order to cut down big trees, the axe was commonly used. To process trees into timbers of appropriate length, big crosscut saws with single or double handles were used. In order to get parts of necessary sectional dimensions or boards, timbers were split by driving wedges. The methods used are similar to those of masonry work. However, to saw timbers to boards, big ripsaws were used after the introduction from probably China in the fifteen century. For reference, the history of sawmills in Japan is not so long as in Europe and America. Usually sapwood is cut off and dry heartwood is preferred. I think this preference may be different from the case of European oak. In Japan soft coniferous trees, such as cypress, cryptomeria and pine were preferred.

For finishing and smoothing the surface of timber, spear-shape planers from the ancient times were used. However, from the fifteenth century on, typical planers that can be found today have been used. Their type is considerably unique. They are composed of a rather thin wooden body, single braded with comparatively gentle pitch (combined double braded style is new), and they have no handle. A gentle pitch of brad is suitable for planning softwood.

It would be worthy to mention that Japanese carpenters use saws and planers not by pushing but by pulling. The reason why such a unique way has been adopted is not clear, but presumably, because of traditional customs.

6. On joints: Parts are assembled with joints. We have many types of joints, but the fundamental principles of the jointing technique are not so different from those in Europe. In order to make joints or to dig holes on timber, chisels are used, but, their shapes and functions are not so different from those widely used in the world.

Therefore, I would like to skip this subject.

7. Special design techniques: I would like to introduce two special techniques.

1) Kiwari: This is the technique for fixing the dimension of each part, by determining one numerical standard. Two standards are adopted. One is the length between two principal columns, and another is the length between two rafters. Almost the same idea exists in China, but, as far as I know, the place to get a standard is different. The system may differ more or less in every country.

2) Kiku: This is the technique of making eaves. Eaves of wooden buildings are composed of three kinds of main parts. 1) Rafters projecting forward, usually in two steps. 2) Horizontal parts are placed on top of the rafters but curving at the end of the eaves. 3) Big corner rafters: In order to construct the eaves, a very advanced and sophisticated technique is required. Japan developed an extremely elaborated system based on traditional mathematics and drawing techniques. Since most wooden buildings in East Asia have similar type of eaves, there must be similar techniques. However, considerable differences exist.

Conclusion:
Need for investigation and study

As mentioned above, a lot of intangible cultural heritage is involved in monuments and sites. Remaining tools, inscriptions, drawings left inside the monuments, traces of processing on the surface of parts, in addition to books and documents passed to the present days, all represent the intangible cultural heritage within the tangible cultural one.

Therefore, through these visual information, we can approach the past intangible cultural heritage by utilizing modern academic methods for research that can be further developed into global comparative studies.
I believe the study of intangible cultural heritage is essential to pursue our common interest and the objective of ICOMOS. The achievement of the study will be utilized not only to deepen the significance of monuments and sites, but also to offer the basis for authentic conservation work to be carried out.

**ABSTRACT**

The relationship between tangible cultural heritage, especially monuments and sites, and intangible cultural heritage is so close that it is impossible to separate. The relationship may be roughly divided into two cases. First, intangible cultural heritage is being materialized by the tangible cultural heritage, and secondly, intangible culture playing the vital role within the establishment of tangible cultural heritage.

Intangible culture in the first case may be faith and religion, philosophy, or the revelation perceived by natural phenomenon. The deep understanding of such intangible culture will give higher value to monuments and sites. However, this point shall not be discussed today.

The relationship in the second case is more direct and therefore easily understandable. The first intangible cultural heritage to be discussed is technique. Usually techniques are not considered as culture, but, since it includes a system, process, and ways of construction, etc.; it should of course be considered as intangible cultural heritage. My paper will introduce in detail the techniques and tools used in the construction of Japanese wooden architecture. The relationship between tangible and intangible will be found all over the world. Thus, the study and understanding of intangible cultural heritage will offer an important basis for the maintenance, custody, conservation, and repair of tangible cultural heritage.

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