Snake Patterns in Eurasia/Japan and Their Implications

Szaniszlo Bérczi¹, Osamu SANO² and Ryuji TAKAKI³

¹Department G. Physics, Eötvös University, H-1117, Budapest, Hungary
²Faculty of Technology, Tokyo University of Agriculture and Technology, Fuchu, Tokyo 183-0054, Japan
³Faculty of Technology, Tokyo University of Agriculture and Technology, Koganei, Tokyo 184-8588, Japan

(Received July 31, 2001; Accepted October 10, 2001)

Keywords: Snake, Serpent, Dragon, Wave, Eurasia, Pattern

Abstract. This paper discusses on the differences and similarities among snake patterns (or dragon patterns) in Eurasia and Japan and their implications in human lives in both worlds. It is composed of contributions by three authors from Hungary and Japan, so that snake patterns can be discussed on different standpoints. People in the world have been conscious about snakes, because they have given a lot of effects on human lives of people. Therefore, their patterns in designs, symbols, etc. are quite abundant. This is why we have chosen snake patterns for comparison of cultures in the western and eastern worlds. In the main text snake (or snake-like) patterns in Eurasia, spiral patterns in Japanese crests and potteries, and Chinese characters for snake and dragon are introduced. Their implications in human lives and cultures are discussed.

1. Introduction

People in both western and eastern worlds have been conscious about the snake (or the serpent) from the ancient ages, and also created an imaginary animal "dragon". These animals, however, seem to be considered as symbols with different implications in both worlds. For, example, in the western world the dragon has been an evil existence, while in eastern world it has been a god of thunder or tempest and played also a role to help emperors to have majesty. It is not clear whence this difference has come from. But, it is easy to imagine that the roles of these animals in human life are key points to discuss on this difference.

On the other hand, there are common features of snakes on both worlds. The snake is often combined with water, such as the river or the surface wave. It might have come from the similarity of the snake motion to the shape of river or the motion of water surface. As for the difference, the major factors to be considered would be the climates and the ways to build houses or to get foods. In eastern Asia they have a wet climate and are keeping forest, hence most houses are built of wood. On the other hand, in Europe they have a dry climate and in the past centuries reduced forest, while they have a lot of stone houses. It is an interesting problem how these differences in cultures has produced different ideas about snake and dragon.

This paper is a trial to study this kind of problems through a cooperation of scientists from both worlds. Since a complete agreement in opinions would be difficult to attain at the beginning, we decided to make each part of this paper separately, so that they become a trigger for closer cooperation in future.

2. Snake Patterns in Eurasia and Their Implications

There are two main sources for snakes in the Western Eurasian arts. One is mythological and the other is from natural phenomena. Old arts expressed the understanding of the world in mythic compositions. Natural phenomena and events in lives were related according their real and symbolic correspondences. Therefore the snakes appeared as far symbolic events as periodic cycles in the sky, whirling and sinusoid waves in the water and in the serpent portal of medicine, meaning both good and bad.

The mythic-sacral correspondences has many roots in the mythology of different communities. In the Bible after Creation God places the first couple of Adam and Eve in the Paradise, the Garden of Eden. There the devil—in the form of a snake—turns away the attention of the ancient couple from the right way to sin. Therefore in the Christianity the snake metaphorically has represented the world beneath us and serpents were the representatives of the bad forces and the world beneath: the darkness and the death. Together with other Bible events Adam, Eve and the snake on the life-tree frequently appeared on the boarded ceilings in Reformed churches.

In Greek mythology the god of medicine is Asklepios. The snake rolling on a rod was the symbolic attribute of Asklepios. His genera and their later traditions of medicine go back to the island of Kos. He was somehow a God-pair of Apollo, the Sun hero god. The recent tradition of snake around a calyx as symbol of healing on the portals of pharmacies is the heritage of this snake of Asklepios.

In the Eurasian steppe and in the Eastern part of Eurasia the snakes have been auxiliary beings for men. As friendly spirits snakes were favourite animals of the folk tales and they were frequently represented in folk art. Hungarian folk art preserved many old traditions from the art of steppe (NAGY, 1979). We know a pillow-ornament from Kalotaszeg, which is called "snaked" pattern. There two small s-shaped snakes are arranged in a mirror symmetric way and a flower stands between them such forming the famous ancient life-tree scene from Mesopotamia (PRINCE MIKASA TAKAHITO, 1996). On the bottles of wine we also find snakes: on Mishka kancsó the coat of the bottle figure is ornamented by two mirror symmetric snakes (with m1 symmetry). We can see that even today in Hungary on two places: on the pillow, where we place our face and sleep, and on the bottle from which we drink, there are the snakes, the friends of men.

Eurasian archaeology knows a wide range of finds adorned with snakes since the Sumerian times 3rd millennium B.C. till the belt buckles in the 1st millennium A.D. Woven snakes form a tendril on the lifetree in Mesopotamia. Sumerian goddess Ishtar is frequently shown with two snakes lift up in her hands. Babylonian god Marduk occurs with the crowned snake in a seal-cylinder from Babylon. Snakes are the symbols of fertility and they form the bracelets for women in Scythian, Hun and Avarian art. Belt buckles were also found with woven snake ornament. This common heritage of the steppe people express the symbol of the friendly good snake living together and guarding men.

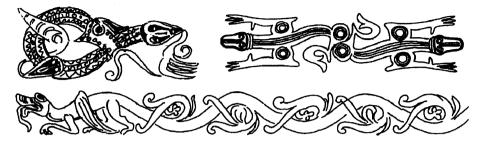


Fig. 1. Serpent art with Viking art origin (from coloring book (BÉRCZI et al., 1995)).

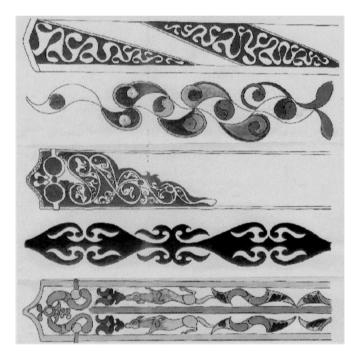


Fig. 2. Five friezes from Celtic art.

Art of Huns seems to connect West Eurasian and East Eurasian arts. The Huns moved from Ordos province, Gobi Desert, Mongolia, Altai, Baikal Region—through Central Asia—to the Carpathian Basin during 400 years. So their archaeological finds cross most part of Eurasia (Mao-Tun: ca. 200 B.C., Csi-Csi: ca. 50 B.C.—in central Asia, Balambir, Attila: ca. 400 A.D.).

Weave motion gave the feeling of the serpent motion deep in the water for sailors. The sinusoidal motion of whirls in streams makes people remember the "serpenting" animal motions. Seaside people liked such sinusoidal ornaments and we can find them in rich variants in the Viking and Celtic art (with 12, 1g and mg frieze symmetries).

Planet-motions on the stage of heavenly constellations are also a kind of serpent-like motion. Calendar was sculptured and preserved in the architectural arts on church gates in the 9–13 centuries A.D. There the serpents represented the celestial pathway of cycloid planet motions, represented with knots (as months) on the zodiacal pathway of the Sun as the arc itself. This arc as symbolical zodiac and its serpent's knot animation of months occurs in many church gates in Western Eurasia. Moreover, the path of the Sun was sometimes marked with important celestial event points of eclipses. At two points of the zodiac, (at the dragon points) the "serpents had eaten" the Sun. (Aleppo, Lund). These are the most abstract serpents on the beautiful calendar arcs (BÉRCZI, 2000). We represent this rich Eurasian heritage of serpent art with ornaments with Viking art origin (see Fig. 1).

Figure 2 shows five examples of patterns from the Celtic art. They seem to follow rather whirl pattern than snakes, but the snake motion is somehow remembering whirls in the flow behind an obstacle.

3. Snake Patterns in Japan and Its Implications

There are five families of snake or serpent (called *hebi*) found in Japan, Typhlopidae, Colubridae, Elapidae, Hydrophiidae and Viperidae. The most common species are the *shimahebi* (snake with stripes), *aodaisho* (blue snake) and *yamakagashi* (grass snake) of the family Colubridae. They are distributed widely in paddy fields, dry fields, grasslands and woods. The former two are not poisonous and mostly prey on rats and mice. *Yamakagashi* and the two species *mamushi* (found throughout Japan Islands) and *habu* (inhabiting in southern islands of Amami and Okinawa) are poisonous. The former two seldom harms humans, while the last one is aggressive and dangerous.

3.1. Snake pattern of prehistoric age of Japan

In ancient times snakes seems to be worshiped as beings possessing an eternal life, because of their ability to shed an old skin and grow a new one, which was regarded as a process of death and rebirth. In addition, the spiral shape of a snake of a vine or swirl of fluid have an implication of endless motion once it started outward or inward, probably led to a concept of eternity. The earthenware from middle JOMON period (ca. 2000 B.C.) have top grips or sides which are ornamented with snakes, as is shown in Fig. 3, which is likely to be used in anticipation of keeping the contents from harm. A clay figure of the same period, in which snakes are wound on their heads, is also found.

3.2. Snakes as gods in ancient times of Japan

Snakes were regarded as gods of mountain because they return to the mountains in autumn for hibernation. Sometimes the object of worship enshrined in a Shinto shrine is the snake-shaped mountain, and was believed to appear in the form of a snake. That explains why blue snakes living in shrines are protected as a messenger of gods. Because they appear in damp areas and were believed to control the water, which guarantee the good harvest, they were worshiped by farmers as gods of water as well as gods of agriculture. A trace of worship remains at the time of harvest festival, in which snakes made of straw are dedicated. Moreover they were regarded as guardians of houses because they eat rats and other vermin. After the introduction of Chinese calendar in 6th century, snakes came into

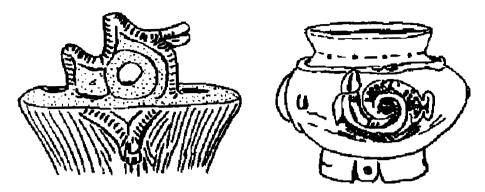


Fig. 3. Earthenware of middle JOMON period with designs of spiral snakes.

daily life as sixth animal of the twelve horary signs (i.e., rats, oxen, tigers, hares, dragons, serpents, horses, sheep, monkeys, cocks, dogs, and boars). People counted the days and years by using the name of these animals. This tradition is still alive today; the year 2001 is the year of snake, so that most of people exchange new-year cards with designs of snake on them.

On the other hand snakes were considered to be regeneration of dead persons, which originate in the idea of never-ending cycle of reincarnation in Buddhism. They were believed to reflect spirits of a dead person, and were objects of fear and adoration. There are many folk tales in which a snake, that had an appearance of a man, made a woman pregnant and gave birth to a new family. Sometimes a revengeful ghost was believed to appear as a shape of snake. One of the dramas called DOUJOJI, for example, deals with Princess KIYO, who takes the shape of a monster serpent and burns with jealousy.

3.3. Snakes in family crests

There are variety of symbols called KAMON (family crests, or coats of arms), which characterizes family line or history. In earlier days ornamental symbols seemed to be used for aesthetic reason, so that everyone could use any symbol at any time. But once a particular symbol was repeatedly used by a particular person, it was personalized until something on which that symbol was attached implied the possession of him. Later at the Age of Civil Wars, it was necessary to distinguish easily whether a warrior (*samurai*) in front of him belonged to his side or not, so that possession of his master's symbol had significance. In addition to show the belonging, for example, a samurai flew his KAMON on his flag to show off his distinguished service in the war, which might bring honor for his family. This practical use enhanced the establishment of the family crest, and the designs were refined little by little.

The designs of crests usually come from natural affairs (sun, moon, stars, clouds, water, waves, etc.), plants, animals (including imaginary ones like dragons and phoenixes), tools, buildings, geometric figures, and letters. Starting with basic patterns, the number of them increased in accordance with the following rules. They are (i) addition of something, e.g., circles and squares of different numbers and different line thickness that surround the

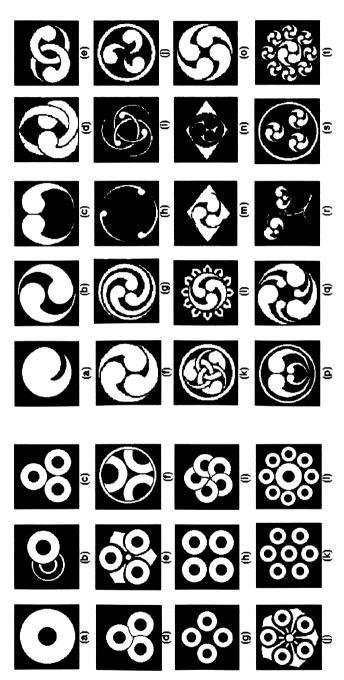


Fig. 4. Two groups of Japanese family crests, "JANOME" (left) and "TOMOE" (right) (from Kamon Dai Zukan (Handbook of Japanese Family Crest), Akita-Shoten, 1971).

original designs, arrows wishing for military exploits, and so on, (ii) modification of the shape like shading, sharpening, rotation, twisting, folding, break of symmetry or change of view points (e.g. upside-down, mirror image, view from window, view from the other side, etc), (iii) synthesis like pairing, nesting, superposition, run-after-arrangement, etc., (iv) division of complex pictures, as in the case of branching of the original group, and (v) omission of some part from the original pattern, either paying a respect for his head family or removing inappropriate part, e.g. removal of swords and arrows for a woman getting married.

One class of KAMON is called "JANOME", which means eye(s) of the snake, as is shown in Fig. 4 (left). The number of "Me" (symbolized by circle) ranges from one to a desirable number. These figures show how the original design is deformed. Another class of KAMON is "TOMOE" (a kind of a protector in archery). The shape, which resembles a comma, developed into a spiral, or a coil of snake, or a swirl. Basic shape of TOMOE has bigger round head and curved tail. This figure resembles a comma-shaped bead or an embryo, which shows a yearn for the prosperity of descendant. Pair of TOMOE (Fig. 4(b)), with either one being black, is sometimes interpreted as the interacting principles of Yin and Yang (which means the origin of the universe). There are varieties on the number and size of the head as well as the thickness of the tail, with clockwise or anti-clockwise sense of rotation (reminding a vortex which is a charm against fire). Family of TOMOE (Figs. 4(p) and (q)), and those with attachment like sword, scales, and so on are also found.

In feudal period, social classes were fixed. But as far as the KAMON was concerned, no severe restriction seemed to be imposed, which gave good chance for creating a new design keeping basic part in common. These contradicting requirements naturally result in limited number of patterns. In this respect KAMON is not the same as a trademark nor a brand, the latter being simply a design. Today the significance of family, and hence the meaning of "KAMON", seems to disappear together with the old system that brought Japan to the World War II. These beautiful and unique symbols, however, will probably be succeeded from parents to children as one of the identity of a new family, just as the family name does.

4. Chinese Characters for Snake and Dragon

There are several Chinese characters for snake, or more generally creeping animals. They were established about 3000 years ago by simplifying pictographs of these animals. Some examples are shown in Fig. 5 along with their meanings and original pictographs. After they were established, their meanings changed gradually. Hence, their meanings were confirmed by combinations with other elements. Characters produced by combinations include a variety of primitive animals, such as insects, flogs and crabs.

On the other hand, there are two characters for dragon (Fig. 5), which have different origin from that for snake. The lower part of one of these character has itself a special meaning, i.e. "extend" and "thunder light". By combination with the element for rain a character "electricity" was produced. Therefore, the character for dragon is closely related with the thunder and the storm. In eastern Asia storms bring water form the ocean and contribute much to agriculture. Therefore, the dragon has been always accompanied with the ideas of both "strength" and "benefit". Hence, the emperors in Chinese dynasties used

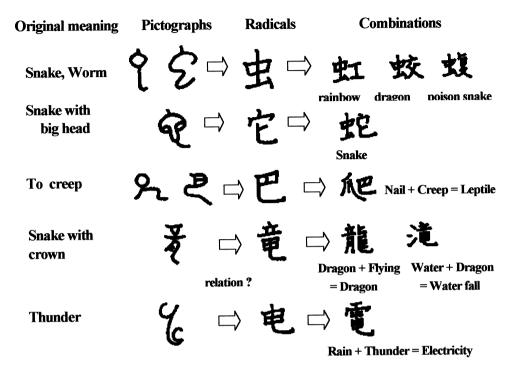


Fig. 5. Origins of Chinese characters and their changes.

a design of dragon as their symbol.

It may be concluded, as far as the Chinese characters are concerned, that the snake (or the serpent) is a representative of animals creeping on the ground (low-class animals), while the dragon is an ideal existence flying high in the sky.

5. Concluding Remarks

In this paper we have confined ourselves to the snake patterns from middle Eurasia, China and Japan, and have elucidated that they have variety of implications which are partly common among all cultures and partly different according to the cultures. However, this kind of research will not be complete until information from other important regions is included, such as India, America, Australia, Africa, etc. In the following some examples from other regions are given without further discussions.

Quetzalcoatl, which is a god of the Toltecs and Aztecs, represented as a plumed serpent at the foot of the pyramid of Chichen Itza in Mexico (see Fig. 6). An example from India is given in Fig. 7. It shows the descent of Ganga (or sometimes called Arjuna's Penance) engraved on the huge rock in Mahabalipuram, in which the god takes a figure of snake in his lower half of the body.

Aboriginal people in Australia have a tradition of "dreaming", where they dream of becoming animals, such as snake, wallaby or emu. This fact would show that they feel quite

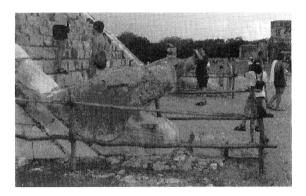


Fig. 6. Quetzalcoatl at Chichen Itza (Mexico).

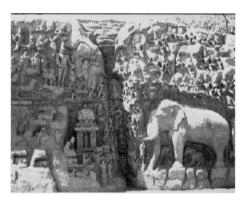


Fig. 7. Descent of Ganga at Mahabalipuram (India).

intimate with animals. Especially, the snake is believed to go up to the sky and becomes a rainbow. It is interesting to note that this belief reminds us of the Chinese Character for the rainbow, which includes a radical for worm (or snake) as shown in Fig. 5.

In the end it should be suggested that more profound research of this topic will be made in future in cooperation of people from a variety of cultures.

REFERENCES

AKITA-SHOTEN (1971) Handbook of Japanese Family Crest, edited by K. Higuchi (in Japanese).

BÉRCZI, Sz. (2000) Katachi U symmetry in the ornamental art of the last thousands years of Eurasia, Forma, 15, 11–28

BÉRCZI, Sz., BÉRCZI, Zs. and BÉRCZI, K. (1995) Viking Kifestö, Beretzk P.T.K.E., Budapest-Röszke.

NAGY, D. (1979) Symmetry and order aspects in art, System Theory Conf., NJSZT, 92-118.

NIWA, M. (1971) Kamon Dai Zukan (Handbook of Japanese Family Crest), edited by K. Higuchi, Akita-Shoten (in Japanese).

PRINCE MIKASA TAKAHITO (1996) Development and modification of the "holy symmetrical design" west and east of the "Silk Road", in *Katachi U Symmetry*, edited by T. Ogawa, K. Miura, T. Masunari and D. Nagy, pp. 81–94, Springer, Tokyo.