The Relationship of the Japanese People to Nature

by Anthony Austin

This article is drawn from a talk given to Japanese Garden Society members at the annual meeting in Edinburgh and attempts to provide a very brief overview of this complex aspect of Japanese culture.

I am about to take you on a journey back in time in Japan to uncover the roots of the Japanese people's relationship with nature and describe to you how this relationship has evolved over time. I will show that the quality of relationship has fluctuated at times but remains enduring. I have drawn in part upon a fascinating book, "Japan and the culture of the four seasons", by Harou Shirane, who is a professor at Columbia University Department of East Asian Languages and Cultures, as well as texts that discuss Shinto and Buddhist beliefs about nature. I have also drawn from several articles on more recent developments exploring this theme.

In his book[1] Shirane argues that, over time, Japanese people have moved from having a direct agrarian relationship with nature to a relationship translated through secondary sources. These perspectives later fused, and reinforced a belief held by the Japanese people that they live in harmony with nature.

I am going to start this story by looking at the role of the Shinto religion in shaping Japanese early beliefs which underpinned people's relationship to nature.

Early beginnings – Shintoism and nature

Like many prehistoric people, the first inhabitants of Japan were probably animists devoted to the spirits of nature. The early Japanese developed rituals and stories which enabled them to make sense of their universe, by creating a spiritual and cultural world that gave them historical roots, and a way of seeming to take control of their lives, in what would otherwise have been a fearful and puzzling landscape. These cults became grouped together with Shinto which probably arrived in Japan from Korea with the Korean tribes which invaded Japan in late prehistoric times.

Shinto, which translated means "the way of the deities", is, as we know, Japan's indigenous religion which permeates all aspects of the life and culture of the Japanese people. It is this religious system that underpinned the Japanese people's early relationship with nature in a series of interlinked Shinto beliefs and practices. The early doctrine of Shinto was the worship of nature and ancestors. Shinto regards the land, its nature, and all creatures (including humans) as children of Kami. The Kami are sacred beings, powers, or forces. A wide variety of locations in the landscape were sacred in Shinto as being potentially the abode of deities, that is, places where humans could communicate with deities (waterfalls, mountains, caves, springs, boulders, trees *et cetera*). Kami could also manifest as animals. All things were originally created by kami. In this belief system, all things existing on this earth have the possibility of becoming Kami. However, the revered status of Kami is limited to those that live quite extraordinary lives beyond human wisdom or power.

Natural elements or phenomena had enormous power in the Shinto religion being revered as, for example, the Kami of Rain, River, Thunder, Wind, and Ocean. In early times nature was seen as a threat to human existence and they believed that the gods needed to be revered in order to secure benign outcomes for people. For instance the reverence of people toward the Kami of Mountain started with people's awareness of mountains as an important source of water for rice cultivation. Then, people came to regard the mountain itself as a sacred object. This mountain faith prepared the way not only for the preservation of mountain forests but also for conservation of the cycle of the ecosystem, given the fact that mountain forests supply rich nutrition to seas through the rivers, and support good inshore fishing. In ancient times, reverence towards a holy mountain was expressed by paying respect directly to the mountain itself.

Kami were also seen to be of two minds. They could nurture and love when respected, or they caused destruction and disharmony when disregarded. Kami had to be appeased in order to gain their favour and avoid their wrath. These Kami were believed to be mobile gods, visiting varying places of worship, of which there can be several, staying on for a while and then moving on. Lastly, all Kami had a different guardianship or duty to the people around them. Just as the people had an obligation to keep the Kami happy, the Kami had to perform the specific function of the object, place, or idea they inhabit. All these Kami had influence upon the lives of the rice-cultivating agricultural society which operated on land at the borderland of forests called Satoyama (Sato means arable livable land and Yama means hill or mountain, Figure 1.)

Figure 1: Satoyama landscape of paddy field and cryptomeria and Chamaecyparis obtusa forest in Sasayama, Hyogo.

The rice farmers used mountain forests in a sustainable way using leaves as fertiliser and wood for construction. These Satoyama landscapes have been developed through centuries of small scale agricultural and forestry use. As these landscapes developed, the Kami came to be regarded more as guardian gods of the natural world. Arising from this belief emerged a series of annual Shinto observances to call upon the help of the Kami in providing support for people's endeavours in their lives. These observances were usually based around, and related to, Shinto shrines. It is estimated that there are currently more than 100,000 Shinto shrines located within sacred groves, scattered all over the Japanese Archipelago. It is at these shrines that deities were, and still are, worshipped and rituals performed according to national and local customs (Figure 2).

Figure 2: Shinto priest offering prayer for harvest festival.

The location of Shinto shrines in local landscapes is an important dimension of their sacredness. They are usually found in groves, the boundaries of which are demarcated as distinct from the secular world. Nearby villagers worship at the shrine and the agricultural cycle provides the rhythms of ritual Shinto activities that punctuate the year at these shrines. These shrines are decorated with strips of white paper (Gohei) that are designed to ward off evil spirits. The same strips can be found around sacred trees or rocks. Other sacred places are marked by a special plaited rope called a Shimenawa. The Shimenawa mark the boundary between the sacred and the profane (Figure 3).

Figure 3: This stone stands on the grounds of Shimogamo Shrine in Kyoto and shows Shimenawa with Gohei

In later centuries Shinto shrines were created in cities to meet people's religious needs. Sometimes the shrines were located in small sections of woodland especially preserved for this purpose and the townscapes built around them, or they were located on the edges of the cities or in nearby hills. These Shinto shrines are at the centre of religious festivals. The Shinto festivals (matsuri) were, and still are, an outward expression of people's relationship to nature and throughout the Shinto year there are a variety of festivals and observances which underscore the relationship between people, their natural environment, and their deities. These Matsuri occur in the countryside as well as within urban centres. In the latter they enable people in the city to stay connected with the roots of their culture.

In the early days these festivals were simple affairs but from about 1600 onwards they became more elaborate. Whether large or small, these Matsuri are mostly based on the agricultural cycle. Two of the most important festivals each year are the spring festival called Kinensai, a festival to pray for a rich harvest, and the autumn festival called Niinamesai, a festival to offer thanks for the successful harvest. For example Takayama has two major festivals - Sanno (spring) and Hachi-man (autumn) festivals in which large floats (yatai) are paraded through the town. These floats are also used in other Takayama festivals. For example more than two centuries ago Japan was ravaged by the bubonic plague, and yatai were built and paraded through Takayama's streets to appease the gods. Because this seemed to work, locals built bigger, more elaborate yatai to prevent further outbreaks. (Figure 4)

Figure 4: Takayama - Festival Floats Exhibition Hall

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The Japanese also had some other festivals that strengthened a detailed association in people's minds of the power of specific named plants in respect of; revitalisation of life, longevity or immortality, and plants to ward off disease and evil.

Another key festival, which was said to have started in the Nara period (710–794) and which has carried on into this century is Hamami "flower viewing". This festival focused initially on plum blossom 'Ume" and wisteria (Fuji) and by the Heian period (794–1185), cherry blossom (Sakura) viewing came to the fore. In each case the appreciation of the delicate blossoms which were seen as metaphors for life, beautiful yet fleeting and ephemeral, underpinned these Hamami festivals.

One other important aspect of nature that was revered in the Shinto religion was water, which was principally connected with the idea of purification.

"*The idea of purification is a key aspect of all ritual activity in Shinto. Purification (harae) is performed to re-establish order and balance between nature, humans, and deities. Regularly performed as part of all rituals, as well as on special occasions during the year, purification ceremonies counteract pollution (kegare). Harm done or pollution could be neutralized by means of ritual purification. This is a key dimension of the relationship between the Japanese and nature. This requires "cultivation" and exploitation of the environment on the one hand, yet which on the other emphasizes the need to rectify imbalances between nature, humans, and deities.*" [2]

This ties into an understanding that in an agricultural society based on rice cultivation like that of Japan, it could not exist without unification and harmony among all things on this earth: mountains, rivers, the sun, rain, animals, and plants, not to mention cooperation among people. Since earliest times a Shinto belief existed that an appreciation of harmony among all these aspects of nature and working together and supporting each other would lead to a flourishing culture.

We can see from the forgoing examples, which emerged from Shinto beliefs and were reinforced through annual observances, that a strong and layered relationship with nature had developed from the earliest times. Society was also beginning to ascribe particular attributes and cultural meaning to plants.

The arrival of Buddhism in Japan

We shall now move into a new period when Shinto beliefs were infused with the addition of other ingredients with the arrival of Buddhism in the 6th century CE. From then on Shinto faiths and traditions took on Buddhist elements, and later, Confucian ideas. Some Shinto shrines became Buddhist temples, or existed within Buddhist temples, or had Buddhist priests in charge. Buddhist temples were built, and Buddhist ideas were explored.

Buddhist thinking reinforced the Shinto ideas of the interdependence of man and nature. It also introduced the idea that human morality was a key force affecting nature (for example that greed could accelerate the depletion of natural resources). They believe that the world, including nature and mankind, stands or falls with the type of moral force at work. If immorality grips society, man and nature deteriorate; if morality reigns, the quality of human life and nature improves. Thus greed, hatred, and delusion produce pollution within and without. Generosity, compassion, and wisdom produce purity within and without. [3]

Buddhism also emphasised the idea of changeability permeating all nature - there are no static things there are only ever-changing, ever moving processes. Rain is a good example to illustrate this point. Though we use a noun called "rain" which appears to denote a "thing," rain is nothing but the process of drops of water falling from the skies. Apart from this process, the activity of raining, there is no rain as such which could be expressed by a seemingly static nominal concept.

Buddhists, like the Shintoists had a reverential attitude towards especially long standing gigantic trees. They also believed that the construction of parks and pleasure groves for public use was considered a great meritorious deed. Temple gardens were associated with the concept of paradise, and the material expression of the notion of transcendence. The grounds of Pure Land temples were seen as being incarnations of paradise, thus making a link between temple grounds and sacred space. Another separation or demarcation between the secular and sacred.

The emergence of the importance of poetic and artistic expressions involving representations of nature.

In the eighth century, at the time that the ancient capital of Nara was established, there began a fascinating development in the Japanese people's relationship with the natural world through the use of surrogates for appreciating nature. Shirane argues that these surrogates, which he calls Secondary Nature, had several major strands and that each strand contained the cultural expressions that related to the four seasons. The strands are as follows:

- Textual (poetry, tales, *et cetera*)
- Cultivated (gardens, meisho, ikebana, bonsai, food, *et cetera*)

- Visual representations (painting, ukiyo-e, architecture, dress, *et cetera*)
- Performative (noh, kabuki, festivals, annual observances)

I will not go into all these strands but will focus on some key surrogates.

This phenomenum of using secondary nature for appreciating primary nature was principally an urban one, where people were 'cut off' from nature. It mainly involved the Imperial Courtiers and later the Samurai classes. Travelling out of the cities was strictly controlled by the Shogunate (this starts to be promulgated by law in the Middle Ages - 17th century onwards) and the occupants of the Imperial Court were in a sense held 'captive' within cities' limits and so occupied their time in higher level cultural pursuits. According to Shirane, their view of nature was shaped by the above cultural surrogates.

His term 'Secondary Nature' refers to descriptions and allusions to nature which fostered the illusion of an idealised sense of human harmony with a harmonious natural world. The ruling classes created large residential dwellings within cities which were accompanied by equally grand gardens. Their gardens provided the means for contemplating nature in a highly controlled and measured way. City temples developed at the same time and their gardens were created for religious contemplation. In creating their gardens the Japanese were attempting to capture the essence of nature and bring it into close association with their buildings so that they could view or walk within their garden landscapes every day. One of the Japanese words for gardens, Niwa, came to mean a place that had been cleansed and purified in anticipation of the arrival of kami, the deified spirits of Shinto, and the Shinto reverence for great rocks, lakes, ancient trees, and other "dignitaries of nature" exerted an enduring influence on Japanese garden design. The gardens were not however simple representations of nature, they carried within them an amalgamation of different religious and cultural metaphors. Additionally, they were influenced by Chinese landscape art which added a further layer of appreciation for the owners and visitors to the gardens.

Japan's gardening classic, Sakuteiki or Records of Garden Making[4], demonstrates this point and draws upon the belief systems and attitudes in the Heian period towards natural forms and describes the approaches that should be taken to designing different types of gardens. In particular there was a strong emphasis on rocks and their placement. This continued the Shinto belief that sacred rocks called iwakura, could draw the gods down into the garden (to be locations in the landscape at which people could communicate with deities). This was then overlain with Chinese geomantic thought in which the location of the rocks in relation to the residence was thought to have significant positive or negative consequences for the owners. Within Sakuteiki are explicit references as advice to gardeners that show that gardens were designed with very specific 'content' in relation to the natural landscape.

"*Select several places within the property according to the shape of the land and the ponds, and create a subtle atmosphere reflecting again and again on one's memories of wild nature*." It later states "*visualize the famous landscapes of our country and come to understand their most interesting points. Recreate the essence of these scenes in the garden, but do so interpretively, not strictly.*"

Thus, Katsura Imperial Palace stroll garden created in the Edo period (Figure 5) provides various places to view the landscape and contains references to famous sights as well as literary references which would bring to mind anecdotes familiar to well-read visitors as they strolled round the garden pathways. Katsura was not a Heian garden, but created in the Edo period. The site has associations with the Heian period, and the Tale of

Figure 5: Katsura Imperial Palace Garden

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Genji, it evokes a yearning by its aristocratic owners for a return to the time when aristocrats were the prime movers in society.

As part of this development, gardens could contain references to true landscapes, as above, and could also include references to the Buddhist mythological mountains, islands and seas (Mt Horai, a paradisal reference) which were alluded to through rock and plant formations. Thus the huge crane arrangement (a flying crane) reputed to be by Kobori Enshu at Konchi-in, Kyoto (Figure 6) is thought to be intermediary between earth and heaven, a messenger of the gods to humans and was said to carry souls to the Western Paradise at death.

Figure 6: Flying Crane arrangement at Konchi-in

Kinkaku-ji (Figure 7), the Shogun Ashikaga Yoshimitsu's property dating from late 14th century, has references to Japanese myths and landscapes as well as Chinese paintings. Visitors used boats to travel round the pond.

Unlike the stroll gardens this temple garden of Ryoan-ji (Figure 8) is viewed from a sitting position on verandah and is one of the purest forms of dry or karesansui garden. It was originally thought to be used for intense Zen Buddhist contemplation however this view is now challenged. The raked gravel sea represents to the Zen buddhist 'the empty mind'.

Figure 7: Kinkaku-ji

Figure 8: Ryoan-ji

As you can see from these few photographs the gardens themselves contained deeper cultural references in which a harmonious view of nature intertwined with religious perspectives. But that is not the whole story.

The use of other surrogates (secondary nature) as part of the Japanese people's expressions of their relationship towards nature.

In talking about the gardens above we have seen that Chinese landscape art, Shintoist and Buddhist beliefs and mythology, all had their influences upon the garden designs. However in some gardens there was much more embedded in the design of the garden landscape, as poetic references were also included.

So how did this infusion into the Japanese gardens of other cultural expressions such as poetry come about and what does the use of such surrogates in garden design tell us about the Japanese people's relationship to nature in the Heian period?

There had for some time been cultural contact with China, where Buddhist and Confucian thought prevailed, in which the Japanese were absorbing, copying/adapting Chinese art and cultural forms, many of which contained references to the natural world. These cultural art forms shaped the views of the natural world in the higher echelons of society within the Japanese Imperial court. They were largely translated through poetry and art and the other secondary surrogates listed above.

Taking poetry as a key surrogate, for instance, we are not talking about poetry as an occasional leisure time activity as we might enjoy poetry today but something more central to people's lives. So let us look at the role of poetry in re-shaping Japanese people's relationship to nature. Chinese poets had developed a stylised and idealised seasonal perspective of nature in which man and nature were in harmony with each other. Their poems were collated into major poetry anthologies and widely read by the Japanese elite. Poems often appeared on hanging scrolls which accompanied a depiction of a natural form which complemented the poem.

The Man'yoshu (which means "collection of ten thousand leaves) was an early compilation of poetry in the 8th C which had a thousand poems containing a quantity of poems organised on seasonal themes. The key form of poetry was called Waka (original meaning of Waka was poetry in Japanese) and informed later poetic development (haiku, renga et cetera, in Japan). By the early 10th century this thirty one syllable Waka poetic form had been refined and had developed further. Every month in the year was represented in their poetry which had reference to specific plants and birds that were particular to each month.

However many of these references to plants and creatures were not just descriptive. They also used nature as metaphors to express human emotion. This development in Waka poetry drew from early Chinese use of poetry to do one of three things, (1) express emotions or thoughts; (2) to describe a scene, or (3) express emotion or thought through a scene. This latter method, underpinned the above Waka poetry. In this poetic form the description of a flower, a plant or an animal, within a landscape, in addition to being seasonal references also included an explicit connection to a human emotion, or memory of an event or sacred place. For instance a deer was associated with loneliness (a mate for its stag). The moon, mountains or rivers referred to particular Kami. Different types of weather were metaphors for human moods.

Throughout the poetry at this time the elegance and harmony within nature was stressed. In this way the harmony between human and natural spheres became intertwined and was reinforced in people's minds. Status within the imperial court depended on a deep understanding of the cultural references contained within art and poetry, as well as an ability to use poetic forms as a means of communicating thoughts and feelings and other broader cultural references was imperative in their social intercourse.

The Heian court gentlewoman, Sei Shonagon who wrote the famous "The Pillow Book", provides a fascinating insight into the role of poetry in court culture. She memorised over a thousand poems that she used in courtly discourse on a daily basis. Alongside this work is the Tale of Genji written again in the Heian period where similar recitation of poetry is referred to within the stories. These poetic forms influenced artists of all kinds. Decorations on ceramics, clothing, flower arrangements, dividing screens, hanging scrolls, wall decorations are just a few art forms influenced by content of poetry.

The kimonos worn in the Heian period for instance could have designs to reflect the coming of a season or could be representative of a particular season in which it was being worn and could also contain designs expressing an enormous range of cultural references. Elements of the natural world that appear on kimonos could have strong poetic associations, while more complex landscape scenes often refer to particular stories drawn either from classical literature or popular myths. While carrying an auspicious meaning, they also served to demonstrate the literary discernment and cultural sensitivities of the wearer.

This idealisation of nature through all these poetic and artistic forms, reinforced the connectedness of people and nature. The cultural meanings hidden within the poetry became embedded in people's consciousness. Their use in discourse and social exchange was second nature to people of the court at that time. Alongside this development were other forms of literature with wide appeal in society such as folk tales and other stories as well as theatre. Some of these stories portrayed satoyoma as a more idealised landscape in which humans lived in harmony with nature. This pastoralisation of the mountain village was regarded by Heian poets as a retreat from the bustle of the city and the danger of court society.

As part of the above, the creation of tea houses as rustic retreats appeared at about this time (16/17th century onwards), sometimes set up within the confines of their urban estates (Figure 9). Within the tea houses a stylised flower arrangement, a hanging landscape or poetry scroll connected to the specific season or place were used as a further level of cultural messaging to guests. This idealised view of landscapes was further reinforced by Chinese landscape paintings referred to earlier and which were imported at this time in their thousands and copied by Japanese artists.

Figure 9: Hakusasonso Villa garden located near Ginkaku-ji Temple, was built by the Japanese painter Kansetsu Hashimoto in 1916 as his residence.

The impact of these other cultural surrogates upon garden designs.

Returning to the gardens made in this period. The people creating their gardens brought to bear all the above cultural allusions contained in poetry and other artistic forms and used the design of their garden landscapes as further references to these other cultural and religious expressions. Using these surrogates also served to demonstrate to visitors the garden owner's deep appreciation of poetic culture, both in reference to the changing seasons as well as human emotions alluded to within poetry, poetic references to famous places, or in some instances scenes captured in Chinese landscape paintings. Owners of gardens sometimes used them as places in which guests were invited to view the significant collections of landscape art of the owner or undertake poetry competitions, thus reinforcing all these secondary cultural references to nature in one unifying place where nature existed and could be directly viewed. So strong an influence was the above thinking that one of the most famous gardens in Tokyo built in the Edo period (1603–1868), Rikugien (六義園), which literally means "six poems garden", reproduces in miniature 88 scenes from famous poems within its stroll garden design and continued a tradition started in the Heian period.

It can be seen from the foregoing that the 'essence' of nature captured in the Japanese garden carried far deeper resonances for the people who created them. It combined appreciation at both the intellectual and the visceral levels, with each level of appreciation reinforcing the other one in respect of people's sense of connectedness to nature. So powerful and enduring are the metaphors and cultural references found in these early gardens that they are still drawn upon today in the most recent of garden designs emanating from Japan. This is however not the whole story about the relationship of the Japanese people with nature.

Has the notion of harmony with nature remained strong within Japanese culture throughout the past and present?

There have been deep tensions in this relationship, and ironically this first surfaced at a time when the highest forms of cultural expressions in relation to nature were emerging in the Heian period. The relationship of the Japanese people to their forests exemplify the issue.

The building of cities such as Nara and their vast Buddhist temples and castles devastated natural forest landscapes around Japan: forest landscapes that had for centuries been carefully preserved and used sustainably. Japanese architecture relied almost exclusively on wood as this was seen as an essential part of the natural appearance of their buildings which enhanced the sense of harmony between people and nature.

Figure 10: Great Buddha Hall at Todai-ji in Nara, Japan.

The construction of the Todai-ji Temple hall of the Great Buddha in Nara (Figure 10) caused the first widespread deforestation in the region and the felling of the ancient trees to build large structures for the city was a cause of consternation within local communities fearing retribution from the Kami gods.

"*This exploitative use of forests worked as long as Japan's population was small. The rulers' demands for timber sometimes led to severe local deforestation, but they were always able to shift the logging to new areas with "old growth" forests that contained an abundance of large trees for high quality lumber.*

Logging for timber demands of the elite often suited villagers because it opened up land for agriculture while also creating secondary forest, which was the best vegetation for providing organic fertilizer, fuel, fodder, and other forest products for subsistence.

The situation started to change around 1570. By then, Japan's population had increased to ten million people, and villagers' needs for subsistence forest products had increased correspondingly. Large-scale military conflict during the 1500s required large quantities of timber for the armies. With the advent of the Tokugawa shogunate and peace, followed by rapid growth of cities and monumental construction projects for castles, temples, and shrines, logging increased during 1600s to a scale never before experienced in Japan. Conflict between villagers and rulers over the use of forest lands - subsistence products for the villagers vs. timber for the rulers - became more intense. By 1670 the population had increased to nearly thirty million, and with the exception of Hokkaido, the old growth forests had

been completely logged. The supply of timber and other forest products was running out. Soil erosion, floods, landslides, and barren lands (genya) were becoming ever more common. Japan was headed for ecological disaster."[5]

The satoyama communities were most affected by these impacts and responded by refining the management of the secondary forests for subsistence needs, planting new tree types to meet national demands and beginning full scale and active management of forest lands. It took from around 1670 to the 1920s before full reforestation was achieved, but principally with secondary forest tree types. Then there followed substantial deforestation during World War II, followed by intensive reforestation during the 1950s to 1970s. Latterly, international efforts to preserve ancient forests has led to several forests in Japan having World Natural Heritage designation. Botanists have been re-seeding the forest areas with trees that existed before the despoliation periods of the 1600s in an attempt to recreate 'ancient' primary forest landscapes.[6, 7] The story of the Japanese forests is a testament to the complexities that exists between people and their natural landscapes.[8] It is interesting that it was the satoyama communities, those closest to nature and their deeply felt Shinto beliefs, who sought to find a new balance with nature and led the reforestation movement which still exists today.

Summation.

This brief article has only sketched out the story of the relationship of the Japanese to nature and there are deeper subtleties in the relationship. For those who like to delve deeper I can recommend Shirane's book for some very interesting insights into this subject. I hope that at least I have shown the relationship of the Japanese people to nature is many layered, and that all the surrogates for nature and the cultural references that they implied, in addition to religious perspectives, have played a significant and continuing role in the Japanese people's perception of their relationship to nature. In combination, all these human expressions, both religious and artistic, reinforced through the centuries, reflect a complex web of thought and understanding to the Japanese and underpin a strong belief of the Japanese people that they are as one with nature in all its forms.

Notes

[1] Japan and the culture of the four seasons: Nature literature and the arts by Haruo Shirane. Columbia University Press / New York (2013) ISBN-13: 978-0231152815

[2] Bernard, Rosemarie. 2004. Shinto and ecology: Practice and orientations to nature. Cambridge, MA. Harvard University Press. This article was originally published in Earth Ethics 10, no.1 (Fall 1998).

[3] The Buddhist Attitude Towards Nature by Lily de Silva. Access to Insight (Legacy Edition), 30 November 2013, http://www.accesstoinsight.org/lib/authors/desilva/attitude.html.

[4] Sakuteiki: Visions of the Japanese Garden: A Modern Translation of Japan's Gardening Classic (Tuttle Classics) by Jiro Takei and Marc P. Keane (2008) Tuttle Publishing. ISBN-13: 978-0804839686

[5] Japan - How Japan Saved its Forests: The Birth of Silviculture and Community Forest Management by Gerry Marten (2005). Environmental tipping points:a new paradigm for restoring Ecological Security, Journal of Policy Studies (Japan), No.20 (July 2005), pages 75-87.

[6] "Can hole diggers and acorn gatherers save the earth?" Kanagawa Notebook Post-quake Japan: News, Experiences, and Thoughts. Posted June 17th 2012 See https://notesfromhadano.wordpress.com/2012/06/17/can-hole-diggers-and-acorn-gatherers-save-the-earth/

[7] "Save the World's Forests – Japan's Forests" see http://www.saveamericasforests.org/JapansForests/Japansforests.htm

[8] Hayashi A. 2002: Finding the Voice of the Japanese Wilderness. International Journal of Wilderness 8(2): 34–37.

Image Acknowledgements

Figure 1: See https://en.wikipedia.org/wiki/Satoyama.

Figure 2: From an album Elstner Hilton compiled in Japan between 1914 and 1918. Downloaded from Flickr page of A Davey (https://www.flickr.com/photos/adavey/).

Figure 3: Photograph by Frank J. Gualtieri Jr. See: https://en.wikipedia.org/wiki/Kamo_Shrine

Figure 4: Photograph by Anthony Austin.

Figure 5: Photograph by Anthony Austin.

Figure 6: Photograph by Graham Hardman.

Figure 7: Photograph by Ian Chrystie.

Figure 8: Photograph by Ian Chrystie.

Figure 9: Photograph by Anthony Austin.

Figure 10: Image by 63 Highland. See: https://en.wikipedia.org/wiki/Todai-ji.