# Japan the Horned Islands JSPS Nordic & Baltic Newsletter (9) 2011 Summer/Autumn



Satoyama forest (Kunugi, Sawtooth oak, Quercus acutissima)

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**Bamboo forest** 

# I. Prologue

# *Day-by-Day* by Hiroshi Sano

In 1877, an American zoologist, Edward Morse (1835-1925) first visited Japan as an invited professor of zoology at the Tokyo Imperial University (currently the University of Tokyo). During the 3 years stay, he actively surveyed marine biology, and established a method to trace the prehistory by analyzing shell heaps.

He was also much interested in Japanese life style, and carefully observed the daily life of commoners in that period (Meiji era). Based on his diary, he published a book in 1917 entitled "Japan Day-by-Day". He described many features which are so common for Japanese that no record was kept. For example, he was surprised to see that children were well taken cared of, but were not too much spoilt. The simple diet often consisted of unpolished rice and vegetables, but still people looked healthy. He was also surprised to find that people were not ashamed of exposing their body in public, the sight of men wearing only loincloths was familiar (see woodblock prints by Hokusai). He realized that common sense in Japan was not common in Western society, and vice versa.

Perhaps the situation is still true today. The first puzzling experience for a visitor may be the calling of a person's name. People strictly call each other by the surname (family name) with the honorific title *-san*, which corresponds to Mr and Ms, *Sano-san* in my case. This is a common rule in the society, even among school children, giving impression that the human relationship is distant. Many people call foreigners by the first name with or without *-san*, such as "Anna-*san*" or simply "Anna". It may sound uncomfortable for most visitors, feeling that foreigners are discriminated.

There are many items which are common in one culture but not in the other: Talking loudly by cellular phone in public is common in Sweden but not in Japan; Juvenile behavior of women is common in Japan but not in Sweden; Waiting patiently for one's turn in shops is the rule in Sweden but not in Japan; Spitting on road is frequent in Sweden but it is seldom seen in Japan; Charge-free public lavatory is always available in Japanese cities, while almost not provided in Sweden...

All these features are trivial, and foreigners are aware of them only through routine experience in the country. Nevertheless, a sum of trivial matters often defines the life style, and affects the visitors' perception and understanding of the surroundings.

The importance and impact of trivial things on peoples' daily life have long been recognized. For example, a Japanese writer, *Akutagawa*, *Ryunosuke* described; "To make life happy, you should value the trivia. To live happily, you should be patient with the trivia" (*Aphorisms by a Pygmy*, 1925). I think that today this phrase is still of great value when we replace the word "life" with the word "internationalization" in all domains (*Director, JSPS Stockholm Office*).



A common garden visitor, Indian fritillary (Argyreus hyperbius L. 1763)

# **II**. Reports

### JSPS-RSAS Conference Capturing the Sun by Yuko Kamoshita

On 30-31 May, a conference titled "Capturing the Sun" was held jointly by JSPS and the Royal Swedish Academy of Sciences. Venued at RSAS, it celebrated the 10<sup>th</sup> anniversary of the JSPS Stockholm Office. The conference was proposed by former RSAS permanent secretary Dr. Gunnar Öquist and convened in cooperation with the RSAS Energy Committee.

Among the remarks kicking off the meeting were those from RSAS permanent secretary Dr. Staffan Normark followed by JSPS president Prof. Motoyuki Ono, who first expressed appreciation to RSAS and Swedish participants for the care and concern they extended when eastern Japan was struck by the mega-earthquake. He, then, described how a Fund has been established within JSPS to enhance the flexibility of Grant-in-Aid use by researchers. The nuclear plant destruction that had just occurred in Japan brought to the fore the increasing need for alternative sources of electricity, making this conference on solar energy a very timely catalyst for expanding research collaboration between Sweden and Japan.

Some 100 people filled the hall to hear the

lectures from frontline researchers, who addressed the theme from the varying perspectives of their respective fields of physics, chemistry and biology, while overarching them in advancing the dialogue.



*Contributors to the conference* 

The event also featured a poster session by young Swedish and Japanese researchers who will shoulder the future of scientific advancement in the renewable energy domain, giving them a good opportunity to share ideas and network with each other (Deputy Director, JSPS Stockholm Office).

## JSPS Colloquium Abiotic Stress from Genes to Biosphere by Lisa-Mi Swartz

On 20 August, JSPS joint Scandinavia-Japan colloquium was held in Stavanger, Norway. The title was "Abiotic stress from genes to biosphere". The meeting was held in ad-joining of the biannual Scandinavian Plant Physiology Society, SPPS, conference.

In the northern area of earth, growing environment for plants is severe. Cold, draught and limited-photoperiod particularly restrict their growth. To cope with these stresses, Nordic plants have evolved a variety of mechanisms. The aim of the meeting was to analyze and understand such mechanisms. The presentations were diverse, focusing on ecology, physiology and molecular biology. Identification of a "memory" of conifer to determine the budding timing in spring will be useful for tree physiology in the future. The critical role of phytohormone, abscisic acid, in stress response was also pointed out. Many papers gave novel information, and will significantly contribute to future research in this field.

JSPS's first colloquium in Norway gathered some 70 participants and have hopefully promoted an increase in Scandinavian-Japanese research exchange (*Office Coordinator, JSPS Stockholm*).

### JSPS Finland Alumni Club Joint Event with the Japanese Embassy by Kazutoshi Ono

On March 4, 2011, the JSPS Alumni Club in Finland Alumni Meetings Held in Finland

On 1-2 June, the JSPS Alumni Club in Finland held a seminar and general assembly in Joensuu, a zesty university town that seats the capital of Finland's picturesque North Karelia region.

Among the presentations at the seminar, one was given by Dr. Seiichi Yamamoto, professor, Doshisha University, who had hosted Finnish club member Dr. Kristiina Jokinen, professor, University of Tampere, during her visit to Japan under the BRIDGE Fellowship Program. Dr. Yamamoto described an intelligent English tutorial system, termed CALL (Computer Assisted Language Learning), being developed for students



Markku Hauta-Kasari with lab-tour group

who will use English as a second language. In Japan, people find it difficult to carry on unbroken English conversation that requires thinking while talking and talking while thinking. The CALL system, he explained, is being designed to aid the learner through computer interaction in carrying out a fluent dialogue. As learners in Finland experience similar difficulties in mastering English conversation, Dr. Yamamoto's presentation kindled the interest of all in attendance.

The club's general assembly was attended by its board members and both regular and associate members, who discussed the agenda of future club activities, the BRIDGE Program, and the club charter (*Program Coordinator*; JSPS Stockholm).



Finland Alumni club General Assembly participants

### Impressions from JSPS-RSAS Conference by Shinzaburo Ito

JSPS and RSAS (Royal Swedish Academy of Sciences) held a two day joint conference May 30, 31, 2011 with the attractive theme "Capturing the Sun". Bilateral meetings have been conducted by JSPS and RSAS several times in the past, but this was specially planned as a conference commemorating the 10<sup>th</sup> anniversary of the opening of the JSPS Stockholm Office.

From the airplane before landing at Arlanda airport, I got my first sight of Stockholm in a rich natural

environment surrounded with lush greenery intertwining with the lakes and sea. I was able to enjoy the beautiful green and water interwoven with historical buildings, understanding why this city is called the Venice of northern Northern Europe. Opening the conference in this strongly, I strongly felt the significance to discuss the possible improvements of solar energy usage for environmental preservation.

The conference was held at RSAS Beijer Hall in the

university district North of Stockholm. Prof. Staffan Normark, RSAS permanent secretary, Prof. Motoyuki Ono, president of JSPS and Prof. Gunnar Öquist, the previous permanent secretary of RSAS, spoke during the opening address.

The Energy Committee of RSAS had invited a total of 20 lecturers, 11 from Sweden, 8 from Japan and 1 from Germany. They were complemented by 12 poster presentations, all spread out on two days.

The starting point of the conference was that in 2050, the energy human will need will be twice the current level. Today 80 percent of the energy comes from fossil fuels. The situation needs to be improved by higher usage of renewable energy, for this reason solar energy must be developed and commercialized.

The meeting started with a general session which rather had a socio-economic aspect than an academic one. The speakers gave an insight into Swedish solar energy policy, the development of high efficiency solar cells, thermal conversion of solar energy focusing, and prospects of industrial solar cells. The impression after hearing these lectures was that Swedes are highly interested in solar fuels and solar energy efficiency, since the daylight hours is about half compared with Southern Europe and there are large variations of daylight hours related to seasons. The main goal in Japan is to make solar-cells more high-efficient, durable and lower the cost for easier dissemination. Here I found an interesting difference in the core research and development between Japan and Sweden.

From the middle of the meeting, there were six academic sessions.

The three first sessions were about the solar cell that converts sunlight directly into electrical energy, introduced fabrication of semiconductor nanowire array aiming to surpass the high-efficiency CIGS solar cell or silicon solar cells, and current semiconductor technology growth. In organic Polymer Solar Cells, which has been developed first in recent years, it was reported the importance and prospects of chargeseparated state and charge dynamics analysis in the interior of polymer than films. When it came to dyesensitized Grätzel Cells which is more mature research, the topics were analysis of the electron inject speed into the TiO2 with controlled nanostructures, achievement of efficient charge separation, endurance under high temperature and development of dye and electrolyte solution aiming at higher performance.

Sessions IV and V held late second day, focused on solar fuels as a mean of storing solar energy, the occurrence of photocatalytic hydrogen and oxygen, photosynthesis and artificial photosynthetic system, research and development about a photosynthetic bacteria based on biotechnology. Production of storable chemical energy using nearly infinite material resources such as light and water, was seen as an ideal research target.

In the last session VI, the lectures were focusing on solar thermal energy conversion. Converting from heat energy to chemical energy (hydrogen and oxygen), efficient transfer of energy to heating medium and thermal storage, were topics being looked into.

The closing remark was held by Prof. Sven Kullander, Chariman of RSAS Energy Committee. He voiced the expectations on science and technology for the solar energy alternatives to fossil fuels which had been discussed throughout the meeting, but also the expectations on the human race to learn how to wisely use the resources available to us.

Since the conference commemorated the 10<sup>th</sup> anniversary of JSPS Stockholm Office's establishment, there was a reception held at the Japanese ambassador's residence after the first day where I enjoyed a wonderful dinner at the mansion on the shore.

This was also an occasion for Prof. Hiroshi Sano, Director of JSPS Stockholm Office, to take his farewell, since his tenure will end this autumn. Prof. Sano has been the true driving force behind the conference and he has worked a big roll in the academic exchange between Japan and Sweden over these last four years. This feeling was voiced through many words of appreciation from the Swedish academics. Finally I would like to thank everyone who helped realize this meeting; JSPS who invited me, everyone of RSAS and JSPS Stockholm Office staff who prepared and took care of the meeting (*Professor, Kyoto Universty*).



Audience at Beijer hall



Ito's presentation



Poster session

# III. Science & Culture

#### Studying in Japan: the Undergraduate Experience by Anni Kynsilehto

Ever since I was in elementary school I had always wanted to visit Japan, and after finishing high school I got the chance to not only visit the country, but to spend five years living there when I became the first Finnish student to be awarded the MEXT scholarship for pursuing undergaduate studies in Japan. In April 2005 I moved to the city of Minoh in Osaka prefecture, where I attented Osaka University of Foreign Studies (which later on in 2007 became a part of Osaka University) for one year.

Some girls who lived in the same dorm with me were more or less homesick for the first few days, but as I had been living on my own since I was 16, all I felt was the excitement of being in a whole new country. Even going to the supermarket felt like an adventure. The first thing I looked for in the store was natto, as my Japanese teacher had told me that it's very healthy but foreigners never like it - and I had decided to prove her wrong. The first time I ate it was definitely an unpleasant experience but after I finished the third portion of my triple pack I was already getting used to the taste, and the smell as well. Many people have asked me whether I experienced some kind of culture shock when I moved to Japan, but I have to say that no, I did not.

The first year in Osaka was mainly spent studying Japanese. As we needed to obtain a level high enough to allow us to study in national universities alongside Japanese students, the language course was of course extremely intensive. I had some previous experience studying Japanese in Helsinki, but there were some students who could not so much as write or read hiragana and katakana. As all the study materials were in Japanese, those students had to master hiragana in just a few days.

Besides the language course, all students also had to study several other subjects depending on the major they wished to pursue later on. My major was political science, and therefore I had to study Japanese history, economics, political science and a class discussing Japanese society in light of a variety of contemporary phenomena ranging from Kamen Rider to teenage prostitution. In the case of economics and political science, we were not expected to learn any complex theories in depth, but merely to learn the key terminology in Japanese in order to be able to follow the university level lectures. Although the first year was obviously quite a hectic one, I must say that it was also one of the socially most rewarding ones I have ever had in my life. The students came from all over the world: Asia, Africa, Europe, Oseania and Latin America. I made many foreign and Japanese friends with whom I still stay in touch even now, having returned to Finland.

After this first year we all went on to study at different national universities in various parts of Japan. The university each student attented was decided based on the scores we received in the exams we took in Osaka. We were each asked to compile a list of five universities we would like to go to, and then our instructors compared the scores of all students who wished to study the same major in a certain university. After everyone was appointed a university according to their exam scores and their preferences, we still needed to pass the next stage of the selection process which was organized by the universities themselves. Some universities made the decission based solely on the documents they received, but most also organized an interview and some even a written exam. It was quite rare for a MEXT scholarship recipient to fail this screening process, but in my year there were two students who Hokkaido University deemed to be inadequate. After this MEXT chose for them two less famous universities in rural areas which they had to attend. Even though most students were not very excited about going to these smaller universities, I

think that student life in such ares does have its benefits. Because rural universities have very few foreign students they take extremely good care of them, and the cost of living is also much lower than in major cities such as Osaka and Tokyo.



As for myself, although all those luscious Okinawan beaches made consider me moving to Naha, in the end I decided to attend the University of Tokyo. Undergaduate studies in Tōdai (as the

university

is

Anni Kynsilehto at graduation ceremony

colloquially known in Japan) are divided into two steps: first you spend 1,5 years studying liberal arts at the College of Arts and Sciences in Komaba and after that focus more on your major subject at the corresponding faculty. I majored in political science and therefore attented the Faculty of Law in Hongo. In general I found the curriculum to be quite well balanced and interesting, but inevitably there were some exceptions. Even political science majors had to take several courses on the Japanese Constitution and Civil Law, and while I was able to muster up some motivation to study the Constitution, it was hard for me to figure out any benefit I migh derive from finding out all the details of the Japanese Civil Code. Still, somehow I managed to complete all the required coursework, even though the teachers did not give foreign students any special treatment. There was one time when a professor who wanted the students to write vertically from right to left (which is quite a rare request in universities nowadays) said that foreign students could write horizontally if they so wished, but that was all. I think it is good that no special treatment is given, because if you want to study in a top class university like the University of Tokyo, you really should be willing to make the same effort as everyone else.

I obtained my bachelor's degree in March 2010, and after graduation I thought that a change of scenery might be in order and decided to return to Finland. The only problem I have had with my degree here is that in the Faculty of Law students do not write any thesis but merely complete the recquired amount of credits, and many European universities require you to submit a sample of your thesis in order to enroll in a master's degree programme. However, such problems can be avoided as long as you know what you are going to do after graduating (most Japanese degrees do include a thesis, so that problem is easily avoidable) and make sure your degree meets all the requirements. It is also possible to have your scholarship extended and to obtain a master's degree in Japan. I was quite uncertain as to what I wanted to do next, but recently I was accepted into the Master's Degree Programme in Asian Studies at the University of Turku where I can hopefully make use of my background in social sciences and my knowledge of Japan.

I think that even for people in Scandinavia who can receive a high class education free of charge in their home country, studying abroad is definitely something worth considering. There is a huge difference in spending just one year studying on a program that is designed for foreigners compared to completing your entire degree abroad. I am not saying that the shorter programs are not a great experience – I am sure they are – but spending several years in a country like Japan does give you a much deeper look at the society and the people who live in it. The MEXT Scholarship for Undergraduate Studies covers your tuition fees and also gives you a monthly allowance that will cover most of your living expenses. If you are interested in applying, contact the nearest Japanese embassy to find out more about the application process and to see whether you are eligible (Master student, Helsinki University).

#### East Meets West on a Plate (7)

# *Rice, the Pearl of Grains* by Elisabeth Sano

Rice with wheat and corn, is one of the three most important grains in the world today. More than one third of the world's population eat rice as the only staple food.



Rice paddy

Rice has been important to most Japanese throughout history. Around 350 B.C., wet-rice agriculture was introduced to Japan from the Asian continent to Kyushu island. From there, it spread northeastward. The original variety was suited to the warm and humid climate. Some claim that red rice (akamai or akagome) was the rice introduced originally. Red rice has a special ritual value and some shrines located in remote areas of southern Japan still cultivate it for ritual use. The Japanese custom of using sekihan (red rice) for festive occasions may derive from the early use of red rice. Nowadays, sekihan is made by combining red beans (azuki) with rice to produce the desired color. In the areas it penetrated, wet rice agriculture replaced a long tradition of hunting-gathering economy. Miscellaneous grains (zakkoku) such as wheat (mugi), buckwheat (soba), Italian millet (awa), true millet (kibi), Deccan grass (hie, barnyard millet) and sesame (goma) were cultivated by the Japanese before the introduction of wet-rice cultivation techniques.

During the Medieval (1185 - 1392) and the Early Modern (1603 - 1868) periods, rice was a tax (*kokudana*) taken by regional and central governments. It was preferred to money as a medium of exchange because it was considered

pure whereas money was impure. In older times, common people subsisted on tubers and grains while rice was the staple food valued by the elites: emperors, nobles, warriors and wealthy merchants. In Early Modern period when improved technology made higher yields possible, a large quantity of rice with few side dishes became the poor people's diet, whereas the more affluent spent money on side dishes.

There are many varieties of rice available. The rice plants must be adapted to regional climates within Japan that range from subtropical to subarctic. With affluence and a reduction in rice consumption, most Japanese have developed a preference for varieties grown in the cold climate of *Niigata* and northeastern Japan (*Tohoku*), which includes six prefectures: *Fukushima* (before the unfortunate nuclear disaster), *Miyagi*, *Iwate*, *Aomori*, *Yamagata* and *Akita*. It is the rice of these regions that the Japanese today identify as the Japanese rice.



Harvested rice

Rice paddies have long been representatives of the Japanese landscape. They are well depicted in woodblock prints of *Hokusai* and *Hiroshige* in the mid-eighteenth century. They have also been a common theme portrayed in paintings and contemporary posters in travel agents offices to attract city dwellers who long for the countryside or *furusato*. Japanese are very sensitive to the manifestations of the seasons. Rice paddies tell people of the four seasons, beginning with rice planting in the spring through its growth during the summer, its harvest in autumn and empty fields with sheaves of rice plants covered with snow in winter. It is believed that they function as dams and rice production preserves the soil of Japan.

The aesthetics of rice is expressed in poems, essays. There are many festivals related to the cultivation of rice. The plant provides other useful materials. Rice straw and chaff are used as fertilizer. In Bizen style pottery, rice straw is wrapped around the clay items during firing to protect them and to imprint aesthetic designs. In the past, the Japanese used ash from rice husks or straw to remove oil from animal fur before making it into writing brushes. Rice straw is used to make straw hats, sandals, raincoats (mino), snowshoes, tatami mats etc... These objects were vital in daily life. They acquired an aesthetic value in Japanese culture and contributed greatly to the way the Japanese feel about rice and rice agriculture.

Rice has always been the food for ritual occasions. It is the most important offering to deities and it is considered a deity. The daily offering to the family ancestral shrine, especially in the countryside, continues to be rice. It must be offered to the ancestors before the living partake of it. Some shrines and temples are dedicated to *Inari*, the god of rice whose messenger is a fox. Usually one can see images of seated foxes, facing each other in front of *Shinto* shrines.

The Asian domesticated rice, *Oryza sativa*, has two major subspecies. The *indica* type, referred to as long-grain rice, has longer, more slender grains that remain separate when cooked. The *japonica* or short-grain type has shorter, rounder, more translucent grains that become sticky when cooked. Both subspecies have glutinous and nonglutinous varieties. The *japonica* rice became the exclusive type cultivated and consumed by the Japanese. It has undergone many changes as a result of many efforts to improve the species.

It differs from other staple foods in that it is cooked and consumed without any processing other than threshing and milling, unlike wheat and corn which are first ground and then made into bread and tortillas. For this reason everyconsuming population insists on quality in their Contemporary Japanese prefer white rice. (polished) rice and they developed discriminating tastes. Cooked rice must have luster (tsuva), stickiness (nebari) and taste (aji). Formerly the cooking of rice was the most important task for women and their cooking skill was judged by their ability to cook it well. The consumption of white rice is a relatively recent phenomenon. Probably it was the end of the seventeenth century that the Japanese began using polished rice. Earlier they consumed unpolished brown rice (genmai). Later white rice became the rice and unpolished rice became the food of the poor. As natural foods became popular, brown rice is coming back on the market but its popularity is still limited to a small health conscious group.

The Japanese term gohan (or meshi) means either cooked rice or the meal in general. "Have you eaten gohan?" should be understood as "Have you eaten a meal?" Most Japanese continue to associate the evening meal at home with rice. During an ordinary evening meal, side dishes (fukushoku) are eaten together with rice (shushoku, main food). On special occasions or when there are guests, many side dishes are served first. But the meal is not complete without rice, usually a small amount served at the very end. When they could afford it, people used money for side dishes and the amount of rice became proportionally smaller. The appearance of foreign foods further reduced the amount of rice consumed by the Japanese. For breakfast, in many homes, bread replaced rice.

Rice that accompanies a foreign or Western dish is often referred as "*raisu* that is rice as in "curry *raisu*". Many foreign dishes such as pork cutlets (*tonkatsu*), hamburgers, steaks and omelets are



" Curry raisu"

served with rice. The use of the word "*raisu*" usually means that the dish is not Japanese style (*washoku*). Many traditional Japanese dishes containing rice continue to be in demand. *Donburimono* is plain rice topped by side dishes such as omelets, seafood, chicken with vegetables or any leftovers, served in a large bowl.



Sushi, a popular dish inside and outside Japan, refers to a vinegared rice

Donburimono

preparation. Most

people think it is synonymous with raw fish but slices of fresh, uncooked fish are called sashimi. The origins of sushi go back well over several hundred years and it was very different from the sushi we know today. Nowadays, we can distinguish many kinds of sushi: *chirashi-zushi* (garnished sushi) can be a part of a lunch box, *gomoku-zushi* (assorted vegetarian sushi), *sabazushi* (mackerel loaves), *nigiri-zushi* (rice balls), *inari-zushi* (stuffed pouch sushi), *maki-zushi* (sushi rolls), *temaki-zushi* (hand-rolled sushi).

Nigiri-meshi or onigiri are rice molded into various shapes (triangle, round, spherical,

cylindrical). The rice balls can have different coatings: nori (laver), toasted sesame seeds, soy sauce, miso, etc... They can also be filled with diverse ingredients such as grilled salted salmon, umeboshi (pickled plum) etc. Rice cakes (omochi) are steamed glutenous rice pounded into a sticky paste and shaped into small rounds or rolled into sheets then cut into squares. They are grilled or boiled into soups, ozoni, especially around New Year. Traditionally, rice cakes are eaten when people need strength, such as the height of the agricultural season and the start of the New Year. They were also fed to women after childbirth. Okayu (rice gruel) is a healthy rice dish. Even today it is the food for babies. Ojiva (miso gruel) is a small amount of leftover cooked rice mixed with miso soup. It is brought to a boil over medium heat, then reduced to low heat and summered for a short time.

Rice is also used for products like soy sauce, *sake* (rice wine), crackers, *genmai-cha* (green tea leaves mixed with roasted brown rice kernels), *nuka* (rice bran) which is a by-product of hulling white rice. It is used as a pickling agent and it is very rich in the B vitamins.

Food plays a dynamic role in the way people think of themselves and others. A man is what he eats. Not only is his body created out of food but so is his moral disposition. It can be said that rice has played an important role in the self-identity and in the culture of the Japanese.

#### How to cook Japanese rice for 3 to 4 persons

- 200 g short grain raw rice

- 300 ml cold water

Rinse the rice well until the cold water runs clear. Transfer it to a heavy based saucepan with 300 ml water and let it soak for about 30 minutes to 1 hour. Bring the water to a boil, cover the pan and lower the heat. Continue to cook for about 15 minutes. Turn the heat up to high for 20 seconds, then remove the pan from the heat and let the cooked rice rest with the lid on for about 15 minutes.

## Festival (9)

#### *Origami* by Lisa-Mi Swartz

*Origami* (折り紙, from *ori* meaning folding, and *kami* meaning paper) is the traditional Japanese art of folding paper into three-dimensional objects.



Kusudama

There is much speculation as to the origin of origami. While Japan seems to have had the most extensive tradition, you will be able to find independent traditions of paperfolding in different places of the world.

The art of paperfolding probably came to Japan from China sometime during 7<sup>th</sup> century. By the *Heian* period (794–1185) origami had already become a wellknown feature in Japanese ceremonies. During the *Muromachi* era (14<sup>th</sup> century), origami was included in the manners of the samurai class which was passed down by the Houses of *Ogasawara*, *Ise* and *Saga* amongst others. Samurai warriors would exchange gifts adorned with *noshi*, a sort of good luck token made of folded strips of paper. During the *Edo* period (1603-1867), paper became more and more accessible and the use of it gradually filtered down to the main population. Paper was now being used for wrapping items or letters and people took on the fashion of paperfolding as decoration.

The earliest unambiguous Japanese reference to origami is from 1680, in a poem by *Ihara Saikaku*. It reads: *Rosei ga yume no cho wa orisue* (the butterflies in Rosei's dream would be origami.) *Orisue* or *orikata* was the common name for paperfolding used in early Edo era, *orimono* from late Edo to early *Showa* (1926-1989), until the term origami was introduced during mid-Showa. In the poem; *orisue* refers to an origami model called *ocho mecho* which is a male and a female butterfly that were used during Shinto wedding ceremonies to wrap sake bottles while representing the bride and groom.

The oldest handbook of origami is Japanese, Akisato Rito's "Hiden Senbazuru Orikata" (the secret of the one thousand cranes) published in 1797. In this book a description of *renzuru* is found; an origami technique whereby one folds multiple cranes from a single sheet of paper. The trick is to fold all the cranes without breaking the small paper bridges that attach them to one another. From 18<sup>th</sup> century familiar origami models such as *orizuru* (crane) and *Yakko-san* (a samurai's man-servant) can be seen depicted on *ukiyoe* (Japanese woodblock prints) or patterns for kimono, although it is not known exactly when these models arose.

After the *Meiji* restoration, the following exchange between Japan and Europe also influenced origami. The origami evolved, forms the core of today's traditional origami. Japan also started to produce what is today known as origami paper, a square of Western paper coloured on one side, either uni-coloured or with Japanese pattern. The popularity of the Western-styled origami-paper led to the dismissal of many models suitable to fold with *washi* (japanese paper), which will not tear where Western paper would.

In traditional origami, the models are passed down from hand to hand, from generation to generation, and they change their shapes and titles frequently. Modern origami, which started in 20<sup>th</sup> century, is based on a completely different paradigm. The folding sequences of modern origami are regarded as models designed by origami creators.

In the early 1900s, there was a vivid origami community including Kosho Uchiyama and Akira Yoshizawa amongst others. They began creating and recording original origami works. Kosho Uchiyama was the first to patent his origami models. Akira Yoshizawa was responsible for a number of innovations, such as wet-folding; an origami technique for producing models with gentle curves rather than geometric straight folds and flat surfaces. The paper is dampened so it can easily be moulded, the final model keeping its shape when dried.



Dragon moulded in wet-folding technique

In 1950s and 60s, an international origami circle was established by creators and folders. The members of the group founded national and local origami organizations. The group adopted "origami" as the universal word for paperfolding, and the notation of diagram by Akira Yoshizawa and Samuel Randlett became the international standard.

Modern origami hosts a purist fraction which considers all use of cuts or glue not to be origami. Classical Japanese origami has been less strict about these conventions, using cuts to add details such as ears or using non-square shapes to start with. There are also models such as *kusudama*, the decorative ball, that are made by many identical pieces being put together using thread or glue. Nowadays, origami models with elements of cutting are often referred to as *kirigami* (*kiri* meaning cutting).

The number of basic origami folds is small, but they can be combined in a variety of ways to make intricate designs. During the 1980s a number of folders started systematically studying the mathematical properties of folded forms, which led to a steady increase in the complexity of origami models, which continued well into the 1990s, after which a movement toward simpler forms started.

There are many different types of origami techniques, only some being mentioned here. The principles of origami are also being used in many different contexts, such as engineering structures or medical instruments; examples are the deployment of car airbags and stent implants from a folded position. The Miura map fold is an example of rigid origami (if we replaced the paper with sheet metal and had hinges in place of the crease lines, could we still fold the model?), which has been used to deploy large solar panel arrays for space satellites.



"Spring into Action by Jeff Beynon

Even though the origami models today are countless, the most well-known is still the Japanese paper crane, *orizuru*. In Japan, the crane is a mystical and holy creature which is said to live for a thousand years, and as such symbolizes a long life. Therefore, it is commonly said that making a *senbazuru* (千羽鶴, 1000 origami cranes) will grant you a wish by a crane, such as long life or recovery from illness or injury. The one thousand cranes are usually assembled as 25 strings of 40 cranes each. This origami compilation is a special gift for close friends or family. They are also often given to a sick person with the hopes of recovery. In schools and workplaces it happens that everyone join to fold enough cranes to make a *senbazuru* for a sick class-mate or colleague. Hanging a *senbazuru* in one's home is thought to be a powerful lucky charm.

The Thousand Origami Cranes has also become a symbol of world peace through the story of Sadako Sasaki, a Japanese girl who tried to fight off her death from leukemia as a result of radiation from the atomic bombing of Hiroshima by making a *senbazuru*, but died at the age of twelve.

The Children's Peace Monument, located in Hiroshima Peace Memorial Park (*Genbaku dome*), is a monument for peace to commemorate Sadako Sasaki and the thousands of child victims of the atomic bombing of Hiroshima. Thousands of origami cranes are being sent from all over the world to be laid out around the monument. They carry with them the wish of the children who made them, to live in a peaceful world. The cranes are left exposed to the elements, slowly dissolving and becoming tattered as the wish is released.



Eternal flame of peace, with cranes

At the base of the monument is a black marble slab on which is inscribed in Japanese:

これはぼくらの叫びです これは私たちの祈りで す 世界に平和をきずくための

Kore wa bokura no sakebi desu. Kore wa watashitachi no inori desu. Sekai ni heiwa o kizuku tame no.

"This is our cry. This is our prayer. Peace on Earth"

(Office coordinator, JSPS Stockholm Office).

#### **Promenade** (9)

# **Birdwatching** by Hiroshi Sano

Birdwatching is one of the most popular recreation today. It is a typical outdoor activity, and people of all generations can enjoy it depending on their taste.

The history of birdwatching is rather new. Birds have so far been practically utilized as the target of hunting and foods. For example, an Elizabethan cookbook described how to deliciously bake swans. It is only after the 20<sup>th</sup> century when people became interested in observing and protecting wild birds, mostly in Britain and North America, that this activity became popular.

In Japan, wild birds and animals were historically well protected until the end of *Edo* period (-1860), perhaps because of the vegetarian habit of people, and the agricultural benefits. Large wild waterfowls such as crested ibis (*Nipponia nippon*) (*toki*), which is now extinct from the Japanese islands, was very common in *Edo* city (current Tokyo). It was reported that, in the late 19<sup>th</sup> century, people were astonished and frightened when they saw American government officers indiscriminately shooting and killing the wild birds for pleasure. People have long and peacefully lived together with wildlife, but apparently they did not have the idea of enjoying wildlife observation.

Birdwatching was first introduced by *Nakanishi*, *Godo* (1895-1984) during the early *Showa* era (around 1930). Living on the outskirts of Tokyo, he routinely observed not only birds but also insects and other creatures. In 1934, he founded the Wild Bird Society of Japan (*Nihon Yacho-no-Kai*), which is now one of the representative organizations for

wildlife

observation and conservation. Now birdwatching has become a common activity for people who love and care for nature and environment.

The number of wild bird species is approximately 560 in Japan, and 480 in Sweden. Located in the Eurasian



Kawasemi (Alcedo atthis)

continent, there are many common species to both areas, but some are specific or very rare in each part. For Nordic birdwatchers, it may be a pleasure to observe such birds, and watching spots for particular species are well documented all over Japan. To begin with, it is not necessary to travel far, many exotic species are found in the midst of large cities like Tokyo and Osaka.

Common kingfisher (*Alcedo atthis*) is rare and strictly protected in Sweden. It is assigned as the "state's wildlife". The bird called *Kawasemi* in Japanese is commonly found in waterfront even in the Tokyo metropolitan area. Many small ponds and streams provide the bird with appropriate foods and nesting places. People are well aware of this bird, and used its feature for designing; town symbols, crafts, foods and arts.

Daurian redstart (*Phoenicurus auroreus*) (*jobitaki*) is a resident of north-east Asia and migrates to Japan

during winter. It acts independen tly without forming a group, but can be commonly found in small

gardens.



Jobitaki (Phoenicurus auroreus)

The male's orange body and black/white head are particularly distinct. People know the coming of winter when the bird appears in their garden, and coming of spring when the bird is gone.

Numerous guidebooks are published for identification of species and suggestions for observation spots. Unfortunately, most books are written in Japanese, but some English guides are available:

"Nature in Tokyo - A guide to Plants and Animals in and around Tokyo", by Kevin Short, Kodansha International, Tokyo, 2000.

"Field Guide to the Birds of Japan" by Wild Bird Society of Japan, the Kodansha America Inc., New York, 1985/2009 (*Director, JSPS Stockholm Office*).

# IV. News & Announcements

### **Fellowship Information**

If you are planning to visit and perform research in Japan, the JSPS Stockholm Office is ready to provide you with useful information on the JSPS fellowship programs. The JSPS fellows are usually recruited in each fiscal year (beginning in April and terminating in March of the following year).

Two ways of applications are available. The main route is (A) to prepare application forms through your host researcher at the host-university or institution in Japan. The host will send all documents to the JSPS Head Office, Tokyo. You may be able to ask your host researcher in Japan to apply for it in advance. This route is open for researchers in almost all countries outside of Japan. JSPS have about 10 awardees for each call. As for the deadline of each application, please find the table as below.

The other route (B) is to apply through the nomination system in relevant countries, where the applicant lives. In this case, the country must be assigned as a partner country by JSPS (note that not all countries are assigned as JSPS partner). This route is in principal, open only for researcher who is a national of such country.

For example, if you are a Swedish researcher, you can apply through the nomination system of the following programs, depending on your career and research field: Post-doctoral fellowship (Standard-KVA, SSF, VINNOVA and Short-term-KVA) or Invitation fellowship (Short-term-VINNOVA).

You can find necessary information through the website of JSPS Head Office (as below) or JSPS Stockholm Office $(http://www.jsps-sto.com/ \rightarrow Menu :Fellowship).$ (Kazutoshi Ono, JSPS Stockholm).

| Program (Main Route)  | Duration  | Application<br>Dead line(※1)   | Commencement<br>of fellowships (%2)  |
|---|---|--|--|
| JSPS Postdoctoral Fellowship Programs<br>For Young post-doctor etc.<br><u>http://www.jsps.go.jp/english/e-</u><br><u>fellow/postdoctoral.html</u> | (Standard)<br>12 to 24<br>months<br>(Short-term)<br>1 to 12<br>months | <1 <sup>st</sup> Call><br>29 Aug 2012 -<br>2 Sep 2012<br><2 <sup>nd</sup> Call><br>7-11 May<br><1 <sup>st</sup> Call><br>3-7 Oct 2011<br><2 <sup>nd</sup> Call><br>21-25 Nov 2011<br><3 <sup>d</sup> Call><br>30 Jan-3 Feb 2012<br><4 <sup>th</sup> Call><br>2-6 Apr 2012<br><5 <sup>th</sup> Call><br>7-11 May 2012<br><6 <sup>th</sup> Call> | Apr 1, 2012 –<br>Sep 30, 2012<br>Sep 1, 2012 –<br>Nov 30, 2012<br>Apr 2011 –<br>Mar 2012<br>Apr 2011 –<br>Mar 2012<br>Jun 2011 –<br>Mar 2012<br>Aug 2011 –<br>Mar 2012<br>Sep 2011 –<br>Mar 2012<br>Dec 2011 – |
|   |   | 30 Jul-3 Aug 2012  | Mar 2012   |
| Invitation Fellowship Programs for research in Japan<br>For Professor or mid-career Researchers etc.  | (Long-term)<br>61 days to 10<br>months                                | Sep 2, 2011  | Apr 1, 2012 –<br>Mar 31, 2013s   |
| http://www.jsps.go.jp/english/e-inv/main.htm  | (Short-term)<br>14 to 60 days   | <1 <sup>st</sup> Call><br>Sep 2, 2011  | Apr 1, 2012 – Mar 31,<br>2013  |
|   |   | <2 <sup>nd</sup> Call><br>May 11, 2012   | Oct 1, 2012 –<br>Mar 31, 2013  |

\*1 These deadlines are for the head of the host institution to submit the application to JSPS Head Office; the time frames for applicants (host researchers) to submit their applications are normally earlier.

※2 Successful candidates must start the Fellowship in Japan during these periods.

## **Upcoming JSPS Colloquium**

### **Nuclear Energy & Nuclear Applications**

#### 13-14 Oct. (Thu-Fri), 2011 Venue: Chalmersska huset, Göteborg

#### Programme

#### Fukushima - the event and its implications

Impact of earthquake and tsunami on Fukushima Daiichi nuclear power plant and lessons learned, Akio Yamamoto (Nagoya University)

Safety regulations in Sweden and the impact of the Fukushima accident, Oddbjörn Sandervåg (Swedish Radiation Safety Authority)

Study of Fukushima Daiichi accident from a perspective of resilience engineering, Masaharu Kitamura (Tohoku University)

#### Radiation - biological effects and its implications

Radiation diagnostics and therapy, and radiation safety aspects & An outlook to the knowledge base from Chernobyl and Fukushima, *Eva Forssell-Aronsson (Göteborg University, Sahlgrenska Hospital)* 

An application of radiation and radioisotopes in plant research & What the fallout from Fukushima means for agriculture, *Tomoko Nakanishi (University of Tokyo)* 

Heavy ion therapy and space dosimetry, Lembit Sihver (Chalmers University of Technology)

Radiation protection for Fukushima nuclear power plant and heavy ion beam utilization in HIMAC, Yukio Uchihori (National Institute of Radiological Sciences)

#### Core physics, thermal hydraulics, stability and safety

Multiphysics modelling of nuclear reactors and its application to safety analyses, *Christophe Demazière* (*Chalmers University of Technology*)

Characterization of training scenarios for BWR operator training, Makoto Takahashi (Tohoku University) Biling water reactor instability for nuclear plant safety, Tomasz Kozlowski (Royal Institute of Technology)

#### Spent fuel disposal, new fuel cycles and safeguards

The Swedish strategy on waste disposal and the Swedish facilities including the final repository, Olle Olsson (Swedish Nuclear fuel and Waste Management Company)

Basic experiments on accelerator driven subcritical system and laboratory experiments for reactor physics using KUCA critical assembly, *Tsuyoshi Misawa (Kyoto University Research Reactor Institute)* 

Nuclear safeguards for detecting hidden sources and quantifying spent fuel, Imre Pázsit (Chalmers University of Technology)

#### Register at info@jsps-sto.com by 3 October, 2011

The colloquium is open to all and free of charge.



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