

Japan the Horned Islands

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Man-Puku Temple (Kyoto)

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Sparrow and Camellia

I. Prologue

Misconception by Hiroshi Sano

“Nature” and “Science” are the most popular scientific magazines. These words have now become a synonym for excellent results of scientific research in the world. People feel very honored when their paper is accepted for publication in these weekly magazines. Society regards the authors as world-class scientists, and gives them many privileges such as research funds, positions and prizes.

How it happened? If publication alone is important, there are more than 100,000 specified journals, among which the authors could freely choose one to best meet the scope of their research. Still many scientists enthusiastically desire and attempt to publish their articles in these two magazines. The secret of the popularity of Nature and Science is perhaps due to their “impact factor”.

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Impact factor has originally been contrived to numerically evaluate the influence of a journal on academic society. It does not depend on issue numbers, research field, numbers of readers and distribution areas. The value is simply calculated from the ratio of the number of cited articles over the total number of published articles during the past two years. For example, when any articles are cited 200 times in 2010 among 200 articles totally published in a journal during 2008 and 2009, the impact factor is 1 for the year of 2010 (200/200). It is obvious that the higher the value is, the more frequently the articles have been cited. Consequently it is considered that the impact factor is closely correlated with the influence or impact of a journal on society. The impact factor of Nature and Science is around 30, which is outstanding in comparison with most other journals ranging from 1 to 20.

The idea of the impact factor has much helped to evaluate and rank commercial journals, but raised a serious problem in the academic society. It produced illusions in a person’s mind that “the result of excellent research is published in a good journal”. A good journal is defined as a journal which is well circulated and frequently cited, i.e., a journal with a high impact

factor. This fostered further illusions that “an article published in a good journal is excellent, and that authors of such an article are leading scientists”. In a word, an idea has been fixed that “a researcher who published a paper in Nature or Science is world-class”.

Nature itself has pointed out that such an idea is a misunderstanding, showing that only 16% of articles published in Nature were frequently cited, and that many important articles are highly cited regardless of the journal’s title (Nature, May 29, 2003). It is clear that the impact factor is not the indicator of the quality of an article, or the ability of the researcher(s).

*



Nevertheless, researchers are now highly concerned about the impact factor. There are some reasons: (1) The numerical expression of research outcomes is easy and convenient to evaluate individual performance. For example, the sum of impact factors of journals in which a person published his/her articles is often used as the basis to recruit young staff and to evaluate achievements of senior staff. (2) It is also used to evaluate applications for research grants. If the background works have been published in journals with high impact factors, the reviewers may feel that the proposal is good and will be convinced to approve the proposal. (3) It is considered to be an important hallmark of research achievement conducted by big grants. For example, scientific contributions are often evaluated by the number of papers published in

high-impact factor journals, such as Nature and Science after 5 years granting.

All above-mentioned features come from misunderstanding of the meaning of the impact factor. It raises a critical question as to the evaluation method of research and researchers. Many scientists agree that the impact factor is not at all appropriate for this purpose, but they also agree that few other markers are available.

*

One option could be the citation. People tend to regard the work to be outstanding upon its frequent quotation. Indeed, the citation index has often been used for the evaluation together with the impact factor. A pitfall of citation is that it does not reflect the quality and genre of the work. For example, Lowery's paper describing the method to quantify the protein content (Journal of Biological Chemistry 1951) was cited 275,669 times during 53 years from 1951 to 2004, reaching around 5000 times yearly. The citation of McClintock's paper describing the first concept of

mobile genes (transposons) was nearly zero at least when it was published in the annual report of the Carnegie Institution (1951). Later she was awarded the Nobel Prize in 1983. Although these cases are extreme, citation index must be carefully used.

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What are other ways for evaluation? Unfortunately it is difficult to think out any satisfactory method. After discussing with several scientists, we reached a very general and common conclusion: to establish an effective peer review system by specialists; to provide a researcher with a long-termed grant to freely perform his/her research interests, and to evaluate carefully the work after for example 10 years. These ideas have partly been realized in Sweden and Japan, particularly in the field of basic sciences. It is a hard task due to the huge number of application and the diversity of the research genre. Thinking of the future of science, it is more effective and proper to establish such a system than to rely on impact factor and citation index (Director, JSPS Stockholm Office).

Nature watch (3)

Autumn Darter (Aka-tombo)

Nursery rhymes (cradle songs) are the oldest songs that human being has ever composed. In England, many songs were written during the 17th century such as the "Mother Goose Melody" and "Twinkle, Twinkle, Little Star".

In Japan, traditional cradle songs (lullabies) prevailed among commoners in the 16th century (*Edo*-period). In the 1920s, a new wave of nursery rhymes appeared, composed by outstanding poets and composers. Many of the poems were based on familiar creatures living in the urban areas; insects (dragonfly, butterfly, beetle), birds (crow, sparrow, crane), aquatic creatures (frog, crucian carp, killifish-*medaka*), animals (fox, badger, hare) and plants (cherry- and rape-blossoms). Many of these songs are still popular today. The song of the autumn darter (red-dragonfly, *aka-tombo*) is one of the favorite ones, due to its simple words and calm melody.

The autumn darter (*Sympetrum frequens*, *aki-akane*) is commonly found in Japan, hatching in June in ponds, swamps and paddy-fields. Its color is initially brown. It soon migrates to mountainous areas during July and August probably to avoid the heat of summer. When matured in early September, the color of the body turns red. The dragonfly comes back to the plain for reproduction. We can see thousands of them flying over paddy fields after harvest. *Aka-tombo* is one of the biological indicators of well-maintained *Satoyama* (village-forest), and it makes people feel nostalgic for old and quiet days (Hiroshi Sano, Director, JSPS Stockholm Office).



Red-dragonfly (Aka-tombo)

II. Reports

JSPS Colloquium Nanofabrication & Functional Device by Takashi Fuyuki & Jun Ohta

JSPS Sweden-Japan Joint Colloquium "Nanofabrication and Functional Device" was held at Linköping University on 15th June, 2010. Nine people in total participated from the Japanese side; Prof. Fuyuki, Prof. Ohta, Dr. Yano from Nara Institute of Science and Technology (NAIST) and Prof. Fujita from Kyoto University were senior members, in addition



Poster session

three doctoral students and two junior scientists from Japanese industry also attended. Linköping University participated with Prof. Holtz, Prof. Monemar, Prof. Uvdal, Prof. Griffith and Assist. Prof. Karlsson as senior members and 6 doctoral students, in total 11 people. The 8 oral presentations were complemented by 11 poster presentations, which all inspired active discussions. On the 16th the Japanese delegation visited the laboratory at Linköping University and could continue discussions divided into four groups according to research fields. We appreciated this opportunity to deepen the exchange. In addition, moving to Stockholm, a meeting with Prof. Sano, Director JSPS Stockholm office, was held to discuss future developments. We hope to create opportunities for international academic exchanges with focus on young researchers between Japanese universities and companies that participated in the 174th Committee on Molecular Nanotechnology, and universities in Sweden (*NAIST, Professors*).

JSPS Colloquium Microbes at Work by Taijiro Tsuruoka

JSPS Colloquium 'Microbes at work' organized by JSPS Stockholm Office, was held at Swedish University of Agricultural Sciences (SLU) in Uppsala and in Krusenberg on 21(Mon) - 23(Wed) June 2010. The Colloquium was planned by Prof. Johan Schnürer, SLU.

The expectation for microbes as a conventional alternative to chemicals has risen as solutions for

worldwide composite problems such as climate change, population growth, food problem, soil contamination, and biotechnology energy. This colloquium was held for the purpose of contributing to solve these global problems by exchanging the finding and the experience accumulated in the two countries until now.

The colloquium at SLU was open to public on the

first day, and approximately 50 researchers and students attended the lectures. On the 22nd and the 23rd, there was a workshop at Krusenberg, which is located a little south of Uppsala in a beautiful nature setting. The presentations and discussions continued intensively with the invited participants. The

opportunities of presentations were given also to the young researchers. The meeting was a good experience for the young researchers who will shoulder this field, and it is expected to promote continuous research cooperation between the two countries in the future (*JSPS Stockholm, Trainee*).

JSPS Colloquium Epigenetics – Best Poster Award by Ryuichi Ono



Prof. Ohlsson, Assis. Prof. Ono – best poster award

On September 6th 2010, I participated in the colloquium ‘Epigenetics-New Horizons in Japan & Scandinavia’ held at Karolinska Institute. My image of Karolinska Institute is that Karolinska is one of the world’s leading research institutes and the institution which determines the Nobel Prize in Medicine.

I arrived on 5th of September, at the central station after 20 minutes by an express railway from Arlanda airport. In Stockholm it was chilly, a big difference from Japan which this summer had a record heat wave. In the morning I enjoyed having breakfast with the Japanese organizer of the colloquium Prof. Tajima, Osaka University, and the other researchers. It was one of the charms of the colloquium to have an opportunity to talk with famous researchers outside the academic society association forum.

Staffs from JSPS Stockholm Office came to the hotel lobby to meet us, and they took us to Nobel Forum in Karolinska Institute. Before the colloquium started, a working lunch for participants was prepared, to start off the exchange between the Swedish and

Japanese researchers. The Nobel forum was full by audiences who wanted to listen to the advanced research in Epigenetics. The colloquium started with an explanation of the Japanese culture and science policy by Prof. Sano, Director, JSPS Stockholm Office. The lectures ranged from a story concerning the controlling mechanism of DNA methylation and the histone modification to the state-of-the-art methodology related to state-of-the-art epigenetics, so it was a very good study for me as a researcher.

I had the chance to have a poster presentation and an oral presentation which was a valuable experience for me. A prize for the Best Poster Award was awarded, one for the Japanese side and one for the Swedish. It was a distinct honor for me to obtain the prize for the Japanese side. PhD student Chengxi Shi’s contribution was chosen for Best Poster Award for the Swedish side. Prof. Ohlsson, Karolinska Institute, presented my prize which was a special product from Sweden, a red wooden horse. I found later that it is called Dalahäst, and was made in Sweden already 400 years ago as a children’s toy and it now has become a symbol of Sweden. I would like to finish this report by pointing out that research has relevance somehow to the Dalahäst in terms of that one small research result might develop into a big research field through the longevity of years.

Finally, I would like to express my gratitude to Prof. Tajima, Osaka University, Prof Ohlsson, Karolinska Institute, Prof. Sano, Director JSPS Stockholm Office, Ms. Kamoshita, Deputy Director, Mr. Tsuruoka, and Ms. Swartz for their organizing the colloquium (*Tokyo Medical and Dental University, Assistant Professor*)

BRIDGE Fellow Report
Cultural Deviations
by Petr Dejmek

For a European, Japan is both a familiar and an unfamiliar country. In many respects, it is a part of what we for want of a better name can call a Western culture sphere, but there are aspects of Japanese life which are very different. During my recent JSPS-Bridge stay in Tsukuba I kept a blog, gg-japan.blogspot.com (in Swedish) covering things I found surprising, strange or interesting. Some of its pages follow below.

This was about my 5-6th visit to Japan, and I have been trying to learn the language for decades – probably I would have found other things striking on my first visit, and old Japan hands will find my musing naive, or worse.

Umbrellas

Japanese use umbrellas, not raincoats or other rainwear, and the country is organized accordingly. At



major tourist sites, when it rains, shopkeepers will offer free loan of umbrellas to visitors,

Even the restrooms are umbrella-ready if not, there will

be stands selling cheap umbrellas. At the entrance of all buildings there are rows of umbrella stands, shopping centers offer narrow plastic bags to put your umbrella in if you would not leave it in the stand at the entrance. Every family owns dozens of umbrellas and find it shocking that foreigners don't. One of my and my wife's strongest impressions during an earlier Tokyo stay was the view of a busy pedestrian street instantly turning into a sea of umbrellas during a rainshower. Looking closely, one could sometimes find an individual without an umbrella, but he or she invariably turned out to be a foreigner. At first, we believed that Japanese always carry umbrellas, but we were mistaken. Every 30 minutes, the Japanese meteorological institute publishes a detailed countrywide rain forecast with a spatial resolution of one kilometer for the next six hours. Newspapers and TV routinely report the

percentage probability of rain, and "good morning" programs on radio remind you of bringing the umbrella if there is a chance of rain. The forecasts are usually correct, and firmly trusted. Once when we were staying with friends, the look of the clouds suggested it would start raining any minute, but our friends convinced us that no rain was coming – the forecast said so. We were drenched.

Mountain walks

If I were to choose just one major difference between mountain walking in Japan and elsewhere, it would be the steepness of the paths. There would be stretches which can only be negotiated on all fours, and even much frequented, "Sunday with the family" walks look more like something only an experienced



mountaineer would take on than a tourist trail. Still, mountain walking seems to be an extremely popular pastime, and one meets old couples, young couples, families with toddlers, a

teenager accompanying an old lady, single old men, groups of children. One common, gorgeous sight is groups of ladies in their seventies or eighties, each equipped with a hat, walking boots and two walking sticks and a towel around the neck. The towel seems to be the trademark of a true mountain walker, practically everyone carries it.

KY

If you take a close look at the picture, you will see that all but one driver has backed up their car into the parking slot. Obviously, it is easier to drive forward into the parking slot – so why do Japanese drivers back in? My host explained that it is to make sure that no other driver is inconvenienced by you exiting the parking slot – forward facing makes it easier to see

whether anybody is approaching.



The tenth one is a KY

It seems that the ability to take account of others' needs and feelings is considered an absolute necessity in the Japanese society, and not only among grown ups. There is a popular expression, KY, coined on the internet, which is a text chat abbreviation of 空気が読めない人, literally meaning 'a person who can not read the atmosphere'. It appears to be used by teenagers as a casual insult, much like "retard" or "dumbass".

Honesty

The picture tells it all. It was taken in a conference

lobby in Fukuoka. Clearly the next person at the vending machine, instead of pocketing the 500Y coin, took the trouble of writing a sign, and left the coin fully confident that no-one but the rightful owner would pick it up.



I had the opportunity to experience at first hand Japanese honesty on an orders of magnitude larger scale. When packing my shopping bags at a local supermarket, I left my small bag, containing passport, driving licence, credit cards and my two months' stipend in yen banknotes, at the packing table. Next day, I got a call from my embassy in Tokyo informing me that my bag was at the police department in Tsukuba – and there it was, untouched, cash and all (*Lund University, Professor*).

Sea Ice Research Visits to Hokkaido by Matti Leppäranta

Hokkaido and Finland share seasonal sea ice as a common feature. Ice forms in the Sea of Okhotsk down to the northern coast of Hokkaido as well as in the Baltic Sea along the whole coast of Finland. In the last 15 years a joint research programme "Ice climatology of Okhotsk and Baltic Seas" has been ongoing between Hokkaido University, Sapporo and University of Helsinki. The principal investigators have been professor Kunio Shirasawa and the present writer. The main topics are the long-term variability of ice seasons, sea ice drift, and impact of climate change on ice conditions. Scientific as well as many practical ice problems in these two seas are highly similar, and, consequently, the exchange of knowledge and expertise between Japan and Finland has been very fruitful in this field. The research work together with frequent mutual visits has been an exciting, lifelong journey into Hokkaido snow and ice science, culture, and way of

life.

Being originally a mathematician, I started with sea ice science in the Finnish Institute of Marine Research in mid-1970s and switched to geophysics in my PhD studies. PhD thesis was focused on sea ice mechanics in the Baltic Sea, published in 1981. In those years I read a lot about the research of Japanese scientists in the Sea of Okhotsk, observing then several joint problems with sea ice investigations in the Baltic Sea. Particularly I enjoyed reading the great pioneers, professors Takaharu Fukutomi and Tadashi Tabata. I continued with sea ice in my post doc research, also after moving for a professorship in the University of Helsinki in 1992. Contacts with Hokkaido University, Institute of Low Temperature Science opened up, first meeting with professor Nobuo Ono in 1984, and ten years later professor Kunio Shirasawa came to Helsinki for a long-term visit, preceded by preparation of the

joint research programme. Since then the collaboration has been very active, and also other science staff and students have taken part in the research and exchange.

Our joint research has been supported by Japan Society for the Promotion of Science (JSPS), Academy of Finland, our own home universities, Ministry of Education, Science and Culture of Japan and the Ministry of Trade and Industry of Finland.

My relationship with Hokkaido became at first sight very warm and close. The mentality of the Hokkaido people is like at home in Finland. They are friendly and warm, deep, and honest; also we both are not so talkative and feel it normal to be silent at times, which is indeed relieving. I have always had a relaxing feeling, like coming to a second home, when arriving Japan. Close relation developed between the families of Kunio and mine, and in addition to the research work we spent wonderful evenings and weekends together in Japan and Finland, teaching and learning each other's culture. Also we became family friends with two other sea ice scientists, Nobuyoshi Ishikawa and Toshiyuki Kawamura, and Toshi's daughter Yumeno has become a real Finland friend even learning the language well.

The northern coast of Hokkaido and landscape toward the Sea of Okhotsk are deep in my memories. I spent there most of the time until 2004, when the Sea Ice Research Laboratory of Hokkaido Mombetsu was closed down and moved to Sapporo. Our main field site has been Saroma-ko lagoon between Mombetsu and Abashiri. In all, I have spent almost one year of my life in Japan, mostly in Hokkaido, staying the longest time during my sabbatical in 2003 and look forward to another longer visit in my next sabbatical.

Hokkaido has the best sushi in the world, which is great but one drawback is that scaling sushi with Hokkaido standard raises the quality requirement to a very high level. Fortunately in Helsinki there is one

'acceptable' sushi bar. I am not only sushi lover but I love the Japanese cuisine as a whole and consider it as the best in the world, other favourites being soba noodles, nabe, sabu-sabu, and grilled seafood. Learning of the onsen culture has been lovely for a person coming from the land of sauna. In fact, because of onsens I do not miss sauna so much than when staying abroad elsewhere. I also like Japanese music, in particular koto, which has some resemblance to our traditional 'kantele' instrument. I have cd records of koto music which I listen at times when feeling so. One of the places I love to visit is Tsuru-tsuru onsen in northeast Hokkaido, bathing in outdoor pool under the stars, surrounded by snow landscape.

Like Finland, Hokkaido has much forest and nature area. I have enjoyed visits to many Hokkaido nature areas, from Otaru beaches to steep mountains and to the coasts facing three seas, the Pacific Ocean, Sea of Okhotsk and Japan Sea, and to Shiretoko peninsula, where I also spent my 60-year birthday in early 2010. Winter nature with thick snow cover looks like a fairy-tale landscape, so fascinating for a snow and ice scientist. Also ainu people has raised much of my interest as we in Scandinavia and Finland have the saami people – ainu and saami are considered to be related but both live in the northern cold and icy environment. Ainu have some 80 words for bear but also we Finns have tens of them.

When JSPS Alumni Club Finland was founded I was keen to join and have actually served as its board member from the beginning. Taking part in almost all AC Finland meetings I have observed its growth and interest spreading wider to new science field and geographical locations. For our laboratory in the University of Helsinki AC Finland has opened an important channel to distribute information and keep up our ties with Hokkaido in future (*University of Helsinki, Professor, Board Member, FAC*).



Field site in Saroma-ko lagoon, north coast of Hokkaido,



At a volcano crater lake - Japan has deeply interesting sites for a geoscientist to visit.

III. Science & Culture

East Meets West on a Plate (6)

Green Tea in Japan by Elisabeth Sano

For many of us Japan means tea. In art, philosophy, in the history and life of the country, tea prevails. The Japanese are always drinking tea (*ocha*) whether to quench the slightest thirst, to take a needed break in a busy schedule or to formalize a business or social occasion. It is also served throughout each meal. Nearly every interpersonal relationship seems to indicate tea drinking.



Camellia sinensis

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The tea plant (*Camellia sinensis*) was one of the first plants cultivated on earth. The first plants were grown in Yunnan Province in southern China. One popular legend attributes the custom of drinking tea to the emperor *Chen Nung*, around 2730 BC. He used to have his water boiled before drinking it. It is said that after a long walk, he was relaxing under a tree. While his servant

boiled some water, a light breeze rose and a few leaves of the tree floated down into the water. When the emperor awoke, he decided to drink the water and found it delicious—thus the tea drinking tradition was born.

Long before tea became a popular drink, it was eaten as a medicine. Japanese Buddhist monks brought back tea from *China* in the early *Heian* period (794-1185). The first record of the custom of drinking tea in Japan was written in the *Nihon Koki* (Notes on Japan) compiled in the *Heian* era. Tea during this period probably came in the form of hard bricks, as it was easy to transport and it kept well during the long trip from China.

Ordinary Japanese only began to drink tea after the monk *Eisai* (1141-1215), the founder of the *Rinzai* sect of *zen* Buddhism, brought back a new type of seedlings from *Sung*-dynasty China. He introduced a new way of drinking tea. It was very similar to nowadays tea ceremony. The tea leaves were ground into powder in a mortar. The powder was put into a tea cup and hot water poured over it. It was whisked until frothy and drunk. *Eisai* wrote the *Kissa Yojoki* (Benefits of tea) in which he explained that tea facilitates digestion, dispels intoxication, it has diuretic effects and it is efficacious against minor illnesses. This document helped to

popularize tea on a large scale.

Later in the *Muromachi* period (1392-1568), tea drinking gatherings became more frequent, especially among the ruling warrior class where they took the form of elaborate banquets. It was quite different from the simplicity of tea drinking held in *Zen* temples. A *zen* priest *Shuko Murata* (1422-1502) designed the small tea room and incorporated the spirit of *Zen* Buddhism in the gatherings. But it was *Sen no Rikyu* (1521-1591), the official tea master to the rulers *Nobunaga Oda* (1534-1582) and *Hideyoshi Toyotomi* (1537-1598), who designed the style of tea ceremony known as *Cha-no-yu*, that is still followed today. In the *Edo* period (1603-1867), the custom of drinking *sencha*, made by pouring hot water on tea leaves, became popular among commoners.

*
Nearly all of Japan's tea is green. It is grown throughout the country preferably on land where rice and other crops cannot be grown. More than half the country's tea comes from the prefecture of Shizuoka with large quantities coming also from Kyoto, Nara, Saitama and Fukuoka. The finest teas of Japan are grown in the district of Yamashiro, near Kyoto. Tea is grown from May to October, and is divided into three crops. The first crop, which provides the best tea and accounts for about half the total crop, is plucked from the beginning of May to the middle of June. The second one is plucked from the end of June through the beginning of July. The third crop is plucked from the end of August until the beginning of September. If a fourth plucking is made, it is a short one in early October. Pickers must be careful not to bruise the picked leaves because a bruised leaf will ferment and for green tea any fermentation of leaf must be avoided. Green tea is unfermented. There are two methods to stop the process of fermentation: steaming the tea leaves and roasting or panning. The steaming process is



Tea garden



Ma-cha



Sen-cha



Hoji-cha



Genmai-cha

used for most of the Japanese tea.

Green tea comes in many varieties. Only the most popular ones will be described here. *Gyokuro* (玉露) tea or Pearl Dew, the most highly prized tea in Japan comes from the area around Uji in Yamashiro. Only the tender top buds of the first flush are made into *Gyokuro*. Just before the picking season, the tea is completely hidden under specially constructed sun shelters. The shading process, carefully carried out, confers a delicate sweetness to this special tea.

When the same leaf is dried in the open natural state, the product is *Ten-cha* (点茶) (also called *hiki-cha*), the leaf from which *Matcha* (抹茶), the ceremonial tea is made. *Ten-cha* is never used as such but is always powdered to make *matcha*.

More than 70 % of Japanese tea is *sen-cha* (煎茶) or ordinary tea. *Sen-cha* is a designation applied to teas from all regions, produced by a variety of methods. Finer teas are often given a special treatment by a particular form of manufacture.

Ban-cha (番茶) may be considered a by-product of the production of *sen-cha*. The coarse leaves pruned off the tea plants at the end of the season, when the bushes are shaped, are used for this grade of tea. In Japan, it has traditionally been regarded as suitable for the elderly and children because it contains less caffeine than other teas. It also contains more fluoride, thus it is effective against tooth decay and helps to prevent bad breath.

Hoji-cha (ほうじ茶) is similar to *ban-cha*. It is produced by strongly roasting a combination of *ban-cha* leaves and tea stems. *Genmai-cha* (玄米茶) refers to green tea combined with puffed corn and roasted brown rice grains. It has a distinctive nutty flavor and it leaves a pleasant roasted aftertaste. It is the perfect accompaniment to a Japanese lunch. *Matcha-iri genmai-cha* (抹茶入り玄米茶) has powdered green tea added, which results in a fuller-bodied beverage.

A cup of tea is relaxing and soothing. Proper care should be taken in preparing it: Try to buy a high quality tea, choose the right teapot, select the water carefully, use the correct water temperature, change the leaves often. All green teas should never be infused with boiling water or they will become bitter, around 70 – 80°C seem to be the best temperature. For the best result one should follow the manufacturer's brewing instructions.

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Green tea is very rich in vitamin C, and a healthy substitute for coffee. It contains about half the amount of caffeine that is found in coffee. Many teas are decaffeinated with chemical solvents, which also eliminate about 70% of the tea's healthful polyphenols.

An easy method to remove nearly 80% of the tea's caffeine while keeping most of its flavor and the majority of its polyphenols is to steep it in hot water for 30 seconds, and to drain off the water, then add fresh hot water and steep the leaves as usual. Caffeine is highly water soluble, most of it will be released into the water.

Recently, medical researchers have discovered a number of health benefits of tea, having to do with its content of catechins (polyphenol). Studies show that tea drinkers in general have stronger bones, lower cholesterol levels and lower rates of heart disease. Some studies relate regular consumption of tea (especially green tea) to a lower risk of breast cancer, advanced prostate cancer and other cancers. The most abundant and powerful cancer fighter in green tea is a flavonoid called epigallo-catechingallate or EGCG. Laboratory studies indicate that it is one of the most potent antioxidants we consume.

We can summarize some of the health benefits of green tea as following: it aids digestion, promotes healthy skin, aids weight loss, it counteracts the effect of alcohol (good for hangovers), it is effective against constipation, it helps the body recover from fatigue, it inhibits carcinogens, lowers cholesterol levels, it slows the aging process and much more.

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Green tea is also sometimes used in savory dishes and desserts. A classic and popular light meal or snack served throughout Japan is *ocha-zuke*. It is a good way to use leftovers. It is made by pouring hot tea over cooked rice. Many ingredients can be added such as shredded steamed chicken, salt-grilled salmon (skin and bones removed), *wakame* (sea weed). It can be garnished with *wasabi* (horseradish), a little ginger or thinly sliced green onions and *nori* (dried laver). The powdered green tea known as *matcha* is used in the tea ceremony. It can also be mixed with salt as a seasoning for *tempura*, blended with soymilk or used in cakes and sweets. Below are two easy recipes using powdered green tea.

Furikake (powdered green tea and sesame seeds)

Ingredients

- 3 tablespoons white sesame seeds
- 1/2 teaspoon powdered green tea (*matcha*)
- a little salt.

Methods

Grind coarsely the roasted sesame seeds. Mix with the powdered green tea and salt to taste. It is good for sprinkling over rice or spaghetti.



Furikake

Banana tempura (fritters)

Ingredients for 4 persons

- 4 bananas peeled and cut into 2 cm slices
- vegetable oil for deep frying
- powdered green tea

Batter

- 60 g all-purpose flour
- 2 teaspoons roasted white sesame seeds
- 80 ml water
- 1/2 teaspoon salt
-

Methods

- (1) Combine the flour, sesame seeds, salt and water to make the batter.
- (2) Dip the banana slices in the batter and deep-fry in vegetable oil preheated to 170°C until they become golden brown. Be careful not to overcook as bananas burn easily.
- (3) Divide the banana slices between individual serving dishes and dust with powdered green tea with a tea strainer.

Festival (7)

Bosai no Hi - Disaster Prevention Day

by Lisa-Mi Swartz

For Scandinavian people, Japan is often regarded as having an appealing climate, while harboring both snowy mountains for winter sports and tropical beaches within its borders. But in fact Japan is particularly vulnerable to natural disasters because of its climate and topography. Japan is also located in the Pacific earthquake belt as well as in the circum-Pacific zone, in which almost all the volcanoes of the world are concentrated, and has 83 active volcanoes-one-tenth of the world total. A Japanese seasonal year can offer everything from snowstorms, *tsuyu* rain season, *taifun* typhoon, earthquakes, *tsunami* and volcanic eruptions.

Between the end of World War II and the late 1950s, when Japan's defenses against disasters were weakened by the war, the country was hit by a series of major typhoons, and violent earthquakes, over 1,000 lives were lost every year. The Ise Bay Typhoon of September 1959, which killed more than 5,000 people, prompted the establishment of a planned and comprehensive disaster prevention administration system. In 1960, September 1 became a designated "National Disaster Prevention Day" *bosai no hi*, to be observed each year as a means of disseminating disaster prevention knowledge and raising public

awareness. In 1961 the Disaster Countermeasures Basic Act was enacted and measures for prevention, emergency relief, and recovery were linked interactively under a system that ensured a planned and comprehensive approach to disaster countermeasures.

The people of Japan have had to learn to live under the constant threat of possible natural disaster. The most recent major one being the Great Hanshin Earthquake which hit Kobe in January, 1995 and caused more than 5,500 casualties. Accordingly countermeasures against disasters in Japan is a never-ending on-going project. Today they can be classified into five categories;

- research into the scientific and technical aspects of disaster prevention
- the reinforcement of the disaster prevention system, its facilities and equipment
- construction projects designed to enhance the country's ability to defend against disasters
- emergency measures and recovery operations
- improvement of information and communication systems.

The budget for these activities in fiscal 2010 is approximately 1.1 trillion JPY (9.6 billion Euro).

One part of the countermeasure actions is *bosai no hi* - Disaster Prevention Day, which is held nationwide on September 1st every year. The day was established to mark the Great Kanto Earthquake, which took place just before lunchtime on September 1st, 1923. Tokyo and its surrounding districts were struck by an earthquake estimated at 7.9 on the Richter scale, over 100,000 people lost their lives that day due to the earthquake and the fires that followed.

Another reason for choosing September 1st, is that traditionally this date is the 210th day after *rissun*, the first day of spring, which is known as *nihyaku toka*, the start of the typhoon season. This is the time when rice



Emergency kit

plants begin to bloom and therefore farmers have always kept strict watch on these days since a typhoon would do a great deal of damage to the coming rice harvest.

On Disaster Prevention Day emergency drills organized by Japanese government authorities at both central and local level, are held throughout the country. Disaster prevention and civil defence have become major public policy issues and Japanese authorities support events and activities that educate citizens on how best to protect themselves, their families and their neighbours in the case of disaster.



School emergency drill

Since September 1st also is the first day of the autumn semester at many schools, there is often an evacuation drill included in the back-to-school ceremony.

This year 2010 Annual comprehensive disaster prevention drills were conducted based on a scenario that a Tokai earthquake, Tonankai earthquake, and Nankai earthquake occurred simultaneously, with a magnitude of 8.7, a maximum seismic intensity of 7, and an epicenter off the southern coast of Wakayama Prefecture, around 7:00, affecting an extremely large area extending from Kanto to Kyushu. Prime Minister Naoto Kan and all Cabinet members took part in the drills together with more than 5.4 million people from 27 prefectures according to calculations by the National Land Agency.

Nowadays, when the threat of natural disasters is increasing all over the globe, disaster prevention and management will come more and more into focus. Japan, being a country with long experience that has succeeded to continuously lower its disaster related death tolls, will surely be able to serve as a positive example for all countries facing these challenges (*Assistant, JSPS Stockholm Office*).

Promenade (7)

Edible Wild Plants

by Hiroshi Sano

Mankind began the cultivation of food plants about 12,000 years ago. The first “products” are supposed to be yam tubers in tropical Asian regions. Breeding of crops including wheat, rice and maize, were initiated later, 6000 to 8000 years ago. Before finding and cultivating these essential food plants, people must have tried to eat numerous species, some of which were certainly toxic. Indeed, the first person who tried lethal plants such as *Aconitum* (Monkshood, *torikabuto*) was brave but unlucky.

During the prehistoric age, people ate a variety of wild plants. In the Japanese islands, up to 100, 000 different parts of plants were reported to be eaten during the *Jomon* period (~20,000 years ago). Such a diversity in nutrition resulted in an unexpectedly healthy life for the people. This is a clear contrast with the way of life today, in which people depend on very few plant species. For example, the uptake of carbohydrate mainly comes from only wheat, corn and rice, the three major crops. It is said that such a limit of nutritional sources is one of the causes of various health problems which people are now facing.

Wild plant species which people ate varied locally and historically. In Sweden, among 1600 native plants, approximately 180 species are thought to be edible. In Japan, among 5300 wild species, 1300 species are edible. Some of these wild plants were domesticated and intensively cultivated, but the custom to eat wild plants is still wide spread in the world.

The most popular wild edible plants in northern European countries are perhaps berries such as blueberry and lingonberry, and mushrooms such as kantarell, which people enjoy picking up during the season. Nettles, elderberry, hazelnuts etc. are also favorites.

In Japan, people also like to gather wild edible

plants, which are called *Sansai* (mountain vegetables), throughout the year but mostly in spring; for example, the shoot of western bracken fern (*Pteridium aquilium*, *warabi*), young leaves of honeywort (*Cryptotaenia*,



Shoot of tara-no-ki

mitsuba) and Japanese parsley (*Oenanthe javanica*, *seri*), flower shoot of horsetail (*Equisetum arvense*, *tsukushi*), bamboo shoot (bambuseae species, *take-no-ko*), young leaf of Japanese angelica-tree (*Aralia elata*, *tara-no-ki*) and many others. The cooking methods are diverse, using fundamental seasonings such as sake (Japanese rice wine), *shoyu* (soy sauce), sugar and salt. There are many restaurants which serve wild plant dishes referred as *Sansai-ryori*.

Tourists visiting Japan enjoy eating many well-known dishes such as *sushi*, *tempura*, *sukiyaki*, *kaiseki* and many others. However, these dishes are available anywhere in Japan, and you may feel you would like to taste some local specialties. *Sansai-ryori* may satisfy your palate if you can find a restaurant, which gathers fresh local wild edible plants in the morning and cooks them just before serving. These restaurants do not look luxurious, but they are comfortable and the price is usually proper. You may ask your colleagues to accompany and help you to find appropriate ones (*Director, JSPS Stockholm Office*).



Digging for bamboo-shoot, take-no-ko



Cooked take-no-ko

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/> →Menu :Fellowship). *(Taijiro Tsuruoka, JSPS Stockholm)*

Program (Main Route)	Duration	Application Dead line(※1)	Commencement of fellowships (※2)
JSPS Postdoctoral Fellowship Programs For Young post-doctor etc. http://www.jsps.go.jp/english/e-fellow/postdoctoral.html	(Standard) 12 to 24 months	<1 st Call> 30 Aug 2010 - 3 Sep 2010	Apr 1, 2011 – Sep 30, 2011
		<2 nd Call> 6-12 May 2011	Sep 1, 2011 – Nov 30, 2011
	(Short-term) 1 to 12 months	<1 st Call> 4-8 Oct 2010	Apr 2011 – Mar 2012
		<2 nd Call> 22-26 Nov 2010	Apr 2011 – Mar 2012
		<3 ^d Call> 31 Jan-4 Feb 2011	Jun 2011 – Mar 2012
		<4 th Call> 4-8 Apr 2011	Aug 2011 – Mar 2012
		<5 th Call> 6-12 May 2011	Sep 2011 – Mar 2012
		<6 th Call> 1-5 Aug 2011	Dec 2011 – Mar 2012
Invitation Fellowship Programs for research in Japan For Professor or mid-career Researchers etc. http://www.jsps.go.jp/english/e-inv/main.htm	(Long-term) 61 days to 10 months	Sep 3, 2010	Apr 1, 2011 – Mar 31, 2012
	(Short-term) 14 to 60 days	<1 st Call> Sep 3, 2010	Apr 1, 2011 – Mar 31, 2012
		<2 nd Call> May 12, 2011	Oct 1, 2011 – Mar 31, 2012

※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.

JSPS Fellowships

BRIDGE Fellowship

JSPS re-invitation program, BRIDGE, for former fellows, will start calling in February, 2011. Please watch out for necessary information and application form which will be published on our web-page,

http://www.jsps.go.jp/english/e-plaza/21_invitation.html

Post-Doctoral Fellowship Standard – through KVA, SSF, VINNOVA

JSPS' Swedish nominating authorities have now opened the call for Post-doc fellowship standard; deadline 1 April, 2011.

Post-Doctoral Fellowship Short – through KVA

Kungliga Vetenskapsakademien is now calling JSPS Post-doc fellowship short with commencement FY2011

(Lisa-Mi Swartz, JSPS Stockholm office)

Forthcoming JSPS Colloquium

Tuesday 18, January 2011

Venue: Segerfalck-salen, Lund University

Direct Imaging in Bio-Medical Science

Tentative Programme

Importance of Imaging & Image Processing

Speakers: Max Liljefors, Yoshinori Fujiyoshi

TEM Techniques

Speakers: Reine Wallenberg, Keiichi Namba

Optical Imaging

Speakers: Hjalmar Brismar, Atsushi Miyawaki

Magnetic Resonance Imaging/PET

Speaker: Freddy Ståhlberg, Kazuya Kikuchi

To register;
e-mail (info@jsps-sto.com)
or fax (+46-(0)8-31 38 86)
to JSPS Stockholm Office
by 10 January, 2011

***Registration is free of charge**
***The seminar is open to all.**



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Stockholm Office

Retzius väg 3, 171 65 Solna, Sweden

TEL: +46 (0) 8 5248 4561 FAX: +46 (0)8 31 38 86

Website: <http://www.jsps-sto.com/> E-mail: info@jsps-sto.com