No.21 March 1998

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News Letter

Foreign Student Service, Agriculture

留学生を支援してくれている人々

古澤 巌
〔農学研究科長・農学部長・農学研究科教授
応用生物科学専攻〕

1970年の初頭から，京都大学においても次第に留学生の数が増加し，1972年に京都大学の学生課に留学生掛が置かれ，留学生の持ち込むいろいろな問題のお世話をすることになりました。その後，1983年の中曽根内閣時代に始まった「留学生受け入れ10万人計画」を契機に，留学生の数はさらに増加し，現在では，京都大学において，世界中のさまざまな国からやってきた1,300名を越える留学生が生活しているような現状です。もちろん，この数字の中には留学生とともにやってくる家族の人たちの人数は入っておりませんから，実際にはその数はもっと多くなりそうです。京都大学では，1982年に外国から来る研究者や学生のための宿泊施設として修学院に京都大学国際交流会館が，1987年には国際交流会館宇治分館が完成し，国際交流機構構想の一部が現実化しています。さて，このように，留学生に対し勉学する機会を与えることに関しては，わが国ではかなりの組織ができているということに間違いはありませんが，大学での生活を離れた留学生の生活にはあまり対処しておらず，1日の半分以上を占める大学での生活以外の時間帯には考慮してこなかったというのが事実のようです。そして，その部分のいろいろなところで多くの留学生問題を抱えているように思われます。例えば，住居問題，通学手段の問題，友達問題，さらにはもう少し日本を知り，日本の進んだ技術を知ること，病気になったときの対応などさまざまで，これらは，到底大学だけの数少ないスタッフで処理できる問題ではありません。実は，これらの問題を陰で支えてくれている人々のあることを我々は忘れてはならないように思います。これらの人達がいてこそ，大学はこれまでに多くの留学生を受け入れることができたのです。留学生受け入れ10万人計画など，表向きはいかにも国際的に，わが国が留学生のために勉学の機会を与え，その役割を果たしているように見えますが，実情をもっと知った上でこれからの対応を考えて行くべきではないでしょうか。この紙面を借りて，留学生のためにこれまで活躍されてこられたグループの一つを紹介しながら，留学生の問題が大学関係者以外の多くの人たちで支えられていることを知っていただきたいと思います。

1977年に「京都国際文化協会（KICA）」が設立されています。これは，かつて欧米諸国に留学したり，諸外国で生活した経験のある女性有志4名が立ち上げた協会です。京都の伝統文化を学ぶ講座をそこで開き，国籍，性別，年齢を問わず，京都に住む外国人，特に研究者，留学生との相互理解を深めることを願ってスタートしたものです。当時の京都大学には，学生課に2名の留学生掛が置かれ，彼らが学内の留学生全員の担当をし，多くの留学生に対して勤務時間も省みず孤軍奮闘の活動をしていた時期でありました。従って，協会としても，京大留学生掛からのさまざまな依頼を受けて対応してこられたようです。協会が大学などに先駆けてスタートさせた日本語教育は海外経験者によって始まりましたが，「日本人である」だけでは不充分であることに気付き，その後，京都で最初の「日本語教師養成講座」が協会内に開設されました。そして，多くの人がこの講座を受講し，この講座を中心にして日本語個人レッスンが本格的に開始されました。京都大学において，学内協同教育研究施設として「留学生センター」の設置が認められたのは1990年であったことを考えますと，彼女たちの活動はまさに的を射たものであったと言えます。その後，留学生の皆さんの要求に応えるために始まった協会での活動は，他のグループとともに住居斡旋，バザー，リサイクル，見学などに発展し，1984年には，留学生と日本人ファミリーとのつきあいを通して精神的なサポートを目指した「京都ホストファミリー協会」が生まれています。これまでに1,000人を越える留学生が日本のファミリーの茶の間を経験したことになります。その後，京都大学においても，留学生センターができ，日本語の授業が充実し，大学の国際交流への取り組みが本格化しました。日本政府は，2000年には留学生10万人の達成を目指していますが，留学生問題は，ますます大学以外で陰からサポートして下さる人々によって支えられることになるでしょう。

今回，紙面の関係で1グループのみを紹介いたしましたが，この他のグループや個人のボランティアによって，常日頃から留学生が少しでも良い日本体験をできるように支援されています。このような行為はまさに本当の国際交流であり，国際化に向けての真の活動であると思います。留学生の皆さんが，日本での生活経験において少しでも良い印象を持って過ごし，今後，祖国の中枢として活躍される頃には日本の良き理解者として，国際友好の大きな柱になってくれるよう願っております。

農学部留学生歓迎パーティーでの筆者

交流の歩み（12）

Prof. Slaninaの文に出てくる志方益三先生は本学農学部農林化学科（前農芸化学科で現在応用生命科学専攻）林産化学講座の初代教授です。本学に就任する前にプラハ大学のヘイロフスキー先生の下でポーラログラフと呼ばれる電気化学測定装置を完成され（1924年），この装置を用いた有機物の電気化学を館先生（後の教授）とともに本学で始められました。以来，この研究の伝統が林産化学講座（1969年に天然高分子化学講座に改称）でひき継がれ（1992年6月まで），現在は生体機能化学研究分野（前細胞物理化学講座）がこの伝統を引き継いで，生体機能研究へと発展させた研究を行っています。現在もポーラログラフ学会の本部が本研究室にあり，本文文献にあるRev. Polarographyを発行しています。ヘイロフスキー先生はこの研究で1959年のノーベル賞を受賞され，志方先生は館先生とともに1956年日本学士院恩賜賞を受けておられます。現在もチェコの研究グループと我々の研究グループの間で交流があります。

応用生命科学専攻生体機能化学研究分野教授
池田　篤治

A First Japanese Professional in Bohemia

Prof. Dr. Zdeněk Slanina

(Laboratory of Molecular-Design Engineering
Department of Knowledge-Based Information Engineering
Toyohashi University of Technology)

Czech Republic, the western part of the former Czechoslovakia (also known as Bohemia, Czech countries or lands, Czechia, Tschechei) has had two Nobel laureates: Jaroslav Heyrovský (1890–1967) in chemistry, 1959, for "his discovery and development of the polarographic methods of analysis", and Jaroslav Seifert (1901–1986) in literature, 1984, for "his poetry which endowed with freshness, sensuality and rich inventiveness provides a liberating image of the indomitable spirit and versatility of man". (These two great Czechs also share their given names—Jaroslav can be translated as celebrating spring). The national ratio of one Nobel per 5×10^6 citizens is somewhat below the world average of more than 10×10^6 citizens per one Nobel. There are also other three Nobel laureates with a Czechoslovak link: V. Prelog (chemistry 1975; studied and worked in Prague 1924–1935), D.C. Gajdusek (physiology or medicine 1976; Slovak father), T.R. Cech (chemistry 1989; Czech grandparents). The Czechs believe they missed two another Nobels in literature owing to a premature death of J. Hašek and K. Čapek.

Jaroslav Heyrovský made his crucial discovery the same year he was appointed professor of physical chemistry at Charles University of Prague. On Jan. 1, 1922, a national holiday, he tried[1] to measure how electric current in a salt solution has changed with the voltage applied to a dropping mercury electrode. The galvanometer he used was not sensitive enough. However, on Feb. 10, 1922, when he finally borrowed the best device available at the university (with light beam and mirror), he could observe nice S-shaped dependencies. He immediately recognized importance of the discovery—from the curves he could read composition of solutions and even their concentration. Moreover, he could record and explain various changes of chemical species. He published[2] his discovery in October 1922, and the next year presented before the Faraday Society. The new technique had soon been applied to a variety of chemical systems by his students and younger colleagues.

In 1923 a first foreigner visited his lab to learn the new tool of chemical research. Masuzo Shikata (1895–1964) graduated from the Department of agricultural chemistry

留学生室ニュース

農学研究科博士後期課程編入学考査

平成10年度農学研究科博士後期課程編入学考査は，1月21・22日に行われ，18名が合格しました。このうち私費外国人留学生は森林科学専攻1名（韓国），応用生命科学専攻3名（韓国・タイ），応用生物科学専攻1名（韓国），地域環境科学専攻1名（韓国），生物資源経済学専攻1名（ブラジル）の合計7名でした。

農学部私費外国人特別選考試験

平成10年度私費外国人留学生特別選考試験には，合格者がありませんでした。

外国人留学生（研究者）の博士号取得状況（平成9年1月～12月）

当該1年間に京都大学農学研究科に博士論文を提出し，京大博（農）の学位を授与された外国人留学生（研究者）は22名です。取得者の名前と論文テーマは以下の通りです。

Macarius Yangyuoru（農業工学専攻）
Modelling Steady Flow in Open Channel Networks with Hydraulic Structures（水理構造物を含む開水路系の定常ネットワーク流モデリング）

Muhammad Dimyati（熱帯農学専攻）
An Agricultural Land Use Adjustment Modeling Using Remote Sensing and Geographic Information Systems（リモートセンシング及び地理情報システムを用いた農用地調整モデルに関する研究）

王　　桂芝（農林生物学専攻）
コムギ・エギロプス両属のプラズモン分析

Hesham Abdelwahed Ahmed Youssef Elshazly（農業工学専攻）
A New Approach to Identification of Model Parameters of Structures and Prediction of Their Response to Future Earthquakes by Inverse Analysis（構造物のモデルパラメータ同定および地震応答予測に対する逆解析を用いた新しい手法）

Ratchanee Kongkachuichai（食品工学専攻）
Studies on the Improvement of Anemic Conditions by Dietary Nonheme Iron（食餌性非ヘム鉄による貧血症改善効果に関する研究）

李　　守馥（食品工学専攻）
Studies on the Halophilic Properties of a *Bacillus thermoproteolyticus* Neutral Metalloproteinase, Thermolysin（*Bacillus thermoproteolyticus* の中性金属プロティナーゼ，サーモライシンの好塩的性質に関する研究）

Cornelio Nyaruhucha（食品工学専攻）
Studies on the Structure and Function of the Novel Isoform of Trypsin（新規トリプシンアイソフォームの構造と機能に関する研究）

李　　得植（食品工学専攻）
Studies on Mechanism of Polymerization of Food Proteins by Transglutaminases from Mammalian and Microbial Origins（哺乳動物及び微生物由来トランスグルタミナーゼによる食品タンパク質の重合化メカニズムに関する研究）

of the Imperial University of Tokyo in 1920. In 1921 he was-sent abroad by the Ministry of education. First, he studied surface chemistry with I. Traube at the Technical University in Berlin. In 1923 he joined Heyrovský's group in Prague and applied the new technique to an organic substance[3] (nitrobenzene). In 1924 Shikata visited Prague for the second time. At that time the measurements were quite tedious and they decided to built a machine for their automation. They generated the variable voltage by a rotating wired drum powered by a clock-work, and the curves were recorded on a photographic paper by the light beam reflected by the mirror. The measurement could be completed in a few minutes without a hand touch. The new automatic device was named polarograph[4] and the technique polarography. The polarograph was one of the first completely automatic devices in scientific research. Heyrovský and Shikata patented only the device name; the device was produced by several companies as the system Heyrovský-Shikata. The technique spread into various fields of chemistry, biology and medicine, and has served for decades as a very sensitive analytical method. In medicine it was the first laboratory test for cancer diagnosis from blood. Even at present it has often been used for example in environmental protection for detection of even trace levels of heavy metals in water or living bodies.

In 1924 Shikata was appointed professor of wood chemistry at the Imperial University of Kyoto. He had continued with the polarographic studies of organic substances, especially of relationships between the polarographic behavior and their structure[5], but applied it also to food products, and built a recognized scientific school. In 1942 he moved to north-east China as the vice-president of a research institute there. Since 1954 he had served as professor at Nagoya University. In 1954 he was awarded[6] the Japan Academy Prize for his outstanding contribution to polarography. He also had more practical interests in wood chemistry and studied manufacturing of woods and grasses. Still, I could not find his name in Kodansha Encyclopedia of Japan (though, I could in McGraw-Hill Modern Scientists and Engineers, or in Great Soviet Encyclopedia).

Heyrovský and his school thoroughly developed the polarographic method and explained various its features. Heyrovský was nominated several times for the Nobel Prize—and finally in 1959 indeed awarded. Heyrovský's discovery is a particular illustration of Pasteur's statement that chance only favors those minds which have been prepared. He always tried to grasp the essence and to eliminate disturbing details. He insisted on a fast publication. There was one condition for M.A. degree at his department—the results had to be at least accepted for publication in a journal with a referee system. Argument that something was interesting was not enough for him to start a research. He always replied 'only the legs of a ballerina are interesting', and insisted on a clear indication of possible deeper consequences. It is also instructive to note the cross-cultural differences—such a sentence from a university professor would be *unappetitlich* in the German academic community, perhaps even harassing in America, but it is perfectly all right in France or Bohemia. Last but not least, his construction of the polarograph with Masuzo Shikata can also serve as an illustration of the idea ascribed to G.B. Show—if I have an apple and you have an apple and we exchange them, each of us will have two apples.

1) J. Koryta: Jaroslav Heyrovský, Melantrich, Prague 1990. 2) J. Heyrovský, Chem. Listy 16, 256 (1922). 3) M. Shikata, Trans. Faraday Soc. 21, 42 (1925). 4) J. Heyrovský and M. Shikata, Rec. Trav. Chim. Pays-Bas 44, 496 (1925). 5) M. Shikata and I. Tachi, Collect. Czech. Chem. Commun. 10, 368 (1938). 6) I. Tachi, Rev. Polarography 12, 137 (1964).

張　　敏（林産工学専攻）
リグノセルロース系原料を用いた高性能木質複合ボードの開発研究

Chaiya Panintrarux（食品工学専攻）
Enzymatic Synthesis and Chromatographic Separation of Alkyl β-D-Glucosides（アルキルβ-D-グルコシドの酵素合成とクロマトグラフ分離）

MD. Abdur Rashid（熱帯農学専攻）
A Study on Irrigated Rice-Based Cropping Systems in the Barind Tract, Bangladesh（バングラデシュ，バリンド台地における潅漑稲作基幹作付体系に関する研究）

Ignacio Aristimuno（林学専攻）
Study on Visual Assessment as a Basis for Landscape Conservation—Case Study in the Western Urban Fringe of Kobe City—（景観保全のための視覚的評価に関する研究—神戸市西区のアーバン・フリンジを事例として—

金　　光　植（畜産学専攻）
Effects of Follicular Factors on In Vitro Maturation of Bovine Oocytes（ウシ卵子の体外成熟における卵胞因子の効果）

Radite Praeko Agus Setiawan（農業工学専攻）
Electro-Osmotic Lubrication to Reduce Tillage Draft（電気浸透潤滑による耕うん抵抗低減）

Harvey A. Shapiro（熱帯農学専攻）
Ecological Planning in East Asia: Its Past, Present and Future（東アジアにおけるエコロジカル・プラニング：その過去，現在そして未来）

李　　樹　華（林学専攻）
中国盆景に関する文化史及び技術史的考察

蘇　　文　瑜（林産工学専攻）
Development of Fire Retardant Wood Composites Using Boron Compounds and Their Evaluation Methods（ホウ素系化合物を用いた難燃性木質材料の開発とその評価方法）

喬　　景　波（林産工学専攻）
Foreign Gene Transfer and Expression in Poplar（ポプラにおける外来遺伝子の導入及び発現）

童　　亜　明（農林経済学専攻）
中国における地域間経済格差と貧困問題に関する研究

Runkulatile Herry（農学専攻）
Analysis of Resource Use and Productivity in Groundnut-Fingermillet Intercropping Systems（ラッカセイ—シコクビエ間作系における資源利用と生産性の解析）

姜　　成　求（農学専攻）
Study on the Cold Hardiness of Persimmon (*Diospyros Kaki* Thunb.) as Related to Supercooling Characteristics（過冷却特性よりみたカキの耐寒性に関する研究）

尹　　詰　遠（食品工学専攻）
Studies on Glucose Receptor of *Saccharomyces cerevisiae*（*Saccharomyces cerevisiae* のグルコース受容体に関する研究）

留学生の眼（16）

Beauty in Kyoto

Ignacio Aristimuño

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Venezuela)

Natural beauty is quite present in Kyoto. The city offers well-preserved landscapes for the enjoyment of seasons, cultural treasures, and old architecture and gardens made of natural materials. Living here for several years as a foreign student of Kyoto University made me delight in the natural beauty of Kyoto. Of course as many other foreign students, I had to adapt to the Japanese way of life, which was not easy due to difficulties such as language, customs and lack of space. Nevertheless, living and studying here helped me to understand many things from a different cultural point of view. One of those things is my appreciation of beauty.

Beauty is defined as "*a quality that delights the senses or exalts the mind.*[1]" The notion of "*delight*" is central to this definition, because beauty is pleasing. The word is used to express a sensory experience. We may think first about visual images, the beauty of a sunset, a flower, a painting, but we know beauty just as well through our other four senses; the beauty of a song, the pleasing aroma from a flower, the taste of a favorite food, the beauty of a touch. Beauty is also intellectual. We speak of the beauty of an idea when it promises to overcome an obstacle or when it communicates the essence of a complex fact. Nevertheless, the most distinctive characteristic of the experience of beauty is that it is personal, because it involves oneself in an attractive charming. The experience of beauty is engaging.

Walking in the streets of Kyoto I was engaged in such a kind of experience. It was Spring and there were many "*Sakura*" or Cherry Blossoms. People went out to celebrate a Japanese custom called "*Hanami*" or flower viewing. Everybody was under the trees trying to delight in that moment. When I took out my camera and started to take some pictures, I saw that there were people in a state of great enjoyment when contemplating the flowers. What were they looking for? Why does it take such a long time? These questions were very interesting for me, because although I come from a country also represented by a great diversity of flowers, this kind of public sensitivity is not known, and even may not be understood. Therefore, I decided to enjoy this custom and to contemplate only flowers, not even taking pictures. The experience of beauty attracted my attention and engaged me in a sublime experience.

Cherry blossoms are not the only flowers to be appreciated by people of Kyoto. They also delight in Plum flowers and have a special pleasure to enjoy red maples or "*Momiji*" in Autumn. A refined aesthetic experience is quite reveled in spaces devoted to "*Ikebana*" flower arrangement, which I have enjoyed in cultural events dedicated to foreigners. According to my impressions, the aesthetic vision developed in Kyoto is more contemplative than any other place in the world. There is an effort by the observer to penetrate into the object, so that both become one. This kind of attitude can easily be referred to as meditative, which is a part of the cultural appreciation of Japanese people. Therefore, I realized that our appreciation of beauty not only depends on our personal point of view, but also on our cultural point of view.

Living in Kyoto let me taught the importance of perceiving beauty around us. This Beauty is constantly changing, and for this reason difficult to perceive, but has an essence that needs to be discovered through observation. This observance has a considerable importance for us. For example, if we observe the natural design that embraces a tea ceremony, we will be affected in a special way by that atmosphere. Observance can improve our perception in order to discover a deep identification with the surrounding. One of the core concepts of Japanese culture, "*wabi-sabi*" suggests this kind of appreciation, referring to the beauty of things imperfect, impermanent, and incomplete. A beauty that needs to be observed. Throughout the seasons changing, the observation of many events such as the flowers in spring, the crying of cicadas, red maples and snowfalls express a transitory feeling making us sensitive and to be identified. Kyoto is a city where everybody seems to search for beauty through such kinds of experience. A knowledge that can not be learned through intellectual terms.

Beauty in Kyoto can only be known subjectively, because its essence is personal emotional involvement. It can not be discovered through reasoning, comparison, or analysis. The modern science of today has not been guided by this awareness of beauty because it is based on a dispassionate attitude, detached from emotional involvement with the materials of life. As a researcher on environmental issues, I think that current environmental problems can only be solved by people employing an ethical approach based on a deep understanding of nature. Throughout history, Japanese people have been emotionally oriented towards this awareness, because their appreciation of beauty is experienced subjectively. Kyoto is a great city for this subjective enjoyment. Here are many places such as the dry-landscape garden of Ryoan-ji Temple (photo), that invite us to deeply contemplate nature. To engage in contemplation is to mediate, and through meditation we can discern the true nature of our own reality. Truth comes from the contemplation of beauty in nature.

[1] The American Heritage Dictionary (1970).

Contemplative visitors experiencing beauty in Kyoto

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京都大学農学部留学生室
電話（075）753-6298, 6299
印刷所　京都市上京区下立売通小川東入
中西印刷株式会社
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