The Nature of Eastern Asia: Botanical and Cultural Images from the Arnold Arboretum Archives

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The Arnold Arboretum's collection of eastern Asian photographs represents the work of several intrepid plant explorers who traveled to exotic lands in the early years of the twentieth century and returned with not only seeds, live plants, and dried herbarium specimens, but with stunning images of plants, people, and landscapes as well. We owe these images to the foresight of Charles Sprague Sargent, the director of the Arboretum during its first fifty years. In December 1906, when E. H. Wilson signed an agreement to collect in China for the Arboretum, Sargent set the precedent of asking all his explorers to document their expeditions with photographs: “A good set of photographs are really about as important as anything you can bring back with you,” he wrote. He would later urge William Purdom to “take views of villages and other striking and interesting objects as the world knows little of the appearance of those parts of China which you are to visit.” And to Joseph Rock, the last of the great explorers who would work for him, Sargent wrote, somewhat peevishly, “I don’t know how you got the idea that we didn’t want scenery. These are always important and interesting additions to our collection, and you may be sure you cannot send us too many of them.”

Sargent’s repeated insistence that these plant collectors document their travels in photographs resulted in a collection of more than 4,500 historic images of eastern Asia. With the exception of the E. H. Wilson collection, which we have just begun to process (and some of which can already be viewed at arboretum.harvard.edu/programs/eastern_asia/wilson.html), all of these

From left to right: J. G. Jack with one of his Chinese students, E. H. Wilson, and Frank Meyer.
images are now available on VIA, the Harvard University Library catalog of visual resources, at via.harvard.edu. We invite all armchair travelers who have become desktop explorers to see Asia through the photographs of our earliest plant collectors.

**John George Jack (1861–1949)**

167 images (1905)

J. G. Jack was already experienced in plant exploration when he became the first staff member after Sargent to visit Asia. Jack had joined the Arboretum in 1886 and almost immediately began collecting and photographing plants in the U.S. and abroad. Between 1898 and 1900 he spent summers working for the U.S. Geological Survey, exploring and photographing the forests of Colorado and the Big Horn Mountains of Wyoming. In 1891, he visited botanic gardens and nurseries in England and on the continent, and in 1904, he and Arboretum taxonomist Alfred Rehder collected specimens in the western United States and in Canada. It is likely that his year-long Asian journey was self-financed; although Sargent’s Annual Report for the Year Ending July 31, 1905, states that “Mr. J. G. Jack has started on a journey to the East to obtain material for the Arboretum in Japan, Korea, and northern China,” no record of the Arboretum underwriting this expedition appears in the archives. Jack’s introduction to an undated, unpublished manuscript entitled “Notes on Some Recently Introduced Trees and Shrubs” may explain why.

On the first of July, 1905, I left Boston for Japan . . . The object of my trip was primarily rest and recreation for three or four months, combined with a desire to observe some of the interesting arborescent flora of central and northeastern Japan . . . A short visit was also made to Korea and to Peking in China.

Apparently Jack wanted to travel at his own pace. Perhaps he also wished to spend time with his younger brother, the Reverend Milton Jack of the Presbyterian Foreign Ministry, who had long been stationed in Taiwan.

Forestry was a lifelong interest for Jack. Covering some of the ground that E. H. Wilson would later visit, Jack photographed the forest preserves around Mt. Fuji and elsewhere in Japan, as well as the forests of Taiwan and Korea. The scenes he captured in Beijing include formal portraits of people in traditional costumes.

William Pursom, Joseph Hes, and Joseph Rock.
Chinese scholar trees (Styphnolobium japonicum) are used extensively as street trees. Jack photographed these in Beijing, where they had been planted in immense pots for protection.

In 1905 when Jack photographed this camphor tree (Cinnamomom camphora) at the Umii Hachiman Shrine on Kyushu Island, he estimated it at 100 feet tall and 45 feet in diameter at breast height. In 2001 a national survey listed it as Japan's seventh largest tree (65-foot diameter at 4.3 feet from the ground). The survey notes that Japan's big trees "furnish regional symbols and nourish the soul.

In addition to herbarium specimens representing 258 plants, Jack returned with 171 images, many of them in a format especially useful for him—lantern slides. Jack had been appointed Harvard University lecturer on arboriculture in 1890 (the title was changed to lecturer in forestry in 1903) and he continued teaching throughout his career. In the fall and spring of each year he taught courses in dendrology to students and teachers using the Arboretum's living collections as his classroom, and he taught forestry both at Harvard (often with Richard T. Fisher, the first director of the Harvard Forest) and at the Massachusetts Institute of Technology, where he also held a lectureship.
Ernest Henry Wilson

Born in England in 1876, Ernest Henry Wilson received his training in horticulture at the Birmingham Technical College and at the Royal Botanic Gardens, Kew. His career as an explorer began in 1899 when he traveled to China seeking the dove tree, Davidia involucrata, for the Veitch Nursery in England. A visit to the Arnold Arboretum on his way to China initiated a lifelong collaboration with Charles Sargent. As Wilson was preparing for his first Arboretum journey, Sargent insisted that he take along a large-format, Sanderson whole-plate field camera capable of recording both great detail and broad perspectives without distortion. The rest of his camera gear included a cumbersome wooden tripod and crates of heavy, fragile, 6 1/2-x-8 1/2-inch glass-plate negatives.

For three years Wilson explored western Hupeh and western Szechuan. He returned to Boston in 1909 via Beijing, Moscow, St. Petersburg, Berlin, Paris, and finally London, where he spent several months developing the glass-plate negatives and seeing for the first time his 720 images. The purpose of his second Arboretum expedition, which began in 1910, was to collect cones and conifer seeds in the central and southwestern parts of China. In September of that year, while he was traveling between Sungpan and Chengdu, a landslide hit the expedition group, crushing Wilson’s leg. After several months in a hospital at Chengdu, Wilson returned to Boston in March 1911, much earlier than planned. Before the accident, however, he had managed to take 374 images and to collect and ship bulbs of Lilium regale, the Easter lily.

We began the process of putting these photographs online by digitizing both the print and negative of several images in order to compare their quality. When the glass-plate negative of E. H. Wilson’s “memorial arch to the memory of a virtuous woman” (above) was digitized, revealing the remarkable detail in the stonework, it was clear that we should use the original glass plates for all of his photos.

Wilson described the beautiful photograph at right, taken during his first Arboretum expedition in June 1910, as simply “Sandstone bridge with Cypress, Bamboo, and Pistacia chinensis.”
In January 1914, accompanied by his wife and daughter, Wilson sailed for Japan, where he would focus his attention on horticulture and cultivated plants including conifers, Kurume azaleas, and Japanese cherries. By the time the Wilsons returned to Boston at the beginning of 1915, there were 619 new images to add to the photograph collection. Wilson next undertook a "systematic exploration" of Korea. Beginning in 1917 with the Japanese islands and Taiwan, he then traveled along the Yalu River into the far northern reaches of Korea, returning to Boston in 1919 with seeds, living plants, 30,000 herbarium specimens, and 700 photographs. His last expedition, a tour of the gardens of the world, took place from 1920 to 1922 and included a stop at the Singapore Botanical Garden in June of 1921. Of the 250 images he shot during this journey, 15 were taken in Asia.

In 1905, the United States Department of Agriculture's Office of Seed and Plant Introduction recruited Frank Meyer, a native of Holland who had immigrated to America in 1901, to gather economically useful plants in China. Through an arrangement worked out between Sargent and David Fairchild of the USDA, Meyer was to send to the Arboretum trees and shrubs of ornamental value along with images of his travels. The photographs in the Meyer Collection document his four expeditions to western China and Manchuria. Unlike Wilson’s highly composed photographs, Meyer’s images have an immediate and spontaneous quality, perhaps because they document daily life in this remote region: farmers and other people going about their work, manufacturing techniques, and markets were all captured through his lens. Even his images of plants often include local people or architectural backgrounds.

Meyer and Wilson corresponded occasionally, trading information on routes, travel conditions, and collecting strategies. Occasionally their letters touched on personal matters. In a letter from Beijing in 1907 Meyer wrote, “This roaming about, always alone, takes lots of energy away from a fellow, don’t you agree with me too, in this respect?” On June 2, 1918, Meyer disappeared from a steamer and although his body
was eventually recovered, the circumstances of his death remain a mystery.

**William Purdom (1880–1921)**

161 images (1909–11)

In 1909, with Wilson about to return from southern China and the agreement with the USDA in place to ensure that Frank Meyer’s Asian collections would be shared with the Arboretum, Sargent was eager to dispatch yet another plant collector to the largely unexplored northeastern provinces of China. Hoping, in Sargent’s words, to “bring into our gardens Chinese plants from regions with climates even more severe than those of New England,” William Purdom—the most inexperienced of Arboretum explorers—embarked on his first expedition in February of that year. Like Wilson, Purdom had worked at Kew and had once been employed at the Veitch Nursery, which cosponsored this expedition as they had Wilson’s. For three years the shy and retiring novice followed the Yellow River north, his work always overshadowed by, and his meager results compared to, the successful exploits of the gregarious, prolific Wilson. His collection techniques improved, however, and he is now

Opposite above: These square, stamped tablets of persimmon sugar, photographed in 1912, are rare today. Unlike contemporary “moon cakes,” these were made from dried fruits of an exceptionally sweet variety that Meyer described as Diospyros kaki ‘Pen sze sse’.

Opposite below: Meyer collected a specimen of this persimmon, which he labeled “Diospyros kaki. Siku, Kansu, China. Persimmons strung on strong strings to dry in the sun and wind on the top of the inn at which we stayed in Siku. This variety is locally called Fang sze tze or square persimmon. It contains considerable pucker when fresh; when dried, however, all traces have disappeared. November 16, 1914.”

Above: Meyer was as interested in how plants were used as he was in the plants themselves. This “strong bamboo fence along a canal near Tang hsi” captured his attention in February 1906.
At top: Purdom visited the “palace grounds with wall and large temple in the distance” sometime between 1909 and 1911. His image of Chengde in Hebei Province captures part of the six-mile-long wall that encloses the imperial Jehol Summer Palace. Placed on the World Cultural Heritage list in 1994, the palace was begun in 1703, with construction continuing until 1790.

Purdom labeled the photograph below, “Strong men at August games.” Mongolian athletes in traditional clothing were preparing for wrestling games at a harvest fair. Usually lasting several days, these fairs also included archery and horse-racing.
known for his later successes, when he worked with Reginald Farrer. Eventually he accepted a post as inspector of forests for the Chinese government. He must have been glad to be relieved of Sargent's exacting photographic demands, for although he never complained to Sargent himself, in 1909 he wrote to Veitch:

I am not a specialist at photography and do not wish to infer that my camera is not a good one but I do now believe that a camera to carry on one's back with films is the most serviceable thing out here on these rough roads for it is nearly impossible to carry the plates. No end of mine got smashed.

Joseph Hers (1884–1965)
63 images (1919, 1923–24)

It was Hers, a railroad engineer and administrator of the Lung-Hai and Pien-Lo railways, who approached Sargent with a proposal to collect

These photographs are of Beijing's Central Park, which dates from 1429. Hers' photo below, dated July 1923, shows potted ornamentals, most of them a juniper—Juniperus squamata var. meyeri—introduced into Western gardens by, and named for, Frank Meyer. Three years later, in August 1926, Hers highlighted a large oriental arborvitae, Platycladus orientalis (formerly Thuja orientalis). In 1928 the garden was renamed Zhongshan Park, thus becoming one of 35 Chinese parks that commemorate Dr. Sun Yat-sen (Sun Zhongshan).
specimens for the Arboretum. Stationed in Chengchow, a city on the Huang Ho River that had become an important railroad center thanks to its position at the junction of the Longhai (east-west) and the Beijing-Guangzhou (north-south) lines, Hers was superbly situated, with a job that enabled him to range far and wide collecting plants. In a letter of July 18, 1919, he wrote,

[Although my] own knowledge of botany is, I regret to say, very limited, I happen to live in a part of China where very few botanical collections, if any, have been made, and as I enjoy frequent opportunities to travel in little known districts . . .

Enclosed with the letter was a list of trees and shrubs that included a number of new species, and Hers offered to send “seeds, or cuttings, or photos.” After he had done so, Sargent wrote him that “this is one of the most important collections of Chinese plants which has been sent to the Arboretum and I am extremely obliged to you for sending it to us.” Although we have only 63 of his images, Hers went on to collect seeds and specimens of more than 2,000 species, most of them sent to the Arnold Arboretum.

Joseph Charles Francis Rock (1884–1962) 320 images (1920–22)

Botanist, anthropologist, explorer, linguist, and author, Rock was the last of the great plant hunters employed by Sargent, who by then was elderly. Rock had immigrated to the United States from his native Austria in 1905, but between 1920 and 1949 he lived in China for extended periods, exploring, collecting plants and animals, and taking pictures for various United States agencies and other institutions, including The National Geographic Society, the U.S. Department of Agriculture, and the Arnold Arboretum. He is still remembered by the older villagers in the city of Lijiang, which was his home base for many years. The 653 photographs that Rock took during the Arboretum’s 1924–27 expedition have already been digitized and are available on the VIA website; the remaining 320 photographs document his 1920–22 expedition to Thailand, Myanmar, and the Yunnan Province of China and include images of plants, landscapes, villages, architecture, and the ethnic minority peoples of the region.
Digitizing and cataloguing the Arboretum's photographs is a multistep, multiperson procedure. In the case of our eastern Asian collections, the image scanned was usually in the form of a print, often the only available artifact. However, the clarity of detail captured in E. H. Wilson's glass-plate negatives dictated that we digitize directly from these fragile, almost century-old plates, making the process even more labor intensive and far more fraught with anxiety.

The first step is to catalog each Wilson image and document its many surrogates: the 6-x-8-inch glass-plate negative, the print bound in one of sixteen chronologically arranged albums, the mounted print stored in vertical files arranged either by genus and species or, in the case of landscape views, by place name. Duplicates as well as oversized prints are also counted, as are the black-and-white and hand-colored lantern slides made from Wilson's photographs.

After assigning an accession number to the image, the cataloguer describes it online in Harvard’s database (OLIVIA), including enough detail to facilitate access. Villages are identified and located within provinces, if possible, and plant nomenclature is checked and updated when necessary.

Each glass plate is then inserted—very gently—between pieces of rigid foam in one of twelve special boxes, custom designed and built by our talented facilities manager. Each 14-x-10-x-8-inch box is snugly padded and holds thirty glass plates. Two members of the library staff (carefully) drive six boxes to the Digital Imaging Group (DIG) laboratory in Widener Library, located on Harvard’s Cambridge campus, at the same time retrieving plates that have already been scanned. Once scanned, the images and data are deposited in the Digital Image Repository (DIR) and linked to the record previously created in OLIVIA. Once linked they are available online in VIA (Visual Information Access) and searchable by photographer, location, date, and keywords.

The success of this digitizing project required the skills of many people. Lisa Pearson and Beth Bayley organized, catalogued, and transported all of the material to the DIG, where David Remington oversaw the actual digitizing. Dave Russo built the safe and sturdy (and beautiful) boxes for transporting the glass plates. Wendy Gogel and Sue Knegsman of Harvard’s Library Digital Initiative gave guidance and assistance, and Harvard College Library, an anonymous donor, and several generous friends provided the funding.

Wendy Duan, the library’s newest staff member, provided invaluable assistance by interpreting Chinese customs and identifying Chinese place names for this article.