



azbil FIELD

Himeji Plant, Nippon Shokubai Co., Ltd.

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# Sonic Landscape in Japan Japanese Gardens

onic Landscape in Japan 日本店長

# **Japanese** Gardens



## [Kakohn] ~ かこーん

Best-known Japanese gardens include the gardens of the feudal lords of ages past that are now preserved as parks, as well as gardens preserved on temple grounds that visitors can enjoy to this day. One of the key elements in understanding the allure of Japanese gardens is "water". In many Japanese gardens, ponds are used to replicate oceans and valleys. Enthusiasts have long enjoyed the soothing muted sounds of flowing water from the brooks and tiny waterfalls of their gardens. This ambiance is sometimes punctuated by a different kind of sound: kakohn. Not unlike a mallet striking a wooden board, this sound is produced by a shishi odoshi, or "deer chaser", a common contraption in Japanese gardens that uses water to sound.

### Ponds as seas and stones as mountains

It is generally thought that the custom of using gardens as places for relaxation and aesthetic appreciation began around the 6th century with the incorporation of different cultures from the Asian continent and introduction of Buddhism. What we now think of as Japanese gardens were originally constructed on the grounds of manors belonging to the aristocracy. These gardens became increasingly popular at temples as Zen Buddhism established footholds throughout the country during the medieval era. By the 17th century, merchants and other affluent members of society began constructing such gardens for themselves.

Japanese gardens are built with all natural materials and designed to replicate scenic slices of nature. The rocks used in their construction are not cut or shaped. They are chosen with an eye to their colors and shapes,

**Pond** gardens

Pond gardens most often recreate scenic views in natural, realistic ways.

characteristics which are used to compose the whole. Trees are trimmed and groomed but not in a way that alters their basic shapes. The three styles of Japanese gardens that have evolved along these basic principles are: pond gardens, rock gardens, and tea gardens.

Pond gardens were first built on imperial court grounds and on lands belonging to the aristocratic class. Graceful ponds were designed to look like swaths of the ocean, with islands gracing their expanses. Miniature mountains and ridges were replicated using mounds and rocks. The former recreate tree-covered mountains, while the latter look like precipitous

rocky peaks. Both techniques are used to portray breathtaking features of natural scenery on a small scale.

Nihon-Teien

Pond gardens are generally classified as one of two types: boat or stroll. At present, however, there are very few gardens left in the country with boat ponds in which you actually board boats to take in the garden scenery. There are, on the other hand, many famous stroll pond gardens extant in which you take paths encircling the ponds. People typically find pleasure in viewing portions of the gardens from different angles, as the balance and perspective of the ponds, hill formations, and vegetation differ depending on where you are standing.





### Rock gardens, where you can almost hear the sound of water

Rock gardens replicate views of bodies of water without actually using water. After decades of civil war in the 15th century, the ruling elite had exhausted its most of its wealth and no longer had the resources to build enormously expensive, large, and extravagant gardens. The style of garden that arose from these economic constraints was the rock garden, which could be built with little money and on small tracts of land. Instead of actual water, sand and pebbles are used to recreate rapids and waterfalls.

Generally speaking, rock gardens depict harsher natural environments and tend to 'condense' natural phenomena more so than pond gardens. The notion of perceiving water without the actual presence of water coincided with ideas of attaining enlightenment and the spirit of Zen Buddhism. which in turn led to the rapid rise in popularity of these rock gardens.

Many rock gardens are designed to be viewed from the inside of buildings. When one gazes upon these simple



gardens of rocks, trees, and pebbles within the tranguil confines of temple walls, it is not hard to imagine you are viewing the shimmer and hearing the sound of water that is not really there. Tea gardens were created by the tea masters of the late 16th century and developed as a part of the culture of the tea ceremony. The tea ceremony culture was the product of circles of society that eschewed the opulent tastes that were prevalent in Kyoto, which at the time was the political, economic, and cultural center of Japan, in favor of simpler and more austere aesthetic sensibilities. Tea gardens, which were built alongside tea rooms, differed from both pond and rock gardens in that they attempted to recreate the feel of mountainous

### Rock gardens

A rock garden reminiscent of islands in the sea. The ripples in the pebbles represent waves.

#### Tea gardens

Despite its urban location, this tea garden recreates the feel of mountainous country. Much care is taken so that it does not look overtly lavish.

country

Most tea gardens feature contraptions that use water. One of these is the shishi odoshi, or "deer chaser". A hollow section of bamboo is gradually filled by water, and once it becomes full the weight of the water causes the bamboo cylinder to fall over, spilling out the water inside. As the now mostly empty bamboo tube snaps back into place, it strikes a rock, making a distinctive hollow percussive sound. Kakohn.

This soothing sound underscores the peaceful silence of the garden. Japanese gardens are works of art intended to be taken in by all of the five senses, through which one perceives either the presence or absence of water

Case Study

# Himeji Plant, Nippon Shokubai Co., Ltd.



As part of its manufacturing innovation activities, Nippon Shokubai's Himeji Plant built a system to facilitate accurate and smooth communication of instructions and information pertaining to the operation of manufacturing plant. The successfully installed system is capable of collectively managing the current condition, past background, and priority of each event that occurs during operation. Consequently, the system has brought about changes in working styles on the production workplace.

#### Limitations of paper-based and oral communication in accurately conveying detailed information on operations

azbil

Nippon Shokubai Co., Ltd. is a chemical company that conducts business based on the corporate philosophy, "TechnoAmenity: Providing affluence and comfort to people and society with our unique technology." Nippon Shokubai's Himeji Plant is situated on an 880,000-m<sup>2</sup> site in the western part of the Harima Coastal Industrial Zone. As Nippon Shokubai's main plant, the Himeji site produces a wide range of chemical products such as acrylic acid ester for use in various applications including paints, glues, and adhesives; superabsorbent polymers for paper diapers and sanitary products; as well as fine and specility chemicals and automotive catalysts. These products are highly acclaimed by industries both inside and outside of Japan.

"Since 2007, the Himeji Plant has been actively conducting 'Himeji Manufacturing Innovation (HMI) Activities' with the aim of creating an 'extremely safe and reliable manufacturing plant.' In order to strengthen our manufacturing platform and attain optimum operation of the entire plant, we have organized several teams for each activity domain, such as quality control, conprehensive safety, business processes, operation, plant maintenace, and human resources development, and are striving to realize our vision of what our plant should be like," said Mr. Okazaki.

Among those activity domains, job instructions and communications related to plant operation was an issue that demanded close attention.

"Production activities were performed by regular daytime operators and shift operators based on the four-group three-shift system, and information was communicated verbally or on paper using daily operation records during a briefing at the time of shift takeover. However, with that method it was difficult to accurately communicate detailed information about problems and precautions, and thus it left much to be desired when it came to reliable dissemination of information to all staff members," said Mr. Munechika.

"Personnel who did not attend the shift takeover briefing — for example, section managers who organize and manage the information of events at the manufacturing site and staff members who prepare reference documents could not fully grasp the details or progress of an event that occurred during production by reading the daily operation records, or subsquent events," said Mr. Nomoto.

#### Easy arrangement of form layouts on the screen as the vital factor

To resolve those problems and achieve accurate and smooth job instruction and communication, the Himeji Plant installed the azbil Group's Operation Knowledge Base<sup>™</sup> (OKB).

"We examined a number of products besides OKB and also considered the possibility of in-house development.



The OKB interface can be projected onto a large screen to allow participants to check details as required during meetings.



A total of 300 PCs are in use at the Himeji Plant. OKB can be accessed from any of those PCs, allowing ubiquitous data availability.

The fact that OKB allows easy arrangement of form layouts on the screen by user departments and can be operated without having advanced skills was the vital factor for selecting OKB." said Mr. Okazaki.

The Himeji Plant decided to install OKB in September 2008. Later, form design work started, 95 types of daily operation record which subject to conversion to digital data by OKB were selected from more than 1,000 conventinal forms. These were finally consolidated into 34 types of forms. Each manufacturing section produced custom forms by using the standardized forms as a basis and modifying them for its specific needs. Following the completion of such processes as operational design and test operation, the new system became effective in April 2009.

### Innovation of working styles brought about by the new system

The incorporation of OKB has already produced favorable results in various ways. The first benefit was that OKB was able to eliminate variations in the description of information written by different sections and individuals, since the information to be communicated was entered into forms that were standardized according to the general guidelines established by the Himeji Plant. For example, essential information that must be included when communicating operation information, such as "5W1H," is now recorded without omission.

"In addition, during the shift takeover briefing, the new system clearly shows the types of work progress as well as a work status description such as 'unprocessed,' 'in process,' and 'processed.' Indications are displayed in different colors according to the level of priority. For instance, items requiring immediate attention are indicated in yellow. This has made workers more careful to ensure that high-priority tasks are performed before others, with no exceptions. In that sense, OKB has changed working styles," said Mr. Munechika.

"Since the system manages each event generated during the manufacturing process in linkage with the circumstances of its progress, the workload of the section managers and staff members preparing reference documents or monthly performance reports has decreased dramatically. Furthermore, having information on previous events in a digital format enables operators to search the past event cases more quickly and reliably. This has led to the reduction of some 4,500 working hours per year. Additionally, the use of OKB provides space for describing additional operation details and site conditions that could not be included in paper-based daily records because of their limited space for describing information. Now that we have established a system that enables practical application of operation information as knowledge, we expect to expand its use in the future." said Mr. Nomoto.

"Additionally, OKB has contributed to improved efficiency of work performed by the equipment maintenance department. Before OKB was installed, we rarely had an opportunity to look through the daily operation records at the production site. After OKB began operation, if an equipment causes a problem, for example, I check OKB first to confirm the equipment's operating status. I would like to use OKB even more frequently in order to ensure smooth communication with the staff on the production department during troubleshooting," said Mr. Gonoo.

Through the effective use of OKB for smoother communication with the production floor, the Himeji Plant plans



to further strengthen its efforts and activities for maintaining operational safety and reliability as well as management efficiency.

"To that end, we are continuously taking measures to achieve operational improvement, such as the instruction to young operators on textual expressions in communicating information. I would like the azbil Group to actively hold user meetings and events for the exchange of information and opinions pertaining to the advanced use of OKB, including the presentation of case examples of other companies," said Mr. Okazaki.



# From Yamatake to Azbil A giant stride toward achieving "human-centered automation" in reality and in name

In April 2012, Yamatake Corporation changed its name to Azbil Corporation. Founded in 1906 with the aim of "freeing people from drudgery," Yamatake has been fulfilling its role as a pioneer in the automation field by supporting industrial advancement for 105 years. Freelance newscaster Mitsuyo Kusano spoke with Azbil Corporation Chairman Seiji Onoki about the background of the company's name change and his thoughts regarding it and the direction of future business activities of the azbil Group.

#### Company name change, a point of departure for expanding the Group philosophy in reality and in name

#### Kusano

On April 1, 2012, Yamatake Corporation changed its name to Azbil Corporation, which was a significant event for the company. What was the reason for the name change?

#### Onoki

The name "Yamatake" was taken from the name of Yamaguchi Takehiko, the company's founder. Despite its long history, it was changed to "azbil" because I believe a company's name is extremely important in conveying what the company is all about. In 2006, on the occasion of our 100th anniversary, we formulated a new group philosophy and symbol based on the direction that our businesses should take in the 21st century. That was the year we adopted the word "azbil," which was first used as the group symbol, and later as the group name. So azbil has been in use for 5 years now.

## Working together as a group to solve the problems of world-class clients

#### Kusano

Now that the azbil Group is at a new departure point, what sort of enterprise are group companies aspiring to become?



Mitsuyo Kusano Freelance Newscaster

Born in Gifu Prefecture. Graduated from the Department of Mathematics, Faculty of Liberal Arts, Tsuda College. Joined Japan Broadcasting Association (NHK) in 1989. Turned freelance in 1997 and served as an anchor on "Chikushi Tetsuya News 23" on TBS.

#### Onoki

We are aiming to become a group that benefits customers through the following 4 points. First, providing safety and peace of mind to customers through automation; second, creating comfortable environments through automation; third, facilitating the collaboration of man and machine to bring about a sense of challenge and achievement; and the fourth point is contributing to global environmental preservation through all of the above.

#### Kusano

Since a company must succeed in the business it is in and earn a profit, I think the azbil Group plays a significant role



Seiji Onoki Chairman Azbil Corporation

Born in Hokkaido. Joined Yamatake-Honeywell Co., Ltd. (now Azbil Corporation) in 1970. From June 2004, President and CEO and from April 2012, Chairman of Azbil Corporation.

#### as a business partner that assists companies in their effort to excel. **Onoki**

Customers can find better solutions to their problems by working in tandem with the azbil Group, which specializes in a different field from the customer. For that we must have the strength to meet the challenges faced by the customer. Furthermore, we can't earn the customer's trust unless the company is in good shape. Our business involves more than just supplying products. Customers who purchase our products will use them for 20 years or more, so we must be able to provide consistent service and mainte-



nance over the long term. Therefore, the azbil Group must build up the capabilities necessary to service products over a long span of time. In that sense, the growth of the azbil Group means more than just expanding our business scope. We must also ensure stable business continuity by measures such as fostering outstanding human resources and maintaining a healthy balance sheet.

#### Kusano

In terms of expanding the business from a global perspective, what sort of

enterprise are you aiming to become?

#### Onoki

The global development of our business is one of our priority measures going forward, and our approach to doing business overseas is no different from our business in Japan. For our international business, we will strive to earn the patronage of our global customers based on the azbil Group's unique "human-centered automation." Although we are facing more severe competition overseas,





#### What is azbil?

azbil (automation zone builder) reflects the azbil Group's philosophy of realizing safety, comfort, and fulfillment in people's lives and contributing to global environmental preservation. As the group's symbol, azbil signifies the application of automation technologies to build a zone where the key elements of the group's philosophy, safety, comfort, and fulfillment, can flourish.

and although there are degrees of difference from country to country, we will apply the same 4 points in order to benefit our customers overseas. By doing our best as a group to solve the customers' problems, we can win the regard of customers worldwide. And the day will come when customers will insist on working with the azbil Group.

#### Kusano

I'm looking forward to seeing the azbil Group's future. Thank you for this interesting and important talk.



### savic-net FX BEMS Energy Data Server

The Energy Data Server (EDS) is one of the key components of the savic-net FX BEMS Building Energy Management System. The addition of the EDS to the savic-net FX Building Management System (BMS) enhances the energy management function of the BMS and upgrades it to a BEMS. The EDS can help visualize energy consumption data in various ways to facilitate sophisticated energy management. This function enables users to easily grasp and analyze energy consumption patterns in buildings and factories for significant energy savings.

savic-net is a trademark of Azbil Corporation.



#### Features:

- Easy data processing Enables detailed planning of energy conservation measures
  - azbil http://www.azbil.com/
- Yamatake Corporation changed its name to Azbil Corporation on April 1, 2012.

#### Japan

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