In 1997, Dr. Minoru Asada of Osaka University and a group of other Japanese researchers launched RoboCup, an international robotics competition taking its concept from the game of soccer. The purpose of the competition is the fusion and development of robotics engineering and artificial intelligence. At present, the number of individual competition events has increased to include RoboCupRescue, which is all about disaster assistance robots, and RoboCupJunior, which is concerned with robots in the education and entertainment fields. The event has grown into a very large one, as illustrated by the Atlanta competition of 2007, which pulled in approximately 3,000 visitors and contestants from some 40 countries.

TeamOSAKA has been a formidable competitor from 2004 through 2007, winning the event in the RoboCup Humanoid League each time. The team is a collaborative effort between industry and academia established to exhibit Osaka's superior technology to the rest of the world. Participants include the Intelligent Robotics Laboratory (directed by Professor Hiroshi Ishiguro) at Osaka University, Vstone Co., Ltd., Systec Akazawa Co., Ltd., and more. TeamOSAKA's robots perform exceedingly well in basic operations such as ascertaining ball position, moving quickly, shooting accurately, and so on, demonstrating the high level of this technology.

Japan has enjoyed excellent competitiveness in the field of industrial-use robotics. At present, the country's robots are being utilized in peoples' everyday lives, and research on advanced next-generation robots is also being carried out. Osaka in particular is drawing attention for its leadership role in robotics research.
Osaka’s Robotics Industry Moves

Working together with people or on their own, next-generation robots are robots designed to make life more convenient, more comfortable, and more fun. Osaka is working toward the future of the human race with robots. The following are some examples to illustrate.

Forming networks for the development of the robotics industry

The Robot Laboratory, located in Kitao-ku, Osaka City, is a strategic location intended to facilitate the robot industry. Acting as an advisor, it provides information and networking services to companies planning to engage in the robot industry.

Dr. Shu Ishiguro, lead researcher at the Laboratory, tells us, “Osaka is home to universities, corporate research institutes, large, medium, and small companies possessing excellent technology, plus service industries that link the technologies of these institutions and corporations to the business world. It’s really an ideal location for research and development on next-generation robots.”

Next-generation robots are complete systems by which robots are rendered able to feel, think, and move as humans through the application of technology.

“It’s problematic to carry out all the necessary research and development at just one company. We need an effective system of collaboration that links service industry companies who can give no-business ideas on what kinds of services can be performed using robot technology to replace humans with companies and research institutions that have the required technology. In Osaka, we’re already one step ahead of the game in network building.” He notes the fact that the public administration of Osaka Prefecture and Osaka City is focusing on the field as a big help.

Research institutes with cutting-edge technology

Dr. Shu Ishiguro talks about how he wants to make Osaka a cutting-edge industrial zone like the area of Silicon Valley.

Research initiatives providing cutting-edge robotics technology form a foundation of support for Osaka’s next-generation robotics industry. Dr. Hiroshi Ishiguro of the Osaka University Department of Adaptive Machine Systems is one of the world’s leading researchers in the field of androids. In his laboratory sits a female android that looks so real she could be momentarily mistaken for a real person. Even the movements of her eyes and neck are strikingly human.

“It is humans that communicate with humans best. Here, in researching communication between humans and androids that closely resemble humans, we are looking at the question of what makes us human. This is how we consider the factors that enable smooth communication between robots and people.”

For instance, things that have been discovered in research on androids, such as subtle-eye movements, are utilized in company-manufactured robots.

“Osaka boasts the kind of research environment that facilitates frequent joint testing—an environment that allows companies and research institutes room to casually come and go as they wish. Osaka’s economy is fairly large, and we also have the enthusiasm to do interesting things, like TeamOSAKA’s ambitions to build the world’s best-performing robot. I think these are Osaka’s strong points.”

A hotspot for new business

October 2007 saw the opening of the “Robot Building” in front of municipal subway Higobashi Station. Housing six companies in the robotics industry engaged in robotics development, manufacture, and so on, the building also features an interesting retro look.

The Robot Building is drawing attention as a leading location for Osaka’s robotics sector. Services include marketing, devising specific business models for companies utilizing robots, and so on.

The first floor features the “ROBOCAFE,” which offers a wide range of robot goods including everything from just-for-fun humanoid robots that cost tens of thousands of yen each to robot-motif variety goods selling for just hundreds of yen, as well as books on robots, related electronics, and much more. Even people who haven’t had much exposure to robots can experience the world of robots here.

In addition, a variety of events and seminars are held in the basement, including programming courses on humanoid robots, user gatherings, and so on.

Robots can be great fun

We’re in Osaka and are busy creating an environment where the average person can enjoy robots even if they’ve never had anything to do with them. One way of having fun with these robots is “ROBO FIGHT,” where two humanoid robots fight it out in the ring. Everyone from robot enthusiasts to students researching robotics at university to families can bring in their robots, which they tend to love like pets, to “see how they do in the ring.”

There is also a shop, called the “Robot Factory,” in the well-known electronics shopping district of Nippombashi, where robot enthusiasts tend to get together. Robot Factory is the Kansai region’s first robot specialty store. It sells a wide range of items, including complete products such as humanoid robots and robots for competition, parts used to upgrade robot functions, replacement parts, and more. They also offer special classes in making electronics and robots.
toward Achieving Its Dreams

— Commercialization moves ahead in an array of fields —
In 2011, we’ll see a town guarded by robots

Next generation robots come in a variety of forms, and not all of them necessarily look like humans. For instance, we use various items in our daily lives that utilize next-generation robot technology, including products such as microwave ovens that measure the temperature of foods and heat them to the appropriate temperatures, and air conditioners that automatically clean their filters.

Plans are underway to build a “Knowledge Capital Zone,” which will be a next-generation robot industry focal point, in the Osaka Station North District (Kita Yard) to be opened in 2011. This zone, which will be home to research institutes including those of universities and cutting-edge corporations in a variety of industries, will also feature infrastructure and robot technology for a safer and more convenient town.

There are also a number of other commercialization initiatives in various fields.

- Commercialization moves ahead in an array of fields -

This article is written with the cooperation of:

RoboCup, Japanese National Committee
InterRobotics Co., Ltd.
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Robotics and Intelligent Machine National Laboratory
Intelligent Robotics Laboratory, Osaka University
Matsushita Electric Industrial Co., Ltd.
Matsushita Electric Works, Ltd.
Aero Co., Ltd.
RODECURE
ROBOTICS
Robot Factory
Spring in Flowers and Greenery: A Festival of Osakas Spirit of Hospitality

A beautiful natural setting of flowers and greenery is just the thing to comfort the busy traveler. Even in the metropolis of Osaka, there are many parks where people can enjoy nature in spring. Here we introduce three parks that are easily accessible from central Osaka and offer a variety of attractive spots.

Tennoji Park

This oasis-in-the-city offers a wonderful natural setting complete with Japanese gardens and even a zoo. Tennoji Park is a historical park established in 1899. Despite its central Osaka location, its beauty surpasses even a palace garden in beginners. It is an area of high spiritual value that conveys a sense of peace and tranquility. This park is one of the few remaining gardens in Osaka that was not destroyed during the war. Although it has been modernized, the original layout and design have been preserved, creating a harmonious blend of nature and culture.

Keikyu, please be welcome, and most! Visitors can meet some 230 different kinds of animals all in one place.

The Tennoji Zoo, located on the western side of the park, was established in 1933. The zoo has grown significantly since its inception, and today it is home to over 2,600 different species, including some of the world's most endangered animals. Visitors can see a wide variety of animals, from exotic to common, and learn about their habitats and conservation efforts. The zoo is also known for its educational programs and interactive exhibits, making it an excellent destination for families and animal lovers alike.

Tsurumi Ryokuchi Park

Witness traces of Expo ’70 at this lovely park. Visit the park’s comprehensive greenhouse featuring blossoms from around the world. The Tsurumi Ryokuchi Park occupies the site left over from the international Garden and Greenery Exposition Osaka Expo ’70. Wadachi River flowed in the eastern side of the park in April, 1970. The park has been turned into a large green space with over 90,000 trees and shrubs. It has been beautifully landscaped and has been opened to the public since 1971.

The plants of the desert: 5000 years of life.

The United Nations Women’s Convention was held in the past, and the park was once the International Women’s Convention. The park is located on the eastern side of the Tsurumi River. The park is open from 9:00 AM to 5:00 PM, and the main attractions include a large greenhouse, a children’s playground, and a beautiful Japanese garden.

Tsurumi Ryokuchi Park

The vast garden of fully 13,700 m² is centered around a large pond in traditional style. Visitors can enjoy a variety of plants, including those from the desert, tropical, and subtropical regions. The garden also features a large greenhouse with a variety of plants from around the world. The park is open from 9:00 AM to 5:00 PM, and free admission is charged. The facilities are open from 9:00 AM to 8:00 PM, and the park is open 365 days a year, except for the last day of the month.

How to make omuraisu (Omelet)

1. In a mixing bowl, beat 3 eggs, add 1 cup of ketchup, and 1/2 cup of warm water
2. Whisk well and make sure there are no lumps
3. Fold in the rice seasoned with ketchup
4. Wrap in a thin rice sheet
5. Place on a plate

Omuraisu

This is a dish that originated in Osaka in the 1800s. It is a combination of omelets and rice seasoned with ketchup. The distinctive feature of this dish is that it is served with a rice sheet, which is folded on top of the omelet. This dish has become a popular item in Osaka restaurants and has even spread to other parts of Japan.

Expo ’70 Commemorative Park

Located to the north of the central Osaka, this park is dedicated to the memory of Expo ’70, the 1970 World’s Fair held in Osaka. The park is open from 8:00 AM to 5:00 PM, and free admission is charged. The facilities are open from 9:00 AM to 9:00 PM, and the park is open 365 days a year, except for the last day of the month.

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Exploring Osaka's Culture

Bunraku—A Sophisticated Performance Art Played by a Narrator, a Shamisen Player and Puppeteers, All Working in Unison

Osaka is home to Jōruri-bunraku, one of Japan's traditional performing arts, designated as World Intangible Cultural Heritage by UNESCO in 2003. The following is a brief outline of the performing art, which is played by a narrator (tayu), a shamisen (lute) player, and puppeteers. If you have a chance to come to Osaka, please pay a visit to the National Bunraku Theatre. You will have a memorable experience.

Japan's unique puppet play that evolved in Osaka

Bunraku, a traditional Japanese puppet play, is a form of theatre that uses hand puppets manipulated by puppeteers. The performances are performed by a narrator, a shamisen player, and puppeteers, all working in unison.

Bunraku dramas are based on historical incidents or true stories and are highly regarded as literary works.

The essential elements of bunraku, namely, dramatists, playwrights, and puppeteers, are called "indispensable." Bunraku is a type of drama, and it is considered one of the most representative forms of traditional Japanese culture.

The narrative style of bunraku is full of drama, and the performances are highly emotional and realistic. The puppets used in bunraku are called "ningyo," and they are made of wood and are painted and dressed in traditional costumes. The puppeteers manipulate the puppets with their hands to bring them to life, and the shamisen player accompanies the performances with music.

Perfect collaboration of sango, or the three professions, is essential for successful performance of bunraku

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Performance schedule

Osaka Courtyard Theatre

April 17th (Thu.) - April 21st (Tue.)

Performance on April 17th, 18th, 19th, 20th (¥4,500)

Performance on April 21st (¥4,050)

Discounts for students (including foreign students)

Ando’s Project

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Performance on April 17th, 18th, 19th, 20th (¥4,500)

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Bunraku—A Sophisticated Performance Art Played by a Narrator, a Shamisen Player and Puppeters, All Working in Unison

Osaka is home to ningyo-joruri, one of Japan’s traditional performing arts, designated as World Intangible Cultural Heritage by UNESCO in 2003. The following is a brief outline of this performing art, which is played by a narrator (tayu), a shamisen (Japanese 3-stringed lute) player, and puppets. If you have a chance to come to Osaka, you will have a memorable experience.

Japan’s unique puppet play that evolved in Osaka

Ningyo-joruri, or Bunraku, is Japan’s traditional puppet theater. This form of puppet play is one of the oldest performing arts in Japan. Also, Bunraku is recognized by UNESCO as Intangible Cultural Heritage and is designated as Living National Treasures (Master of the name “bunraku” became synonymous with Bunraku Theater in Osaka, which came to play a leading role in the development of the art following the establishment of the Takemoto Theater in 1747.

Bunraku dramas are based on historical incidents or real incidents that took place in Tenjinnomori in Osaka in the early 1800s. Uemura Bunrakuken opened a Bunraku Theater in Osaka, which came to play a central role in the world of bunraku and eventually became the Takemoto Theater in Osaka in the early 1800s.

In 1950, Bunraku was designated as Important Intangible Cultural Property by the Japanese government. There are two main performing styles—namekajimono, or nameko puppets, and poupets—and namekajimono are famous for their unique puppetry technique called omu-zukai, which is one of the most important features of Bunraku. Hidari-zukai, or the three professions, is the most characteristic feature of Bunraku.

In the early 1800s, Uemura Bunrakuken opened a Bunraku Theater in Osaka, which came to play a central role in the world of bunraku and eventually became the Takemoto Theater in Osaka in the early 1800s.

Perfect collaboration of sangyo, or the three professions, is essential for the performance of bunraku

The essential elements of bunraku, namely, namekajimono, nameko puppets, and poupets, are called sangyo, or the three professions. They are all performed using a composite art, which requires perfect unions of song, style, and dancing. Each profession, including the nameko, namekajimono, and poupets, not only takes the role, but also conveys the scene, provides stage background and explains the character’s roles. This last element means that the skillful adoption of composite roles for the different characters. He must also present the part of the character, revealing their nature and feeling. Each profession, including the nameko, namekajimono, and poupets, is unique in its own way. Hence, the collaboration of the three professions makes it clear that the sangyo, or the three professions, is the most characteristic feature of bunraku. However, since the nameko and namekajimono are the main performers, and the poupets are the supporting characters, the collaboration is unique in its own way.

Sangyo is the unique puppet play that evolved in Osaka in the early 1800s. Uemura Bunrakuken opened a Bunraku Theater in Osaka, which came to play a central role in the world of bunraku and eventually became the Takemoto Theater in Osaka in the early 1800s.

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Rinku Town Draws Some 15 Million Visitors Every Year

Rinku Town is being developed by the Osaka Prefectural Government as a focal point for interaction between people and the exchange of goods and information. In addition to the influx of manufacturers and logistics companies in the area, commercial facilities have also been established here one after another, creating a dynamic atmosphere.

In its location on the opposite bank of Kansai International Airport, the objective for Rinku Town, established in 1996, was for the area to prosper along with the airport facilities. Featuring a 24-hour airport located just five kilometers offshore, a road network that includes two highways, plus two railways, the location offers excellent access both domestically and internationally. Taking full advantage of these attributes, the area is being further developed as a commercial, industrial, and logistics center, and as a result companies are moving into the area in great numbers.

The district’s commercial facilities are particularly dynamic. The area, noted for its tourism and commercial attractions, attracts more than 15 million visitors annually. It boasts large commercial facilities such as the Rinku Premium Outlets—one of Japan’s largest shopping areas of its kind with some 150 brand-name shops, the Aeon Mall Rinku Semai, sports specialty shops, interior décor shops, and more.

In December of last year, the Rinku Prize SEACLE, a large-scale multi-purpose commercial facility that includes an 85-m-high ferris wheel, a hands-on-style theme park for children, and so on, was opened. In addition to the opening of a 24-hour hot bath facility scheduled for this spring, there is also a tentative plan for a shuttle bus for a shuttle bus between Kansai International Airport and the Town. So when you’re at Kansai International Airport, be sure to head over.

The area is also poised to continue to attract young people in the future with such initiatives as the establishment of the Annunciation Safety College this April. The College educates specialists in air safety including air traffic control.

Winner of the 22nd Yamagata Banto Prize Announced

Yamagata Banto was a world-famous scholar of the Early Modern merchant class, and very much a product of the Osaka of his time. The Yamagata Banto Prize, an award named for him, was established in Osaka Prefectural Government in 1982. It celebrates written works and writers contributing to the study of the Yamagata Banto and his associates. This year, the prize was awarded to Dr. Edwin A. Cranston, professor of Japanese literature at Harvard University, for his excellent research on ancient Japanese poetry. He gave a commemorative lecture on the occasion of the awards ceremony in February.

Dr. Cranston delivered the following message upon receiving the prize:

“I never dreamed that my long-held love for Japanese poetry would be so well received by the academic circles of the birthplace of this poetry, nor that I would be receiving this illustrious prize. Thank you very much.”

G8 Finance Minister Meeting in the 2008 Summit to be Hosted by Osaka on June 13th and 14th

The G8 Finance Minister Meeting at the 2008 Summit, where representatives from the G8 countries will discuss a host of issues related to the world economy, will be held in Osaka. The world is watching this meeting, and the Osaka Promotion Committee for the G8 Finance Minister Meeting is implementing PR initiatives to ensure its success. We hope that everyone will take this opportunity to take notice of Osaka, a city that has been developed as a commercial center since long ago, and that includes two highways, plus two railways, the location offers excellent access both domestically and internationally.

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