

University of Waterloo

GENE 303 REPORT

International Studies in Engineering

Japan: A Land of Discovery

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1. Introduction

Hi, my name is Jason Chau and I'm a Systems Design Engineering student who was fortunate enough to be able to go to Japan twice (that's right, twice!) during my busy undergraduate career. If you are reading this report, then chances are you are thinking of going halfway around the world to spend some time in a completely new world too. Personally, I took my two trips for three main reasons: to do a little soul-searching, to learn more about Far East Asian cultures, and of course, to take a break from my studies and travel. Like most people who have never been there, my expertise on everything Japanese before going was limited to the sushi I had tasted in Toronto, the Japanese VCRs and other gadgets I had used growing up, and the Japanese cars I had driven. But there is so much more to discover for those who take the extra step to the airport. Japan is a beautiful country with a diversity of traditions and breathtakingly pristine environments. It is a land full of unexpected surprises. I could go on and on about the cultural oddities, stunning vistas and everything else that I've seen but first we should talk a little about my exchange and work experiences in Japan to give you an idea of what they entailed and cover some of the technical details.

1.1. The Tottori exchange

The first time I went to Japan was to Tottori on the nine-month Tottori University study exchange back in 2001. This exchange is co-ordinated through Professor Keith W. Hipel of the Department of Systems Design Engineering, and is generally open to students during the 3A term. I will point out here that the exchange is generally tailored to meet the needs of 3A Systems Design engineering students in that a set of courses are pre-selected to correspond to the 3A courses that would normally be taken by Systems Design students at the University of Waterloo. Although I don't think these types of arrangements are generally available to students in other engineering departments, students from electrical, computer, mechanical and civil engineering have all gone on this exchange before so a suitable set of courses might be selected based on these past exchange experiences. In any event, something you should be sure to do before committing yourself to this exchange is to figure out whether or not there are you will be able to get credit for the courses you take at Tottori University, and if not, whether or not

you are willing to put in extra time or effort in a later term to make up for the deficit. In any case, applications should be submitted during the 2A term.

The Tottori exchange is a nine-month study exchange, four of which are spent studying in Tottori (a small city on the northern coast of western Honshu) upon arrival, and three of which are spent working for a Japanese company prior to returning to Canada. The three months spent working count as a co-operative education work term and locations can vary. However, the jobs that are offered are usually in one of the bigger cities (Tokyo for myself) of Japan. The other two months during the summer are spent according to your will's desire, and of course, the size of your wallet.

Tottori is a small, and not particularly exciting city, but it is beautiful nonetheless. The weather is great in the summer, and there is a kind of calm, carefree atmosphere to the city. I remember when we arrived in Kansai International Airport in Osaka for the first time in 2001, Professor Junji Koyanagi of Tottori University, who happened to be in Osaka for the weekend, came over to pick us up and accompanied us back to Tottori. The bus ride took about 3.5 hours and we arrived well into the night, so Junji took us to the international students' residence and gave us our room keys. The residence is located about fifteen minutes away from the university and nearest train station by foot, and five minutes away from an international students' centre, which exists to solely to help foreign students adjust to life in Japan. Our rooms were small but fully furnished, containing private toilets, and we had magnificent views from our balconies (we were on the top floor). Residence fees had to be paid monthly, but were subsidized by the university so we only ended up paying about 3000 yen a month (i.e. approximately \$40 CDN). Another bonus to living at the international students' residence was that we got to meet students (mostly graduate students) from all over the world. For example, we met people from Iran, Brazil, China, Malaysia, Honduras, Korea and Pakistan among others, all living under the same roof.

The university itself is rather small and one can probably walk from one end of the campus to the other in about ten minutes. The major disciplines taught at the university are engineering, agriculture, and veterinary science. Exchange students from Waterloo are assigned to a professor's laboratory within a week of arrival and given a

desk space where they can work if necessary. My lab had about fifteen graduate students in it, and I received a very warm welcome both personally, and through numerous welcome parties, to my lab, Tottori University and Japan. In fact, it is Japanese custom to throw welcome parties for new arrivals to make them feel welcome, and goodbye parties for departing individuals to thank them for their efforts, participation and friendship. It is a very nice gesture and something that I wish we did more often in Canada.

Regular Japanese students are required to take between 10-14 courses per term, but we were only required to take five, so we ended up with a lot of spare time. The only other academic obligation for which you would be responsible during the school term would be any help requested of you by your laboratory supervisors (i.e. professors). Usually, this takes the form of English tutoring and/or editing research papers written in English. In my case, I (tried my best and) tutored my lab's associate professor, Professor Atsushi Koike, and edited a few papers for him every now and then. Three of our classes were given in English through private session, and the other two were taken along with other students in Japanese. Needless to say, a good grasp of the Japanese language is very beneficial in these classes, but we still managed to survive because English notes were used in one class, and English reading material was provided in the other. All in all, we escaped the prospect of studying technical subjects in another language rather unscathed, but I have to emphasize that this accommodation was once again made only for the Systems Design students. The other two students from electrical engineering who also participated in the Tottori exchange with us were required to take a majority of their courses in Japanese. In any case, our course loads were light enough to give us plenty of spare time to study Japanese, enjoy ourselves, and join several clubs on campus.

From my experience at Tottori University and what my Japanese friends have told me, the main difference between post-secondary educational institutions in Japan and North America is the level of academic intensity. Whereas in North America, everything leading up to the post-secondary education is relatively easy compared to the post-secondary education, it is the opposite in Japan. Japanese high school seniors cram-study for hours on end to prepare for national university entrance exams, and usually like to take it easy once they're in. In fact, there is such a thing as "cram school" that operates after regular school hours for the keener Japanese high school student. In university,

students are usually encouraged to join at least one of the many clubs around campus, which they then devote much time and energy that would otherwise be considered study-time in North America. Far from being a lax educational system, the energy spent on club activities rather than studies actually serves a deeper social purpose. To understand the underpinnings of this system, it is necessary to realize that teamwork and smooth integration into the larger group society are highly regarded virtues in Japan. So the clubs are really a type of “farm system” that prepares young adults for a working class community that places great value on mutual co-operation rather than individualism. To reinforce these ideas, clubs have hierarchical structures where senior students teach and tend to junior students, for example paying for club gatherings or dinners, and junior students respect and mentor under the senior students in return. Since I had so much free time for lack of classes, I ended up joining three clubs, which would be unheard of for normal Japanese students: adventure, classical guitar, and equestrian. The adventure club seems to be somewhat of a tradition for University of Waterloo exchange students, as we somehow seem to be drawn inexorably back to this club year after year. They do things like rafting, hiking and caving, and are a really fun club.

One other fond memory I am going to address here is the cafeteria food at the university. The university actually has two cafeterias with slightly different menus, both of which are delicious and cheap. Living in Japan is usually quite expensive but the government subsidizes cafeteria food in national universities so students can afford it. The cafeterias are “pick-up-what-you-like style” and offer great variety so it’s not easy to get bored with the food.

Perhaps the most distinctive geographical feature of Tottori are the sand dunes by the ocean, where people carve their names in gargantuan letters across the surface and then go racing down the other side at breakneck speed for a dip in the ocean. Tottori also has a rather large “hill” upon which a castle once stood and can be climbed in a couple of hours. The view from the top is spectacular and the stone foundation of the castle ruins can still be seen fixed into the ground.

Before going on summer vacation, Professor Koyanagi did us a huge favour by contacting several companies and finding co-op job positions for us come September. Three of the jobs were in Tokyo and one was in Kyoto, and I drew a straw that landed me

square in the middle of Tokyo. My company name was Ark Information Systems and I worked on developing a relational database system for them. Once again, accommodation was provided and paid for, and I was made to feel very welcome by everyone at the company. And what of the city of Tokyo itself? Well pretty much everything can be found in a city of this magnitude. Approximately thirty million residents live in the greater Tokyo area (roughly the same number of people in all of Canada!) and the sea of humanity can be overwhelming at times. However, there are many escapes for those who grow tired of the city life. For example, the Meiji shrine that sits in an artificially grown forest smack in the middle of downtown Tokyo provides such a serene setting that you would never know that you were in one of the world's largest cities. The elaborate transportation system within Tokyo and connecting it to nearby municipalities also allows residents easy access to weekend getaways to locations with sunny beaches and surfing or to places such as the majestic slopes of Mount Fuji.

1.2. The Epson work term

The second time I went to Japan was to Sapporo on a one-year co-op work term for Epson Software Development Laboratories, co-ordinated through CECS (Co-operative Education & Career Services). I went on this co-op work term a mere four months after returning from the Tottori exchange! Although the term was for twelve months, I should point out that I had to wait an extra four months after returning to Canada to get back on stream with the next graduating Systems Design Engineering class. Fortunately, I was able to secure temporary employment similar to the co-op position I held in Sapporo with the Epson software development division branch in Toronto.

My second experience in Japan was very different from the first for two main reasons. First, Sapporo is a relatively new city located in the northern island of Hokkaido, and therefore does not have all the temples and shrines that are found throughout the rest of Japan. City streets are wider than in other major urban centres, and the geographical location sees a lot of snowfall during the winter. These make the experience of living in Japan much less foreign for a Canadian who's lived all of his life under similar conditions. Second, my Japanese had improved vastly since that first day I had landed in

Osaka, to the point where I could start guessing at the one or two words used in a sentence that I did not completely understand. Purchasing an electronic dictionary also helped immeasurably although it cost me about \$250 CDN. These two factors helped me to see Japan as less of a foreign country, and more as a place where I could actually live and begin to understand.

Although quite modern, Sapporo is also a beautiful city that is famous for its “ramen” (i.e. one type of Japanese noodles originally from China), “Genghis Khan” (which is actually a type of lamb meat seared fresh on hot metal plates), and the winter snow festival in February during which huge and incredibly intricate snow sculptures are built in the city’s main park, Oodori Park. Apparently, Sapporo is also known for its cleanliness and wide-open streets, as I have been told by many a Japanese from larger but denser cities such as Osaka or Tokyo.

The work itself wasn’t too bad as my supervisor provided me with all the materials and guidance that I needed, and programming in Japan is the same as programming in Canada. The building itself was spacious, clean and new and I really enjoyed the work atmosphere there. Epson also provided Japanese lessons once a week for the foreign employees, and English lessons once a week for the Japanese employees so communicating wasn’t too difficult. Something that my Epson work experience had in common with my first work experience in Tokyo, and I’m willing to bet most other Japanese companies, were the weekly team meetings. As I’ve previously mentioned, teamwork is highly valued in Japan, and as if to underscore this, we would go around the table one by one at the weekly meetings and explain our week’s progress and any problems that we had encountered for group discussion. It is also not uncommon in Japanese companies, for the employees to be required to wear a pair of slippers indoors instead of their outdoor shoes, as is the custom when entering a Japanese home. Although this may sound a little odd at first, it’s actually a really great practice because you get to stretch your toes whenever you want, and the ground stays remarkably clean. Many Japanese companies also have set lunch hours marked at the start and end by a ringing tone, and during which lights in the work area are turned out.

For more information on my Epson work term and Japan in general, see the following website that I created while working at Epson:

1.3 What else should you expect?

One thing that everyone should keep in mind when travelling to a foreign country is that it is foreign. Japan is no exception and I would like to emphasize that it is a very different culture than what we're used to here in Canada or the United States. Values, norms and customs are understood differently, and one should be prepared to have an accepting attitude for the unexpected. Having said that, there are also many similarities stemming from the modern industrialized natures of our societies, and probably more so from the United States' influence in helping to rebuild Japan after World War II. For the remainder of this report, I will try to give a brief glimpse of what Japan and life in Japan are like by relating some of my own, and placing them in perspective through a brief summary of modern Japanese history. Hopefully, this will help prepare you a little better for your upcoming trip.

2. History

Japan existed as a feudal society under neo-Confucianist principles until the end of the Tokugawa era in 1868, when heavy political pressures culminated in the Meiji restoration, effectively bringing an end to this way of life. At the mercy of imperialist powers, Meiji-era Japan was determined to close the gap between itself and modern industrialized states, and widespread reforms were instituted across the country. Once rigid social class boundaries began disintegrating, and Japan underwent a period of intense development and academic exchange with Western cultures such as Germany and France. One area of development to which particular import was given was the modernization of the military sector. With the advancement of the military, Japanese militarist ambitions began to grow. The seeds of conflict were sown for generations to come when the first Sino-Japanese war erupted between Japan and China over the status of Korea as an independent state. In 1937 Japan invaded China, starting the second Sino-Japanese war, and set the stage for China to develop into the communist state that exists today. When Japan joined the axis powers of World War II in 1940, the U.S. and Great Britain responded by imposing an oil boycott to which Japan reacted by renewing

aggression against the allies. On April 6, 1945, the United States dropped the world's first atomic bomb on the military depot city of Hiroshima and followed up three days later with a second one on Nagasaki. Under threat of assured destruction, Japan surrendered unconditionally on April 14, 1945, and the post-war rebuilding period began. With significant economic investment from the U.S., Japan has since undergone a significant transformation to become the second largest economy in the world today.

3. Culture

Modern Japanese culture can only be explained as a mix-match of the old and the new with a dash of the foreign thrown in. While some aspects of Japanese culture have disappeared since old times, others remain virtually untouched. For example, one of the most disconcerting experiences I had while in Japan was walking into an overcrowded subway station during rush hour and finding a single lady amidst the sea of dark suits and skirts wearing a brightly coloured kimono and looking like a painted doll, standing calmly in line for the train as if she were dressed just like everyone else. On the other hand, I would never expect to see a samurai warrior walking around downtown browsing the local goods. The younger generation has its own brand of ever-changing pop culture, yet at the same time, arts such as theatre, pottery making, calligraphy, the tea ceremony, and sumo wrestling are steeped in traditions that date back many centuries.

Much of what remains of the old Japanese culture today can be found in the beautiful ex-capital city of Kyoto, which was deliberately spared bombing during World War II due to its cultural and architectural significance. Kyoto is often called “the cultural capital of Japan”, and was indeed the capital up until the end of the Tokugawa dynasty in 1868, upon which it was moved to Edo (i.e. present day Tokyo). Therefore it should come as no surprise that Kyoto is littered with majestic temples, shrines, and a castle or two. Kyoto's Gion district is one of the only remaining areas of Japan where geisha are still active, and goods such as authentic lacquer ware, kimonos, or traditional candies can be purchased in the surrounding shops, albeit at exorbitant prices. Kyoto train station, a controversial but nonetheless impressive architectural masterpiece with its space-age conception and soaring structure, sits near the southern end of the city, acting as a hub for travel as well as local youth activity. The department stores and fast-food restaurants

housed within represent Japan as an industrialized nation, and are a perfect counterpoint to the cultural and traditional features that Kyoto is so famous for.

In a slightly different setting, you could spend all morning wandering the streets of downtown Tokyo lost amidst the skyscrapers, giant electronics stores, and clothing boutiques, and then retire for a quiet afternoon and evening of kabuki theatre just around the next street corner. Then, at night, when the neon lights come on, you could swing over to a karaoke joint with some friends to belt out your favourite songs, or stop by an ‘izakaya-san’ (i.e. a traditional Japanese bar-style restaurant) for some tasty snacks, drinks and conversation.

Of course, what, of these, are available to you is dependent on where you’re situated. Smaller cities and municipalities will obviously have less in terms of entertainment and sightseeing, but what I’m trying to get at is the diversity of modern-day Japan. It’s a smorgasbord of discovery.

One aspect of Japanese culture that many foreigners feel to be quite ‘backwards’ is the noticeable preponderance towards male dominance in many parts of the society. Women are often exploited in the media, and are expected to perform certain “duties” before men are – something would be seen as sexist and discriminating in North America. For example, in the work environment it is usually expected of women to brew tea, answer phone calls, etc. before men are, even if they have the exact same job titles and job status’ as the men. At the dinner table as well, women are expected to pour drinks and serve food before men are. As a result, most women don’t attend after-work parties and dinners. I should mention here that although these sorts of things make Japan sound like a bad place to visit or live for women, it is not. Everyone and every group you meet will have different beliefs and expectations and we should be more open-minded than to lump them together with such a generalizing statement. Further, it would be ethnocentric of us to judge Japanese society as being “backward” so easily since it is the environment and teachings that we grow up with that determine our actions and judgement, and we North Americans have not grown up in Japan. Better to try and figure out why people believe the things that they do and then turn to ourselves and examine why we believe the things that we do. Having said that, I’ll admit that I am still uncomfortable with aspects of Japanese culture such as the one mentioned above.

Japan also has its share of fascinations with and stereotypes about all things foreign. In particular, some Japanese youth romanticize American pop culture (and to a lesser extent, other cultures as well), as is plainly evident with the exaggerated “Yankee” hairstyles that were popular back in the 1980s. Taken from a historical perspective, it shouldn’t be too surprising that Japanese society today is heavily influenced by the USA. Despite being carpet bombed and then atomic bombed by the US during World War II, the foundations of modern day Japan were also laid by the US following the war, and Japan’s meteoric rise would not have been possible without the US. For Japanese civilians who were taught only after the war had ended that their emperor was not the descendant of God and had other such myths dispelled, American culture and society must have offered an enticing alternative to rebuilding their own identities from scratch. Over the years Japan has diversified in a world of increasing globalization and is touched today by much more than just American culture. Perhaps the area of life in which this is most evident is that of food.

4. Food

Japanese people enjoy their food. It almost sounds too trivial but it’s something you wouldn’t know until you went to and lived in Japan. The reason I say this is because the quality of the food in Japan is phenomenal. It also becomes quite obvious after you’ve spent a little time watching Japanese television and have noticed the number of programs that are devoted to the showcasing of different foods. I should also add that it’s not just the Japanese food that’s incredibly good, but all food made in Japan – including those of foreign recipe. My explanation for this is that the Japanese are meticulous and have an eye for detail, and hence can bring out the flavours of a food like few others can. It was actually a disappointment to come back to the food in Toronto after my two stays in Japan, even though the food in Toronto is quite good by many standards. There are also a wide variety of drinks available in Japanese convenience stores including many types of non-sweetened teas. This is something I really missed when I came back to Canada since almost all drinks sold here with the exception of bottled water and milk are sweetened with something or another.

In Japan, the appearance of food is almost as important as the taste and you'll find almost anywhere you go that the food is impeccably made. To seal the deal, service is superb (this is true in general, not just of dining establishments), making the act of eating a very gratifying experience in Japan.

Now that you know that you'll be getting good food almost anywhere you go, let's talk some more about travel.

5. Travel

Although travelling in Japan is extremely convenient, it is also expensive and confusing due to the extensive train network covering Japan. The fastest trains available are the "Shinkansen" bullet trains that operate on the Kyushu and Honshu islands. These trains often travel up to speeds of several hundred kilometres per hour and are exceptionally smooth and comfortable. The cheapest one-way ticket will cost about \$100 CDN however and there are only certain locations at which the bullet train stops. To get to more remote areas or to save money, there are several grades of cheaper train tickets, although the cheaper the ticket the longer and more inconvenient the travel time will be. A seasonal guide listing all train times at each stop down to the minute can be purchased in most major bookstores and will be invaluable in planning your trip, assuming you can figure out how to read it. It is quite complicated so you'd probably do well to ask a friend or your boss for help. To make things worse, the system is not homogeneous, and a number of private railway companies also offer limited service in certain areas. These railway companies probably publish their own train schedules as well so make sure you know which one you're when you buy it from the bookstore! The national railway company is called Japan Rail, or JR, for short. Even cheaper alternatives may include buses, depending on where you're going and at what time. Finally, something you should always keep in mind is that it may actually be cheaper or more worth your while to fly to your destination, since train ticket costs can add up rather quickly and taking trains is usually slower than flying.

One of my most memorable travel experiences while in Japan was to the Shakotan peninsula (Shakotan hanto) just a little northwest of the city of Otaru on the island of Hokkaido. Even the bus ride to the peninsula was spectacular as it followed the

coastline beyond the city of Youbetsu, and large towering rock formations carved by the endlessly beating waves of the ocean could be seen jutting out of the water not a hundred metres off the coast. As the bus approached the final leg of the journey I could see the peninsula stretching out into the ocean and gleaming in golden early morning sunlight against the blue sky. That is a sight that I will never forget. After a steep ascent to the base of the peninsula, I exited the bus and took a deep breath of the cool ocean breeze. Quickly, I ran over to the entrance of the walkway that would take me to the tip of the peninsula and peered at the path before me. It looked rather daunting as it wound its way over the landmass for about 1.5 kilometres, all of which was clearly visible from where I was standing. Surrounding this land, and about a fifty metre drop down was nothing but blue ocean. It was an exhilarating walk to the tip, and beyond I could see more rocky formations projecting from the ocean surface, no doubt an extension of the peninsula half-immersed in water, around which seabirds were soaring and resting. To either side, I could see the sun beating down on the beautiful coasts of Hokkaido, which rose majestically out of the ocean like the sides of an unevenly cut cake. Further back inland rose snow-capped mountains to fill in the scenery and complete the mood. I must have stood there for about an hour and a half just looking back and forth between all the beautiful sights, snapping pictures, and trying to soak it all in. When I finally made my way back to the bus terminal, I had a hearty curry rice dish at the cafeteria and then browsed the gift shop for a while until the bus came. On the way back, the bus made a stop at a local hot spring spa, or “onsen”, to which a quick trip would have made the day perfect. Unfortunately, I had to catch a connecting bus ride back to Sapporo to make another engagement so I didn’t go in, but if you ever make this trip to the Shakotan peninsula you might want to try scheduling in a trip to the onsen as well.

In fact, Japan is very well kept and has many pristine environments like the one I just described. Perhaps because of their Shinto beliefs, Japanese people are very respectful of their environment, and as a result travelling in Japan just brings you beautiful sight after beautiful sight.

6. Conclusions

So what did I learn in exchange for nearly two years of my life and the opportunity to graduate with my friends? Well for one thing a new language with which to communicate, the importance of which should not be underestimated. I've also made new friends and contacts with whom I keep in touch even now, three years later. But more, I've learned how different people can be as a result of their culture, and how limited my view of life was before taking these trips. In retrospect, delaying graduation for one year was a small sacrifice to pay for all the things that I've seen and learned. Going to Japan has made me realize how much of the rest of the world I really want to see: all of it. And besides, this way I'll get to try all those tasty foods that are just sitting out there waiting for me to come to them.

If any part of this report sounded interesting or exciting to you, then I'd encourage you to make the trip for yourself to see what Japan is like. I guarantee you you'll learn something new about yourself and the world and come back a different person. I guess if there's any advice I'd give to you before you went, it would be to remember that at the end of the day, we're all still people.

I know I've covered my experiences rather briefly, so if you have any more questions, feel free to contact me at:

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Good Luck!