



Soy Sauces of Asia

『Korea's Use of *Ganjang*』

Food Coordinator and Cooking Culture Researcher **Nami Fukutome**

On December 5, 2013, both "Kimjang, making and sharing kimchi in the Republic of Korea" and "Washoku, traditional dietary cultures of the Japanese" were designated as UNESCO intangible cultural heritage. With the two countries set to celebrate the 50th anniversary of diplomatic relations in 2015, cultural exchange is expected to continue and become increasingly active. The long-term and ongoing Korean boom in Japan has exposed many people, from youth right up to seniors to Korean television dramas and K-pop music on a daily basis. There are ever more opportunities to enjoy Korean food in Japan and it is easy to visit Korea to enjoy authentic Korean flavors.

What you will notice on examination of the cuisines of Japan and Korea is that they use many common ingredients. I was so surprised to walk through markets and find similar, if not identical, fresh foods and preserved foods such as dried fish, kelp, dried sardines and even dried persimmons – a shared taste of autumn. As with Japanese, when Koreans leave to go to a foreign country, the taste of home they miss most is said to be *Doenjang* soup (*miso* soup), and Koreans sprinkle *sansho* (Japanese pepper) over loach hot-pot dishes, just as the Japanese do. Initially I was puzzled that foods thought to be originally and uniquely Japanese appear in Korean dishes as a matter of course, and that Korean people recognize them as the food culture of their own country. *Yuzu*, for example, which we think of as the fragrance of Japan, is popular as *yuza* tea in Korea and is recognized as a very uniquely Korean food.

However, even with the same ingredients, vastly different dishes are created based on differing cooking methods, spices and the way of eating them. While the two countries' food cultures have much in common, there are also many differences. What is the same and what are the differences? This simple question led me on a quest for Korean soy sauce, no...*ganjang*!

Korean cuisine mainly uses traditional seasoning known as *kokusho* which is obtained by processing soybeans. According to a Korean food glossary (鄭銀淑 Jung Unsuku, Nihon Keizai Shimbun), *jang* (sauce) is the generic name for any seasoning made from fermented soybeans and includes *Ganjang* (soy sauce), *Doenjang* (miso), *Gochujang* (red pepper paste), and *cheongukjang* – paste-like in texture but also containing whole soybeans. *Gochujang*, flavored and colored bright red with red pepper, is a seasoning unique to Korea. *Cheongukjang* has a flavor similar to *natto* (fermented soybeans) but differs in that it is used as a seasoning in cooking, not as an ingredient. *Doenjang* and *miso* are different in flavor and production method, just as, in a strict sense, *ganjang* and *shoyu* are considered to be totally different soy sauces.



Nami Fukutome, Ph.D

Ochanomizu University SHOKUIKU (Food Education) Expert, Food Coordinator
Bachelor of Home Economics and Master of Food Science degrees from Ochanomizu University. Originally from Kochi Prefecture, Japan. Part-time lecturer at universities and culinary schools; coordinator of a food education television program; provider of support for regional food resource and new product development; and organizer of countless food lectures. She is continuously working on her research in to comparative terms for ingredients, cooking methods and recipes in both Japanese regional cooking and across international cuisines.



In Japan, many people think that *shoyu* is originally a Japanese seasoning and that its translation as “soy sauce” also belongs uniquely to Japan. However, all over Asia, in countries like China, Taiwan, Korea, Indonesia, the Philippines, and Vietnam, soy sauces are made each with their own aroma, flavor, ingredients and production method. In this essay, Korean soy sauce will be referred to as *ganjang*, and some references will use the Japanese word *shoyu*.

1. Classifications of *Ganjang* of Korea

When I asked locals about the various kinds of *ganjang* a plethora of names came out. Confused at first, over time I learned that the main classifications were between light-colored varieties, used for soups, and dark-colored types. Additionally there are industrially mass-produced commercial products versus home-made traditional ones. Each category has several types of *ganjang*. In some cases the same item has different names depending on the person; in others,

despite the name being the same, the actual product tastes totally different based on the production method. (See below table for varieties and definitions).

According to the classification by Korea Food Standards Codex (KFSC) and Korean Industrial Standard (KIS) *ganjang* is divided into five varieties based on ingredients and processing method. These are brewed soy sauce, blended soy sauce, acid-hydrolyzed soy sauce, enzyme-hydrolyzed soy sauce, and *hansik* (traditional Korean) soy sauce. More broadly, there are two types: a *koikuchi* type with dark color, strong flavor and mild saltiness (①, ⑪ and ⑫ in the table are representative); and the lighter colored but saltier *usukuchi* type (see numbers ⑨, ⑬ and ⑰). *Chosun ganjang* (traditional Korean soy sauce) uses *meju* as its fermentation agent (described later) and the name conjures up images for Korean people of *ganjang* aged in ceramic pots with *meju* soaked in brine – the traditional method. Other names for this variety are *jib* ganjang (house soy sauce) because it is

Classification Based on Production Method (5 Varieties) *1)

	Hangul	Alphabet	Definition
①	양조간장	Yangjo Ganjang	Yangjo Ganjang: Ingredients are soybeans, defatted soybeans and wheat; brewed with <i>koji</i>
②	혼합간장	Honhab Ganjang	Honhab Ganjang: A blended soy sauce based on varieties ① and ③
③	산분해간장	Sanbunhae Ganjang	Sanbunhae Ganjang: Acid-hydrolyzed soy protein and carbohydrate sauce
④	효소분해 간장	Hyosobunhae Ganjang	Hyosobunhae Ganjang: Enzyme-hydrolyzed soy protein and carbohydrate soy sauce
⑤	한식간장	Hansik Ganjang	Hansik Ganjang: Soy sauce in which key ingredient <i>meju</i> is brined and fermented

※Korean Food Standards Codex classifies with the above 5 varieties. KIS uses varieties ① through ④.

*2)

Commonly-used *Ganjang* Names and Classifications (17 Varieties, based on production method, aging, color, flavor, use, ingredients and popular names)

	Hangul	Alphabet	Definition
Homemade Soy Sauces			
⑥	집간장	Jib Ganjang	Jib Ganjang: Refers to a homemade soy sauce made by hand. Includes ⑦ and ⑧.
⑦	조선간장	Chosun Ganjang	Chosun Ganjang: Made in traditional Korean method using brined <i>meju</i> in ceramic pots.
⑧	재래식간장	Jaelaesig Ganjang	Jaelaesig Ganjang: Traditional soy sauce; same as ⑥ and ⑦.
⑨	청장	Chung-jang	Chung-jang: Light-colored soy sauce made through traditional method and aged just 1-2 years.
⑩	중간장	Joong Ganjang	Joong Ganjang: Made through the traditional method, it is aged 3-4 years.
⑪	진간장	Jin Ganjang	Jin Ganjang: Dark-colored soy sauce made in traditional method; aged more than 5 years.
Factory-Produced Soy Sauces			
⑫	진간장	Jin Ganjang	Jin Ganjang: Blended <i>koikuchi</i> soy sauce. Easily confused with ⑪ of the same name.
⑬	양조간장	Yangjo Ganjang	Yangjo Ganjang: Ingredients are soybeans, defatted soybeans and wheat; brewed with <i>koji</i>
⑭	국간장	Guk Ganjang	Guk Ganjang: <i>Usukuchi</i> type to flavor soups. Either blended variety ② or premium variety produced through an improved method of ⑦.
⑮	조림간장	Jorim Ganjang	Jorim Ganjang: Soy sauce intended for use in simmered dishes.
Other Classifications			
⑯	왜간장	Wae Ganjang	Wae Ganjang: Refers to Japanese <i>shoyu</i> . Same as ① or any other soy sauce produced through methods other than the traditional Korean method used in ⑥, ⑦ and ⑧.
⑰	일본간장	Ilbon Ganjang	Ilbon Ganjang: Same as ⑯.
⑱	개혁신간장	Gaelyang Ganjang	Gaelyang Ganjang: Differentiates soy sauces made through improved foreign production methods learned from Japan other than traditional Korean soy sauces. Same as ⑯ and ⑰.
⑲	물은간장	Mulgeun Ganjang	Mulgeun Ganjang: Meaning weak or light, mulgeun refers to <i>usukuchi</i> types such as ⑨ and ⑬.
⑳	유기농간장	Yuginong Ganjang	Yuginong Ganjang: Soy sauce made using organically produced soy beans.
㉑	저염간장	Jeoyeom Ganjang	Jeoyeom Ganjang: Salt-reduced soy sauce.
㉒	맛간장	Mat Ganjang	Mat Ganjang: Soy sauce with added spices or condiments for added aroma or umami. Includes similar homemade sauces.
㉓	초간장	Cho Ganjang	Cho Ganjang: Soy sauce containing vinegar. Includes similar homemade sauces.

■ *1) *2) ...There are multiple possibilities for the alphabetical display of Korean words and names. The spelling for names found in the above tables are consistent with those found in the text.



home-made, and *jaelaesig ganjang* (conventional soy sauce) owing to it being produced in the conventional method. Depending on the length of aging, these are distinguished as short-term *chung-jang* (clear soy sauce), medium-term *joong jang* (medium soy sauce), or long-term *jin ganjang* (jin soy sauce). Generally speaking *chung-jang* is pale colored with one to two years of aging and is popularly used in soups. *Jin ganjang* has been aged for five years or more, those aged 10 to 20 years are particularly rare and valuable. I was lucky enough to have the opportunity to taste a *jin ganjang* that had been aged for more than 30 years in the pot. As the aminocarbonyl reaction proceeds over time, the color gets darker and the liquid more thickly concentrated. The taste and aroma were complex yet the salinity was mild. I believe that the many amino acids generated in the breakdown of the protein have an inhibitory effect on the saltiness of the umami.

Confusing matters, the name *jin ganjang* is often seen on commercial products sold in supermarkets and convenience stores. These items are mass-produced factory-made products resulting in a dark-colored, lower salinity *koikuchi* blended soy sauce. In order to distinguish the traditionally long-aged *jin ganjang* from the industrial product names with the same pronunciation, *jin* is sometimes written using the Chinese character for “true”. But in South Korea, where writing in Chinese characters was abolished in the 1970s, very few people in the younger generations can read such characters, thus the naming distinction is not broadly understood.

Yangjo ganjang (brewed soy sauce), *guk ganjang* (soy sauce for soup), and *jomim ganjang* (soy sauce for simmering) are other typical mass-produced soy sauces. *Guk ganjang*, as its name suggests, is used for adding salty flavor to soups, casseroles, and seasoned vegetables. It can also be referred to as *mulgeun ganjang* (light-colored soy sauce) indicating it as an *usukuchi* variety, but the name seldom came out in interviews.

When you ask which *ganjang* people use at home in South Korea, many respond *yangjo ganjang* and *guk ganjang*. In addition to its applications in cooking, *yangjo ganjang* is used as dressing or put directly on ingredients. Even when you make a soup, it can be used in small amounts as a substitute for *guk ganjang* if seasoned with salt. For this reason those in younger generations who do not cook often use only *yangjo ganjang*. On the other hand, individuals who have a strong preference for homemade products tend to buy reputable *jib ganjang* rather than commercially-sold *guk ganjang*.

The name *guk ganjang* has a pervasive image as a

cheap, blended, factory-made soy sauce for soup, but there are also premium varieties brewed naturally with whole soy beans using *meju* in the traditional Korean (Chosun) way. KFSC categorizes soy sauces using *meju* as the main ingredient as *hansik ganjang*. There are two types of *meju*: the traditionally produced *meju*, which is dried and fermented outdoors for 2-3 months; and what is referred to as improved *meju* – a variety produced in just 2-3 weeks through inoculation with bacteria at a factory and placement in a temperature and humidity-controlled environment.

The other popular variety—*yangjo ganjang*—is also known colloquially as *wae ganjang*, or Japanese soy sauce, among people in older generations. *Ilbon ganjang* has the same meaning but that name is used less frequently. *Yangjo ganjang* are made using *koji* with either whole soy beans or defatted soy beans and wheat. As that process is believed to have been introduced from Japan, the soy sauce was given the name *wae*, meaning Japan, to distinguish it from those made in the conventional *Chosun ganjang* methods. Though *yangjo ganjang* is factory-made, including *yangjo* (brewed) in the name emphasizes that it is naturally brewed, and not to be confused with blended soy sauces which are produced at lower cost. It is equivalent to the *honjousou* (pure brewed) soy sauce in Japan.

On English web sites *ganjang* is broadly classified as normal soy sauce or soy sauce for soup. The normal category includes *yangjo ganjang* and *jin ganjang*, and the soup category is comprised of *guk ganjang*. Both categories contain premium naturally brewed varieties made from whole soy beans and more common varieties made from defatted soy beans.

At the store you can find *ganjang* with labels including photographs or illustrations of whole soybeans, emphasizing the use of whole soybeans rather than defatted soybeans, as well as *yuginong ganjang* (using organic soy beans) and *jeoyeom ganjang* (low-sodium soy sauce). Other varieties include *jomim ganjang*—soy sauce for glazing stews—and *mat ganjang* (flavored/umami soy sauces) made by concentrating sugar, fruit or other umami ingredients. The latter are equivalent to dashi soy sauce, noodle soup, teriyaki sauce and ponzu soy sauce, all found readily in Japan.

Until the process was industrialized in the 1950s, *ganjang* was made in homes. The quality of the workmanship and seasoning in each home was so important, as indicated in the old saying: “the family shall perish if the taste of the *jang* is changed”. *Doenjang* and *ganjang* preparation in the wintertime



are key annual food events, as important as making the *kimjang* for pickling *kimchi*.

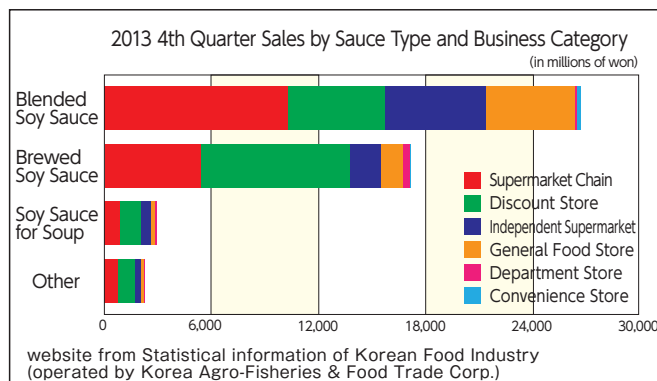
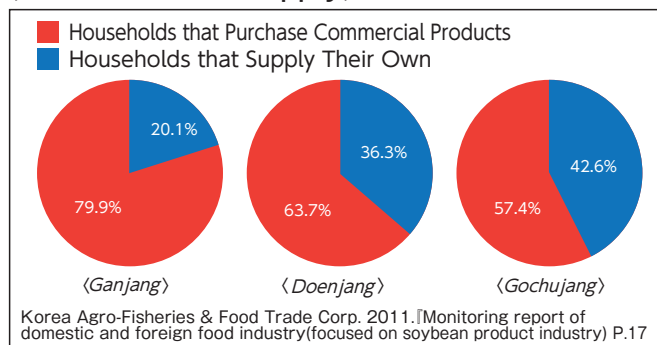
In some areas homemade *ganjang* is still thriving. In a survey of 3682 households (in 2009), one in five households responded that they still make their own *jib ganjang* (house soy sauce) rather than purchase a commercial product. More people tend to make their own *Doenjang* or *gochujang*, but compared to Japan there seems to be a much higher rate of traditional homemade seasonings on the family table.

According to statistics on retail sales of commercially available products (2013), *honab ganjang* (blended soy sauce) accounted for more than half, followed by *yangjo ganjang* and *guk ganjang*. Given *honab ganjang* costs less than *yangjo ganjang*, the market share based on purchase volumes is even higher. In addition, since most restaurants use the inexpensive variety, it is estimated that *honab ganjang* occupies a clear majority in terms of actual manufactured volumes. On the other hand, large department stores and discount stores observe a higher rate of individuals choosing the slightly higher price range *yangjo ganjang* for use at home.

Korea's largest manufacturer of *ganjang* is Sempio, followed by Daesang (Chung Jung Won), Monggo

※ In Korea, "discount store" refers to General Merchandise Stores (GMS), hypermarkets, supercenters, and other comprehensive large-scale self-service business category stores. Leading companies in this category include E-Mart (Shinsegae Corporation) and Lotte Mart (Lotte Group).

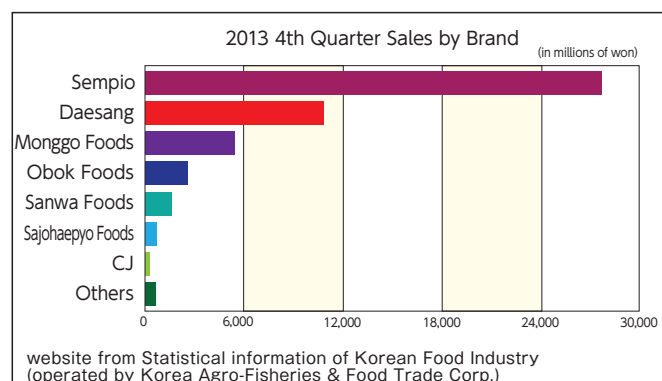
〈Ratio of Sauce Supply〉



Seasonings section at department store. Selection includes Korean *ganjang*, as well as Japanese *shoyu*, *ponzu* and flavored sauces.

Foods, and Obok Foods. The popular brands differ by region. Monggo Foods and Obok Foods are popular brands in Busan, Korea's second largest city, because they are located in nearby Kyungsang Province. Obok Foods reports that 80% of their sales occur in Busan, with the remaining 20% accounted for in the rest of the country. Discount stores such as Lotte Mart have observed that privately branded (PB) products are also selling well.

The observed pattern is that in urban areas people typically purchase factory-made, commercial products of the leading manufacturers, whereas in regional Korea people continue to make homemade *ganjang*. Some handcrafted *ganjang* initially produced for home consumption may become popular by word of mouth, attracting purchases and orders from people in the neighborhood. In some cases highly-skilled master craftspeople, called master *ganjang*-makers, may design and sell their *ganjang* along with other condiments such as salt and vinegar. One such master craftsman is Ki Soondo (designated food virtuoso No. 35 by the South Korean Ministry of Agriculture, Food and Rural Affairs) who has been making *ganjang* for more than 40 years in her hometown in Chang Pyung Myeon, Damyang County, Chunra-nam-do Province. Her creations have been popularized as the favored *ganjang* of the Samsung family. It is





interesting to note that her hometown Chang Pyung Myeon attracted much attention when it was certified as Asia's first Slow City in 2007.

※ Slow City: an exercise of the Slow movement at the municipality level to promote and protect guidelines for reviewing and improving quality of life, including in relation to every day foods.

Slow Food is an NPO that aims to protect biodiversity through the promotion and protection of small-scale production, high-quality foods on the verge of extinction and their small-scale producers. In October 2013, they held the first-ever large scale food fair in Asia entitled "AsioGusto". The Korea convivium (branch) exhibition focused on *Chosun ganjang* as an important tradition of Korea and a unique seasoning that should be preserved.



Sempio Products (from left): Jin Ganjang, Yangjo Ganjang, Guk Ganjang, Mat Ganjang)



Daesang Products in Chung Jung Won brand (from left): Jin Ganjang, Jorim Ganjang, Yangjo Ganjang, Guk Ganjang



Monggo Foods Products



Lotte Mart Private Brand Products (from left): Jin Ganjang, Yangjo Ganjang



Ganjang set including salt and vinegar made by expert Son Myonhi, sold at the Hyundai department store

2. Korea's Unique Fermentation Agent : *Meju*

There are many fermented foods which use *koji* in Japan. Rice miso, barley miso and soybean miso are made from steamed soybeans with added rice *koji*, barley *koji* or soybean *koji*, respectively. Soy sauce is a product of *koji* based on wheat and soybeans and fermented with brine. Other important seasonings like sake, shochu, mirin, and vinegar are also made using *koji*. Japanese *koji* is made by breeding the *koji* mold *Aspergillus oryzae*. Soy sauce production can also use *Aspergillus sojae*.

In the case of Korea, *meju* is the fermentation agent indispensable in making traditional seasonings like *ganjang*, *doenjang*, and *gochujang*. In the *meju*-making process, boiled soybeans are crushed and pressed in to square molds which are bundled in straw and hung to dry, and ferment, under the eaves of the house. The microbes found in *meju* include various molds such as *Rhizopus*, *Mucor*, *Aspergillus*, and *Penicillium*; fungi such as *Saccharomyces* and *Torulopsis*; and bacteria such as *Bacillus* and *Staphylococcus*. Hay bacillus (*Bacillus subtilis*) and other bacteria are typically found in the center, whereas *Aspergillus oryzae* and other such *koji* molds are found near the surface. The major difference between Japan and Korea is that the Japanese process aims to breed *Aspergillus oryzae* with as little *Bacillus subtilis* as possible, whereas the *meju*-making process actively encourages the growth of that bacterium. Both *Bacillus subtilis* and its close relation *Bacillus natto* are found in straw, thus the *doenjang* and *ganjang* in Korea are said to have a *natto*-like smell. Just as steamed soybeans wrapped in straw become *natto*, *meju* bundled in straw sees the slow growth of *Bacillus subtilis* over time. The *Bacillus subtilis* increases the pH of the soybeans and advances alkaline hydrolysis, and thus is said to result in the *meju* smelling of ammonia, yielding another difference with Japanese *koji*. According to Mr. Ben Reade (cuisine development researcher at the Nordic Food Lab.), who asked Harvard University to analyze *meju* purchased in the market, strains of *Bacillus subtilis* and *Aspergillus* were detected in the sample but the particular stocks could not be specified.

Meju is sold in markets and during February—the season for making homemade *doenjang*—it can even be found for sale by the box in larger supermarkets. *Meju* of 5.5kg was priced at 110,000 won (about 11,000 yen) and it is estimated that 15-20kg of *doenjang* and 7-8 liters of *ganjang* could be produced with this amount.



Meju sold at KyungdongMarket, Seoul



Meju sold by the box in a large supermarket

3. Traditional Korean Ganjang-Making

In the past in Japan, *miso tamari*, or liquid runoff from the miso-making process, was used as a rich soy sauce known as *tamari shoyu*. These days the processes for making soy sauce and miso are completely separate. In Korea, however, homemade *doenjang* and *ganjang* are the main and by-products of the same process.

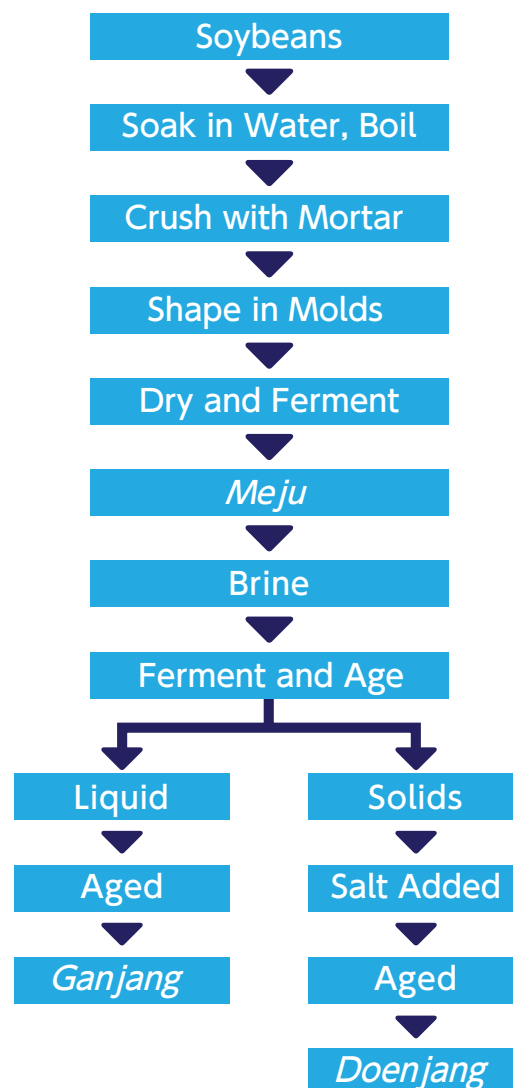
Meju is made from the end of November through to early December using soybeans harvested in late autumn. The dried *meju* is stored until February when it is then soaked in salt water and fermented. In homes that hold steadfast to the calendar, *meju* is made with new soybeans on the winter solstice in the eleventh month of the lunar calendar. It is subsequently brined on the day of the horse in the first month of the lunar calendar. After several months, a strainer is used to separate the liquid and solids. Salt is added to the solids and that mixture, which is aged in pots, becomes *doenjang*. The liquid that is poured back in to the pot and aged becomes *ganjang*.

In Joan-myeon, Namyangju City, about one and a half hours by train to the east of Seoul, many families still make their own house soy sauce, or *jib ganjang*. I visited Jang Myunghee, known as a master, who kindly showed me the process for making *ganjang*.

1) Meju-making

Meju, prepared from the last week of November through to early December, is shaped in molds and then typically hung to dry outdoors under the eaves. However Jang Myunghee employs a unique method, placing the *meju* indoors in an environment warmed by *ondol* (floor heating) to encourage the active growth of *Bacillus subtilis*. The room where it is stored has a strong *natto*-like smell, and the finished

<Traditional Process for Making Ganjang and Doenjang>



meju has a persistent stickiness after washing with water. Jang Myunghee feels that the *ganjang* becomes uniquely delicious because of this *meju*. Each family seems to have its own little secrets for making their homemade *jib ganjang*.

2) Preparation, Fermentation and Aging

Jang Myunghee starts preparing her *jang* in pots in the first month of the lunar calendar. In 2014, the plan is to be finished by February 28. The period is clearly marked on the calendar, suggesting that it is the calendar that determines her timeline. Finishing the preparation during winter makes it easier to prevent spoilage; warmer seasons necessitate higher salt content.



Pot used for steaming soybeans



Meju bundled together with straw for drying and fermentation

The pots are not washed at the end of the previous *ganjang*-making process; they are reused as is. Jang dissolves approximately 10kg of salt in a little under 60 liters of water, creating an 18% salinity brine. To confirm the salinity she floats a raw egg on the water surface. If the *meju* has developed a lot of mold on the surface, Jang wipes it quickly with a brush under running water and then dries it again before use. After adding about 15kg of *meju* to the brine, she then adds charcoal, chestnuts with their skin on, dried jujubes (Chinese dates), red peppers, and sesame seeds. Jang gently crushes the sesame seeds with her fingertips as she adds them. This helps to form a thin film of oil on the liquid surface, which prevents the growth of mold.

Thus, as long as the salt water is ready, the preparation is finished in no time. Ceramic lids are placed on the pots for four days, after which they are replaced by glass lids. This allows sunlight to enter, suppressing mold growth. After about 50 days of soaking the *meju*, the mixture is pressed and separated in to liquid *ganjang* and solid *doenjang* through a wooden strainer, and placed in separate pots for the aging process. *Ganjang* should be aged for at least six months. Halobacteria acts to gradually break down the protein and convert it in to amino acids and other umami components. Leaving the pots outdoors allows them to be exposed to the day and night temperature variations and sunshine, and placement out in the natural environment yields a slow aging process unique to each home. Jang has never failed so far because she prepares in accordance with the calendar and the methods passed down through generations, and then leaves the rest to nature. The simplicity of the process could explain why homemade *jang*-making still continues today.

Jang Myunghee says that she mainly ships two-year-aged *chung-jang* because she thinks it has better balance and more delicious flavor than when it is aged for just one year. Because her focus is on *doenjang*-making, her *ganjang* is mostly sold at the stage of *chung-jang*, so the pots can be vacated for use in her next batch. Certain batches of *ganjang* that she thinks are especially good, and others that have been aged long-term, are stored carefully in smaller pots. Among them I had the chance to taste a 30-year-old *jin*



A raw egg is floated to ensure correct salinity



Red peppers, charcoal and other ingredients are added, completing the preparation



Meju in blocks is added straight in to the brine



Jang Myunghee in her garden with the ceramic pots used in her *jang*-making process



A pot with a glass lid



Strainer used for many years



Long-term aged *ganjang* that has been moved in to smaller pots



ganjang which Jang's mother-in-law had made.

Jang Myunghee's 10-year-old *ganjang* was awarded the grand prize in a high-quality food contest held in "Slow City"※ Joan-myeon in 2013. She has decided not to sell the pot, but instead to age it longer. On tasting it I felt the balance of aroma and flavor was very good and got excited at the thought of what it might taste like after another 10~20 years of aging. Jang allowed me to purchase a *jin ganjang* prepared in 2008 at the price of 15000 won (about 1500 yen) for 1000 ml, and a *doenjang* at 25000 won (2500 yen) for 1 kg. While it is expensive compared to the *jin ganjang* (*honhab ganjang* blended soy sauce) sold in supermarkets (approximately 3,700 won (370 yen) for 930 ml), there is no shortage of customers for Jang's creations.

Jang Myunghee is also engaged in agriculture, growing her own soybeans organically. She specially orders her favorite roasted sea salt and makes trips to the mountains to collect spring water called medicinal water. When I asked what is most important in *ganjang*-making, her immediate answer was "using good beans, good water, and good salt". Her focus is clearly on good ingredients, even the straw for bundling the *meju* is organically-grown and purchased from local farmers.

The *doenjang* and *ganjang*-making process was taught to Jang by her mother-in-law and she first started making it after her marriage. Jang's mother-in-law had in turn learned from her own mother. The skills and homemade flavors passed down through the

generations remain strong in Korea. The phrase "one's progenies thrive if the *jang* tastes good" shows just how important *jang*-making has traditionally been for the family.

4. Typical Korean Cuisine Using *Ganjang*

Ganjang is used for cooking soups, stir-fries, marinades, and boiled dishes, as well as in sauces, dressings, and pickles. Below are some representative Korean dishes in which the use of *ganjang* is indispensable.

◆ *Ganjang Gejang* (Soy Sauce Pickled Crab)

Blue crab marinated in soy sauce is the first dish that should be mentioned here. While some people use *yangjo ganjang* for this dish at home, traditionally it has been made using *Chosun ganjang*, with some specialty *Ganjang Gejang* restaurants emphasizing their use of seven-year-old *jin ganjang*. A fresh live blue crab is marinated in a *ganjang*-based sauce of ginger, *daikon* radish, and red peppers which has been heated once and then cooled down. You can eat the crab on day three of marinating if you prefer a lighter taste. However, to achieve deeper flavors, every other day the sauce should be reheated and cooled down again before returning the crab for further marinating over a total period of 7~8 days. The rich flavor of the crab *miso* (brown meat) and the melt-in-your-mouth matured raw crab meat are just slightly colored by the *ganjang* and not as salty as you would imagine from the dark color of the sauce. The marinating sauce had a mild taste with a hint of sweetness, which I felt could be used in another dish, but typically it is discarded after the crab is eaten. The delicately flavored crab meat and the rich crab *miso* make a perfect side dish with rice, or a delicious pairing with the Korean distilled spirit *soju*. In addition to blue crab, soy sauce pickled abalone is also famous, and some restaurants have recently started serving soy sauce pickled head-on shrimp as their specialty.

Photos taken at Chinmishiktang, well-known for its *Ganjang Gejang*



Topping with hot green peppers is the standard



Rice is combined with crab *miso* (brown meat) in the shell and then eaten



Ganjang liquid is scooped from the top of the pot to fill containers



Doenjang is moved from pots in to jars by hand



◆ Ganjang Pickles

At the pickles counter in Korea, various types of *jangajji* are displayed alongside *kimchi*. *Jangajji* is made by pickling vegetables in either *ganjang*, *doenjang*, or *gochujang* with added vinegar, sugar or other seasonings. It is one of the most important varieties of preserved foods in Korea along with *kimchi* and salted fermented fish. *Kimchi* has a characteristic natural sourness owing to the lactic acid fermentation; salted fermented fish are salty, as the name suggests; and *jangajji* offer a combination of saltiness and umami. As *jangajji* are high in salt for long-term preservation purposes, you only need a small portion served with rice or meat dishes.

Jangajji are roughly divided into *ganjang*-flavored pickles, and spicy ones made by pickling in a sauce of hot pepper powder, *gochujang*, *ganjang* and other seasonings. In a variation on the above-mentioned *Ganjang Gejang* called *Yangnyeom Gejang*, the blue crab is soaked in *Yangnyeom* sauce, made with hot pepper powder and *gochujang*. Both flavor profiles are considered fundamental in Korean cuisine, and both use *ganjang* as their indispensable ingredient.

Ganjang-flavored *jangajji* pickles are typically made with unpeeled garlic, hot green peppers, or sesame leaves, as well as pickled quail eggs and seaweed. Onions, cucumbers, and broccoli stalks are also pickled in homes; sometimes quick-pickled and other times aged over a long time.

Some restaurants serve *Samgyeopusal*, roasted pork ribs, wrapped in *ganjang*-pickled sesame leaves and *sanchu* lettuce. The mild saltiness and flavor of the *ganjang* goes well with meat.



Jangajji displayed for sale by the weight at a large supermarket



Ganjang-flavored *jangajji* (clockwise): hot green peppers, alpine leek, *iwanori* seaweed, sesame leaves, garlic

◆ Dishes Flavored with *Ganjang*

Many soups and hot pot dishes, known as *guk*, *tang*, and *jjigae*, typically use *chung-jang* or *guk ganjang*. Seaweed soup (*miyeokguk*) is a highly nutritious soup often served at celebrations and recommended to pregnant women. Clear or cloudy white soups such as

gomtang and *seolleongtang* are seasoned with salt only, but others have *ganjang* added for saltiness and umami. Unlike Japanese soba soup and its dominant *koikuchi* soy sauce flavor, you will not find any Korean soups using *koikuchi* type *ganjang* to feature the deep color, aroma or flavor.

For seasoned vegetable dishes known as *namul*, most people use *chung-jang*, however some of the younger generation are said to use *yangjo ganjang*. Small amounts of *yangjo ganjang* with added salt to balance the saltiness can substitute for *chung-jang* without introducing too much deep flavor or color from *ganjang*. This is similar to substituting Japanese *koikuchi* for *usukuchi* soy sauce.

Yangjo ganjang and *jin ganjang* are often used in stir-fries such as *bulgogi* (grilled marinated beef), and beef rib or chicken stews. As *yangjo ganjang* gives dishes a glazed finish with mild saltiness, it is a good all-purpose variety for stir-fries and stews, and the pleasant aroma also makes it ideal for dipping sauces and dressings.

Below are some typical Korean recipes that I was taught at The Soodo Culinary and Baking Occupational Training College, a well-established cooking school that has been running for three generations. Photos were provided by the college.

<Bulgogi Marinade>

Mix onion, green onion, garlic, and pear in a blender. Take 4 tablespoons (tbsp) of the mixture and add 3 tbsps of *ganjang*, 1 tbsp of sugar, 1 tbsp of Korean clear rice wine, 1 tbsp of sesame oil, 1 teaspoon of roasted sesame seeds, and a little pepper to create a *yangyom* sauce. Marinate beef, onion, mushrooms and other selected ingredients in this sauce and then stir-fry.



<Sauce for Jijimi (Jeon)>

To make the vinegar soy dipping sauce, mix 2 tbsps of *ganjang*, 2 tbsps of vinegar, and 2 tbsps of water. Add in chopped green onions and combine.





<Seasoning for Shiitake Namul>

To make sauce, mix 1/2 tbsp each of *ganjang*, sugar, finely chopped green onions, finely chopped garlic, and sesame oil with 1tsp of roasted sesame seeds. Soak dried shiitake in water and then slice finely. Add sliced shiitake to sauce and adjust the seasoning by adding *ganjang*. Stir-fry in oil.

(Assumption is that above dishes are made with either *yangjo ganjang* or *jin ganjang*.)



The Sodo Culinary and Baking Occupational Training College which houses the Korean Food and Culture Research Institute.



Research Institute Director Jong-Im Lee, Ph.D (right), and her daughter, Senior Research Fellow Bo-Kyung Park, Sc.D.

5. Introduction of Brewed Soy Sauce to Korea

In 1905, Japanese founder Nobusuke Yamada established Yamada soy sauce brewery which was the predecessor of the Monggo soy sauce company. Mr. Kim Hong Gu of Korea became the owner in 1945 and established Monggo Soy Sauce Industry Co. one year later. Sempio, the leading company in the industry, was also founded in 1946; Obok food company, the fourth biggest producer of *ganjang* in Korea, was founded in 1952. Daesang, the second largest, started their soy products business under the brand name Chung Jung Won in 1996. So it was around 1950 that these top manufacturers were successively founded and their factory-made mass-produced items could be found in markets. Until then, *ganjang* had been homemade and called *Chosun ganjang* or *jib ganjang*, with families mainly using their *chung-jang*, short-term-aged soy sauce, in food

preparation. Overnight *koikuchi* varieties, such as *yangjo ganjang* and *jin ganjang* were readily available, and the latter blended soy sauce variety penetrated the market as the inexpensive substitute for traditional *jin ganjang*— the long-term-aged homemade *jib ganjang*. The new variety, *yangjo ganjang*, spread fast in to the market all over the country. Dr. Jong-Im Lee, Director of the Korean Food and Culture Research Center, believes the sudden popularity among housewives was owing to the product's mild saltiness meaning that dishes would not get too salty even if a lot was used, and the fact that the nice flavor and deep color of *yangjo ganjang* made for quick, delicious and well-presented stews and stir-fry dishes.

While the term *yangjo ganjang* is commonplace now, at the time of its release the new product was known by many as *wae ganjang* to differentiate it as the newcomer variety from Japan. Even now, older people are accustomed to calling it *wae ganjang*.

6. Use of *Ganjang* and *Shoyu* in the Neighboring Countries of Japan and Korea

In Tokyo, Korean food shops are gathered in the Shin-Okubo and Ueno areas. As K-pop and Korean dramas are flourishing, Korean cosmetics and fashion have also penetrated the Japanese market and we are seeing a rapid expansion of cultural exchange between the two countries in daily life. At Korea Plaza, Seoul Market and other Korean food shops in Shin-Okubo, there is so much choice in products; *yangjo ganjang*, *jin ganjang*, and *guk ganjang* are all readily available. As the products are imported, they are more expensive to purchase here than in Korea, but still very accessible because the prices are slightly lower or the same as Japanese *shoyu* products. Perhaps because they are used in restaurants, the items on the shelf of 930ml large plastic bottles looked to be selling well.

Many Japanese who live overseas cling to the taste of familiar *shoyu* and prefer to buy Japanese-made even if it costs a little more. Do people from Korea do the same? Unfortunately, I did not have the chance to hear the stories of Korean people familiar with *ganjang* and their experiences after moving to Japan. I did, however, talk to Asuka Matsushima (Seong), third generation Korean living in Japan and owner of a Korean restaurant opened by her grandmother, who feels that the first and second generations had no trouble using Japanese *shoyu*. In those days imported *ganjang* was not readily available so they cooked Korean dishes using Japanese products. If many of the



At Korean food stores in Shin-Okubo, 930ml bottles of *guk ganjang* (top left) and *jin ganjang* (top right) are on sale for around 300 yen.

customers are Japanese and accustomed to the taste of *shoyu*, then it really should be no problem. Perhaps it is also due to the way *ganjang* is used in dishes. *Ganjang* is added to give a salty taste with umami, or used as a hidden flavor mixed with *gochujang* in spicy dishes. There are exceptional dishes like *Ganjang Gejang* which cannot be completed without *ganjang*, but otherwise there are very few soups, stews or dipping sauces where the flavor of the *ganjang* is intended to be the central feature. This probably explains why there has not been a great deal of sensitivity to the slight differences between *ganjang* and *shoyu*.

On my return to Japan I conducted a tasting session of Jang Myunghye's six-year-old *jin ganjang*, which I brought back from Korea, and Premium Guk Ganjang, made by Sempio company. The Japanese participants were very curious as this was their first experience of Korean *ganjang*. They found the *jin ganjang* to be slightly more concentrated and different in flavor to *shoyu*, but still very delicious, and the *guk ganjang* to be very similar to Japanese *usukuchi* soy sauce, with its salty and delicate flavor.

If you travel to Korea a lot and eat local Korean food, you start to notice a different balance of taste to the same dishes prepared in Japan. *Kimchi* in Japan has strong sweetness and *jjigae* is more salty. Japanese who become accustomed to native Korean cuisine will probably increasingly pursue the more authentic

flavors, and they may even personally order homemade *jib ganjang* from Korea in order to achieve those flavors at home.

Japanese preferences for wine have changed from Akadama Port Wine initially to imported wines from France and other countries, and attention is now even being drawn to Japanese domestic wines. In regards to Italian cuisine, spaghetti Napolitan has taken a back seat as Japanese pursue more authentic tastes, reproducing dishes such as genovese and pasta pomodoro at home, and professional Japanese chefs of Italian cuisine are praised for refining it by infusing it with Japanese sensibility. In terms of Korean cuisine, it is expected that the Japanese will, on one hand, pursue more authentic Korean tastes and, on the other hand, bring a new flavor to it, satisfying Korean tastes through the use of Japanese ingredients and seasonings. The cooking classes run by Asuka Matsushima are popular because she provides recipes for enjoying Korean home cooking using ingredients and seasonings available in Japan.

"Table of Hamme (Grandma): Korean Home Cooking in Japan" (NPO incorporation Korean Net Aichi (ed.), Yuipooto, 2013) was designed with the same concept. Korean cooking classes at Moranbon are very popular, and cooking expert Koh Kentetsu has released many cookbooks in Japan on Korean cuisine. A survey by *Nikkei Shimbun* ranked *kimchi-jjigae* as the most-favored hot pot dish of Japanese, and it is expected that *gochujang* hot pepper paste will increasingly be found in the refrigerators of Japanese homes. These days you can even find *kimchi* fried rice on Japanese elementary school lunch menus, suggesting that while Korean food might be something you go out to eat now, it is not too distant a day when Korean food will be a natural component of the home cooking repertoire.

What about consumption of Japanese *shoyu* in Korea? In addition to Japanese food stores, *shoyu* can be found in the imported food sections of discount stores and at chain supermarkets. In the food halls of department stores, which attract many Japanese customers, various types of *shoyu*, ponzu, and prepared sauces are sold alongside *ganjang*, most likely purchased by Japanese who live in Korea and Koreans familiar with Japanese cuisine.

When I asked people in Korea about their opportunities to eat Japanese *shoyu*, many answered that they eat it with sushi and sashimi. When I asked about the difference between *ganjang* and *shoyu*, many of the younger generation said they had never thought about it, even though they often eat sushi and



Japanese seasonings on sale in a department store food hall, including prepared sauces for *teriyaki*, *sukiyaki*, *shabu shabu* and noodle soups

sashimi. Of the people who are conscious of the difference, the feeling was that *shoyu* is a little brighter in color, and less salty with a milder flavor.

Though sushi and other Japanese restaurants managed by Japanese commonly use Japanese *shoyu*, some managed by Koreans may use *ganjang*. High import duties make Japanese *shoyu* considerably more expensive, thus if guests do not notice a significant difference, there is no need to stick to the Japanese products. Korea has sashimi dishes called *hoe* which are typically served with a choice of two dipping sauces: wasabi soy sauce and spicy sauce. Such sashimi restaurants, called *Hoe-jib*, generally use *yangjo ganjang* as it is more suitable for dipping sauces. My impression after tasting Sempio *yangjo ganjang* was that this brewed soy sauce would be easier to pair with sashimi than, for example, the less-familiar flavor of *amakuchi* (sweet) soy sauce from Kyushu, Japan.

7. Conclusion

In this article, I have discussed Korean *ganjang*: the varieties, classification, traditional production method, various uses, and consumer preferences. I must ask you to understand that I myself have no experience living in Korea, and this research is not based on either long or local personal experiences. Research was accomplished over a series of visits to Korea using English as the common language, with the cooperation of Korean graduate students studying Korean food culture and their mentor, as well as Japanese exchange students in Korea. Defining and classifying the vast selection of *ganjang* was especially challenging, and I welcome any comments on misunderstandings or inconsistencies on my part so that I may correct them going forward.

I believe that by focusing on the similarities and differences of Korean *ganjang* and Japanese *shoyu*,

this research serves as a meaningful first step to a better understanding of Korean food culture. With our neighbor, Korea, said to be “the country near and yet so far; the country far and yet near”, we share so many common ingredients. Yet our two cuisines and manner of eating those ingredients have taken such different paths. Clearly defining both the common and unique elements will deepen mutual understanding of each other’s cultures, and is necessary for us as common members of the Asian community so we can share Asian food culture with the world. Korean *ganjang* and Japanese *shoyu* are both translated as “soy sauce” in English. Expressing their differences in English presents us with the difficult issues of phonetic transcription, description of proper nouns, and different product standards, unavoidable hurdles given we use our own independent languages of Hungul and Japanese. As with the original Japanese article, I look forward to receiving feedback on the English version of this essay.

Asia offers a vast array of soy sauces. Compared to the sweet soy sauce of Thailand or the dense and salty, straight soy sauce of the Philippines, *yangjo ganjang* and *guk ganjang* closely resemble *koikuchi* and *usukuchi shoyu* varieties in Japan. Much more detailed investigation and analysis in to soy sauce classification in Asia would be necessary, but it would be very interesting to build a soy sauce map of Asia.

In closing, I would like to express my deep gratitude to Professor Mi Sook Cho and the members of the Food Culture Laboratory in The Department of Nutritional Science & Food Management at Ewha Womans University for having played a significant role in this survey; to Dr. Jong-Im Lee, Director of the Korean Food & Culture Research Center; and so many others for giving me their precious time and kind cooperation.



Professor Mi Sook Cho
Ewha Womans University