Shoyu (Soy Sauce): The Worldwide Seasoning

What would happen to our eating habits without soy sauce? We need soy sauce just like we need air and water — and like air and water, we take its availability for granted. We each consume about 24 grams (a little less than an ounce) of soy sauce a day. This is a surprising amount, especially given that our consumption of miso (Japanese bean paste) is now only about half as great, about 12.2 grams. 

More than just a Japanese seasoning, soy sauce is now used all over the world. Soy sauce has been consumed by the Japanese for ages; however, I have never seen a comprehensive written history on its role in Japanese culture. Here, I outline its history to mark the occasion of the official foundation of the Kikkoman Institute for International Food Culture. First, I would like to discuss the origins of soy sauce in Japan.

**Sho from China**

Soy sauce is often said to have originated from a fermented food called sho, or jiang in Chinese. I myself do not agree completely with this assumption, but before considering this question, we should begin by considering what sho is. The recipe for jiang came from China, where fermented foods have a 3,000-year history.

The Shurai (in Chinese Zhou-Li, the Rites of Shun Dynasty), a record of government during the succeeding Kan Dynasty (25-220), contains a section called the Kai-jin, which describes a recipe for sho. It includes a description of deai, a seasoning made from three kinds of flesh. The Shurai was annotated by Tei Gen (Zheng Xuan) (127-200), a paleographer during the succeeding Kan Dynasty. According to his notes, “To make kai or deai, be sure to flatten the meat and dry it first. Then mince and mix it with awa-koji (malted millet) and salt. Dip in good liquor and place in an airtight jug coated with mud for 100 days.” The difference between deai and kai, Tei says, is whether the meat used is deboned or not. This same text also introduces the words “fish-kai” and “seven-kai.” Tei explains that seven-kai is a kai made from animal flesh, snails, clams, ant larvae, fish, rabbits and wild goose. Based on these ancient records, we can conclude that kai was a fermented food made from flesh or fish, the so-called shishi-bishi.

Meanwhile, the Kashiwade (“person in charge of cooking”), another section in the Shurai, describes how some 120 pots of sho were prepared for the king. Kyo Shin (Xu Shen), who lived from the end of the first century A.D. to the early second century, says in his dictionary Setsumon-kaiji (Shao Wen Jie Zhi) that sho is kai. He also says that kai is sho made from fish. Clearly, he seems to have equated sho with kai. However, in the Shurai Tei notes that sho is referred to as kai and kai. He then lists the contents of the 120 pots of sho, half of which contained fermented fish prepared by the cooks in charge of kai, and the other half of which contained pickled vegetables and flesh prepared by the cooks in charge of kai. Thus, it is possible that the word sho was widely used to refer to fermented foods (including pickled vegetables) as well as kai. Sai Shoku (Cui Shi), an educated man from a powerful family and a contemporary of Tei Gen, compiled the Shimin-gatsuryo (Si Min Yue Ling), a record of people’s livelihoods in the four seasons. It describes recipes for sho made from fish, flesh, elm nuts, and soybeans; of the latter, one of these is liquid (setsho) from the fermentation process, and the other is the dregs (toshio). It is likely that up to the second century A.D., during the succeeding Kan Dynasty, people prepared a wide variety of sho made from both vegetables and animals. On the other hand, the word kai, which referred to fermented foods made exclusively from animals, gradually fell out of use.

The Sho in Seimin-yojutsu (Qi Min Yao Shu)

The Seimin-yojutsu (in Chinese Qi Min Yao Shu), written during the Northern Gi Dynasty (sixth century A.D.), contains detailed descriptions of fermentation, including how to make sho from soybeans. Recipes for sho based on other ingredients are introduced separately under the titles of each staple material, e.g., “how to make sho from flesh,” “…from fish,” and “…from wheat.” Thus, up to this period, the word sho generally referred to that made from soybeans, though it was not long since vegetable sho had appeared. The Seimin-yojutsu also introduces a liquid-type sho (mentioned above) called sho sei and bean sho sei, probably made from soybean sho, but these recipes do not appear in the text.

The Seimin-yojutsu details a recipe for soybean sho that has been summarized as follows: Mix steamed black soybeans with white salt, kono koji (powdered wheat kneaded with water and formed into a dough; koji bacilli are then added to the dough, which crumbles into small pieces), mugi koji (made in the same way as kono koji, only with whole grain wheat) and herbs. Place in a pot. When mold forms throughout the mixture, add the pot salt water and kono koji mixed together. Stir daily with a paddle for 30 days, then let the mix rest so as to mature. In 20 days it will be edible, but will not be fully fermented until after 100 days.

The salt water is added to the mold-permeated soybeans to form a thin gruel. Then the contents of the pot are stirred and left with the lid open under the sun for 30 days. Considering that the soybeans were used without grinding, the finished product was probably like moromi, an unrefined, pasty soy sauce. Tamaru or refined liquid soy sauce was made from this sho, but it seems that “most sho was eaten with soybean grains in it, not refined with water.”

The history of sho as liquid seasoning dates back to the second century A.D., the era of the Shimin-gatsuryo in China; however, it did not acquire popularity even by the sixth century, the era of the Seimin-yojutsu. We have to wait until the 13th century to see a reference to soy sauce (shoyu) in Chinese records, and it is not until the Min Dynasty of the 14th-17th centuries that soy sauce prevailed as a popular seasoning.

**Production of Sho in Japan**

Sho was called hitshio in Japan. Inasmuch as the word sho has been found written on a narrow strip of wood cut specifically for writing in the era of the Fujiwara capital (694-710) (paper was a rarity at that time), a recipe for sho must have been introduced into Japan by the beginning of the era of the Fujiwara capital. The Man’yoshu, an ancient collection of verse, includes a poem speaking of sho as a seasoning. It says, “I want to eat sea bream and wild onions dressed with sho and vinegar. How dare you show me nagozutamono (a soup of hollyhock)?”

Source: Nippou Einaiyou by Saikaku Ihara, 1688.
In the Yoro Ryo, the fundamental legal code of ancient Japan, there is a section called the Daizen-shiki, which stipulates manners for cooking and serving food. It defines shō, miso, shi (or kaki) and the like as seasonings. The Daizen-shiki was the governmental office in charge of cooking and serving food at court. Two chief cooks in this office supervised the production of these seasonings. By the Nara period (710–793), in the eighth century, shō was already playing a main role as a seasoning. It was used widely among Japanese people (7) and sold in the marketplace. In the Heian period (794–1185), demand for shō increased and the shō department became a separate office. The Engishiki, the legal code of the Heian era, which provides details on the implementation of ancient laws, offers examples on the use and provision of shō. It seems that shō was a daily necessity up to this period.

Japanese Shō, Made from Soybeans
What was Japanese shō like at that time? The Yoro Ryo and other records in the Nara and Heian periods imply the following:
1. Kī, shō and mīso were separate foods when they were being made in the Daizen-shiki during the Nara period.
2. The Chinese character shō was pronounced hishō in Japanese and meant fermented soybeans.
3. The Chinese character kī was pronounced shishibishi in Japanese and meant fermented flesh or fish.

Early on, Japanese distinguished between shō and mīso. In Japanese, the word shō referred exclusively to fermented foods made from soybeans. Naturally, such foods were distinguished from kī, which referred to fermented flesh and fish. No clues as to the original recipes for shō can be found, with one exception in “General Instructions and Recipes,” part of the Daizen-ge in the Engishiki. This recipe states that shō made to present to the emperor consists of soybeans, malted rice, glutinous rice, wheat, liquor and salt. It tells us the proportions of ingredients and the amount of the resulting shō but provides no further details.

Liquid or Mash (moromi)?
We can hardly imagine today what the shō in ancient Japan was like. There are two differing views among scholars on this point: some advocate a liquid style of shō; others, more of a mash. Shinya Sekine favors the liquid hypothesis. In his book, A Study on Eating Habits in the Nara Period, he quotes the Shoosomin-monjo, a document preserved in the Shosoin, the storhouse at the Todaiji temple in Nara. From the phrase “…to obtain liquid out of brewed or fermented soybeans…” in the document, Sekine says, “It is clear that shō in those days was liquid.” Furthermore, quoting some paragraphs in the Engishiki that refer to shō, he indicates that the amount of shō remaining after fermentation is far less than the total amount of ingredients used. In another part of the Engishiki, he says, “The words ‘shō dregs’ can be seen. It is likely that the dregs were filtered out from the liquid. The firewood mentioned in the document was probably used for heating the liquid.” (11) In the feasts given at court and other formal places during the Heian period, the dishes served were accompanied by a set of seasonings usually consisting of vinegar, salt, liquor and shō. This set was called the “four kinds” or “plate of four kinds.” Foods were cut in pieces before being served, with seasonings left up to the discretion of each guest. The shō in this seasonings set seems to have been a liquid.

Shō for Making Pickles
As we have seen, liquid shō has long been used in Japan. However, it is impossible to state definitively that all shō were liquid. A letter discovered among the relics from the mansion of prince Nagaya-Ou, who died in 729 A.D., includes a list of gifts. Included on that list are uru gourds and eggplants pickled in sake lees, and gourds and myoga (Japanese ginger) pickled in shō. (12) In the Engishiki, liquid shō and shō dregs were used for pickling gourds, gourds, turnips and eggplants. (13) The Engishiki also refers to some foods that are very likely shō-pickled fish, such as crucian carp, blowfish and sardines. There were many kinds of shō-pickles available during this era.

Mash-Style Shō
When used as a seasoning for processed food, shō was probably prepared in mash-like form, not as a liquid. It is not very difficult to prepare liquid shō: all you have to do is filter out or extract the mash-like shō. Doing so, however, severely reduces the efficiency of the process. The Engishiki states that the amount of liquid shō produced was less than a third of the total amount of ingredients used. The Daizen and Naizen in the Engishiki also indicate that large quantities of shō were used for provisions, workers’ meals and feasts, as well as for many kinds of pickles. It is impossible to think that all this shō was of the labor-consuming, wasteful liquid type. Besides, shō dregs without liquid after filtering lack the taste and quality that are necessary. (14)

In ancient Japan, there must have been methods to produce liquid shō from scratch, as well as methods for filtering out liquid shō from porridge-style shō as the need arose. However, it seems that liquid shō was used in a limited manner when shō was needed as a liquid seasoning. As in China, most shō was probably consumed in its mash-like form for a long time; liquid shō remained a luxury. I will discuss this topic further in the next issue.

References

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