

The History of Shoyu (Soy Sauce) 1

A Story of Shoyu

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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 only about half as great, about 12.2 grams. (1)

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 Seishu 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 *dei*, 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 *dei*, 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 *dei* 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-bishio*.

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* (*Shuo Wen Jie Zi*) that *sho* is *kai*. He also says that *kai* is *sho* made from flesh. Clearly, he seems to have equated *sho* with *kai*. However, in the *Shurai* Tei notes that *sho* is referred to as *kei* and *kai*. He then lists the contents of the 120 pots of *sho*, half of which contained fermented flesh 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 *kei*. (2) 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



An illustration depicting a soy sauce and miso store. The sign in the illustration reads *Soy Sauce and Miso Retailer*. Source: *Nippon Eitaigura* by Saikaku Ihara, 1688.

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 (*seisho*) (3) from the fermentation process, and the other is the dregs (*tosho*). 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 Qi 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, *kona 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 *kona koji*, only with whole grain wheat) and herbs. Place in a pot. When mold forms throughout the mixture, add to the pot salt water and *kona 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.

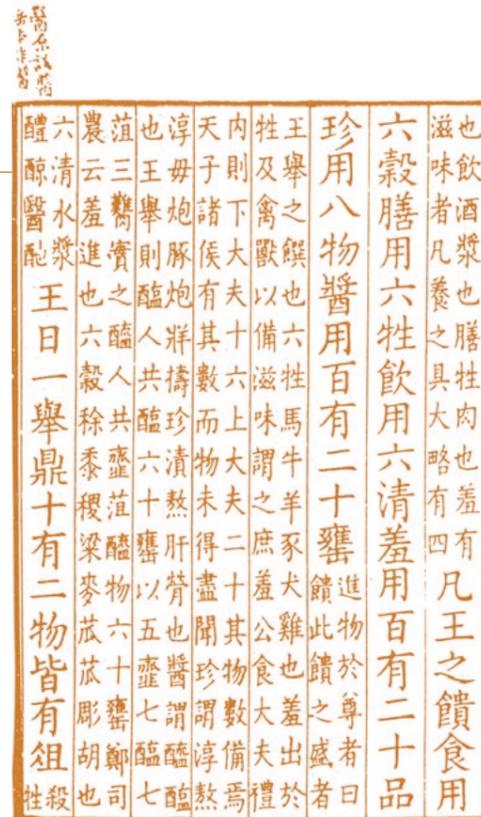
The salt water is added to the mold-permeated soybeans to form a thin gruel. Then the contents of the pot are stirred and left with the lid open under the sun for 30 days. Considering that the soybeans were used without grinding, the finished product was probably like *moromi*, an unrefined, pasty soy sauce. *Tamari* or refined liquid soy sauce was made from this *sho*, but it seems that “most *sho* was eaten with soybean grains in it; use of refined *sho* as seasoning was still rare.” (4)

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. (5)

Production of Sho in Japan

Sho was called *hishio* 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 *nagino-atsumono* (a soup of hollyhock)!”

This is a portion of the *Shurai* which recorded the governmental organization of the Seishu Dynasty (1050? B.C.-770 B.C.). In the *Tenkan/Kashiwade* part of the *Shurai*, the letters “*hishio*” and “*Tei Gen's notes*” can be seen. (Tei Gen is a person whose writings were annotated in the *Shurai*)



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 at court. It defines *sho*, *miso*, *shi* (or *kuki*) 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, *sho* was already playing a main role as a seasoning. (6) It was used widely among Japanese people (7) and sold in the marketplace. (8) In the Heian period (794-1185), demand for *sho* increased and the *sho* 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 *sho*. It seems that *sho* was a daily necessity up to this period.

Japanese Sho, Made from Soybeans

What was Japanese *sho* like at that time? The *Yoro Ryo* and other records in the Nara and Heian periods imply the following:

- 1) *Kai*, *sho* and *miso* were separate foods when they were being made in the *Daizen-shiki* during the Nara period.
- 2) The Chinese character *sho* was pronounced *hishio* in Japanese and meant fermented soybeans.
- 3) The Chinese character *kai* was pronounced *shishi-bishio* in Japanese and meant fermented flesh or fish.

Early on, Japanese distinguished between *sho* and *miso*. In Japanese, the word *sho* referred exclusively to fermented foods made from soybeans. Naturally, such foods were distinguished from *kai*, which referred to fermented flesh and fish. (9) No clue as to the original recipes for *sho* can be found, with one exception in “General Instructions and Recipes,” part of the *Daizen-ge* in the *Engishiki*. This recipe states that *sho* 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 *sho* but provides no further details.

Liquid or Mash (moromi)?

We can hardly imagine today what the *sho* in ancient Japan was like. There are two differing views among

scholars on this point: some advocate a liquid style of *sho*; others, more of a mash. Shinryu Sekine favors the liquid hypothesis. In his book, *A Study on Eating Habits in the Nara Period*, he quotes the *Shosoin-monjo*, a document preserved in the Shosoin, the storehouse 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 *sho* in those days was liquid.” Furthermore, quoting some paragraphs in the *Engishiki* that refer to *sho*, he indicates that the amount of *sho* remaining after fermentation is far less than the total amount of ingredients used. “In another part of the *Engishiki*,” he says, “the words ‘*sho* 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.” (10, 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 *sho*. 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 *sho* in this seasoning set seems to have been a liquid.

Sho for Making Pickles

As we have seen, liquid *sho* has long been used in Japan. However, it is impossible to state definitively that all *sho* 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 *uri* gourds and eggplants pickled in sake lees, and gourds and *myoga* (Japanese ginger) pickled in *sho*. (12) In the *Engishiki*, liquid *sho* and *sho* dregs were used for pickling gourds, wax gourds, turnips and eggplants. (13) The *Engishiki* also refers to some foods that are very likely *sho*-pickled fish, such as crucian carp, blowfish and sardines. There were many kinds of *sho*-pickles available during this era.

Mash-Style Sho

When used as a seasoning for processed food, *sho* was probably prepared in mash-like form, not as a liquid. It is not very difficult to prepare liquid *sho*: all you have to do is filter out or extract the mash-like *sho*. Doing so, however, severely reduces the efficiency of the process. The *Engishiki* states that the amount of liquid *sho* 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 *sho* were used for provisions, workers’ meals and feasts, as well as for many kinds of pickles. It is impossible to think that all this *sho* was of the labor-consuming, wasteful liquid type. Besides, *sho* 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 *sho* from scratch, as well as methods for filtering out liquid *sho* from porridge-style *sho* as the need arose. However, it seems that liquid *sho* was used in a limited manner when *sho* was needed as a liquid seasoning. As in China, most *sho* was probably consumed in its mash-like form for a long time; liquid *sho* remained a luxury. I will discuss this topic further in the next issue.

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(Notes)

1. *Food – Supply and Demand* (1997), compiled by the Research Division, Ministry of Agriculture, Forestry, and Fisheries.
2. Tei Gen gives a similar note to *Kei-jin*, another section of the *Shurai*.
3. According to *The Notes of Shimin-gatsuryo* (Toyo Pocket Library, Heibonsha), *sei sho* is also called *sho sei*. It is the refined liquid of soybean *sho* and corresponds to what we call *tamari* in Japanese. It is called *sho sei* or bean *sho sei* in the *Seimin-yojutsu*.
4. The second volume of *The Notes of Seimin-yojutsu* (translated by Yukio Kumashiro and Takeichi Nishiyama).
5. *Eating Habits in China* (Toyo Pocket Library, Heibonsha), an annotation of the *Record of Chinese Eating Habits*.
6. The *Daizen-shiki* stipulates the type, amount and use of offerings provided for a priest at Nin-noh-kyo-sai-e. “Three cups of *sho*” appears on the list of offerings. Though what some of the *sho* was used for is unknown, a certain amount was used as seasoning for vegetables, seaweed, soups, etc.; some was also used to make pickles. The *Engishiki* also refers to a millet dumpling given to priests; here, *sho* is listed as an ingredient. Since the millet dumpling itself does not contain *sho*, it was probably used as seasoning.
7. *Shosoin-monjo* makes reference to many kinds of *sho*, while a tag for gift parcels of *sho* from Bizen (southeastern Okayama Prefecture) was among letters discovered in the relics from the Nara period.
8. The expression “*sho* on the market” can be seen in *Shosoin-monjo*. During the Heian period, some shops were set up in the market located in the east of the capital (*Engishiki*).
9. At about that time, the character for *kai* started to disappear from Japanese documents. In the *Engishiki*, for example, the modern character for *sho* was adopted in most expressions.
10. Quoted from Chapter 5; *Sho, a Seasoning in the Nara Period*, in *A Study of Eating Habits in the Nara Period*.
11. Dr. Sadaaki Ikata takes a similar standpoint in the chapter *Soybeans* in his book *A Study on the History of Grains in Ancient Japan*. He points out that *ten-sho* resembles the second-class soy sauce of the Edo era.
12. *Outline of Letters Written on Wooden Strips Discovered from Heijo-Kyu* (21).
13. There are two major assumptions about *sho* dregs: one is that it results from liquid *sho*, and the other that it is a *sho* made with sake lees instead of sake (by Shinryu Sekine, *A Study of Eating Habits in the Nara Period*.) I will take up this subject in the next issue.
14. Sekine indicates in his chapter on *sho* in *A Study of Eating Habits in the Nara Period* that *sho* dregs were supplied to lower-class workers as well as used to make *ten-sho*.