

Flavor Wheel Terminology and Challenges in Translation

--Focusing on English and Japanese Vocabulary

for Wine, Sake and Soy sauce --

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Abstract

This report highlights the delicate and complicated issues of English and Japanese translation of terms that express the flavor and aroma characteristics of foods/drinks. First, we compared English and Japanese terms on the aroma wheel for wine, and flavor wheels for sake and soy sauce. Our analysis focused on whether the subjects denoted by the Japanese and English terms representing taste, aroma and flavor are the same in the contexts of Japan and UK / US – regions with different food cultures; if there is the possibility of a discrepancy; and where there are differences, what kind of measures are taken to share the true meaning of the term. Our research enabled us to classify the subjects denoted by terms for aroma and taste into four categories: 1) subjects that are more or less the same in the original language as in the translation (further classified by ease of access); 2) subjects for which a translation exists but may carry a different meaning; 3) subjects for which the translation deviates from the original; and 4) subjects for which no translation exists and are therefore shown in the original language.

We then recognized that in order to understand characteristic foods and drinks, which are intricately linked with the identity of each region, it is not sufficient to provide literal translation; it is important to be sensitive to similarities and differences in both concrete objects and general concepts across regions in order to accurately capture the meaning denoted by the terms for them in the original and translated forms.

1 Introduction

The first author of this paper has long worked in the field of food science. She lived in France for one year conducting research on French gastronomy and she has been studying cooking and food culture in Japan for many years. When she studied wine, she was puzzled by many of the materials mentioned on the aroma wheel as she had never eaten them in Japan, and some of those were hard to gain first-hand experience of even in France. Ultimately, she came to the conclusion that it is important not only to actually taste a lot of wine, but also to taste a lot of foods/drinks other than wine and accumulate experiences of all sorts of aromas in ordinary life. In short, in order to understand sensory expressions, the key is to build a portfolio of real experiences, using all five senses. An accumulation of real taste and smell experiences builds understanding of the unique characteristics of previously unknown foods/drinks from different cultures and helps us become more perceptive about how they are received in the original cultural sphere. This can be compared to saying that a deep appreciation and comprehension of foreign literature requires not only understanding of that foreign language, but also exposure to numerous literary works in one's own mother tongue and other languages, taking time to carefully understand the meanings and concepts behind the words in the process.

In this study, we analyzed terms in the English aroma wheel for wine, widely recognized in Western countries, and for comparison, we also analyzed the flavor wheel for sake. In addition, we

looked at the flavor wheel for soy sauce, an original Japanese seasoning, to ascertain the difficulty of translating terminology created in Japanese on the basis of Japanese food culture. The purpose of this research is to clarify the delicate and complicated issues found in translating terms that describe the characteristics of foods/drinks with regards to flavor and aroma in English and Japanese. It also raises various general issues found in language translation.

2 Method

We analyzed three aroma wheel / flavor wheels – those for wine, sake, and soy sauce – each with notation in both English and Japanese.

Aromaster, the Master Sommelier Wine Aroma Wheel * 1) was used for wine. In addition to being widely recognized as one of the highest quality wine aroma wheels, it is available in multiple languages. This time, we examined it by matching English and Japanese terminology on the wheel. For examination in the sake field, we used the Sake flavor wheel made by the National Research Institute of Brewing (NRIB) * 2), 3). It is the only flavor wheel available for sake created by a public agency. As for soy sauce, we used the flavor wheel * 4), 5) made by Kikkoman, the world's largest soy sauce manufacturer. It was the first aroma/flavor wheel of its kind for soy sauce. It was first produced in English covering pasteurized soy sauce varieties most commonly consumed outside Japan. The Japanese version was then created by adding characteristics of soy sauce sold in Japan, including raw (unpasteurized) soy sauce which is increasingly popular in Japan. Therefore, this flavor wheel for soy sauce was prepared separately in Japanese and English, and therefore may, strictly speaking, not be a translation. However, there are many common terms which are thought to have a corresponding relationship.

Aromaster's aroma wheel lists 88 words for aromas found in wine. In this study, we classified the English and Japanese equivalents for those 88 words. The sake flavor wheel cites 42 words and each has an English translation. In this study, we classified the correspondence between the 42 words in English and Japanese. The English version of Kikko-

man's flavor wheel organizes 88 distinctive aromas / tastes / flavors / textures, of which 74 characteristics are common to Japanese soy sauce. Excluding duplications, the Japanese version contains a total of 91 terms after accounting for the characteristics of products sold exclusively in Japan, including raw (unpasteurized) soy sauce. * 5) Therefore, for the purposes of this study, we classified only the 74 words considered to express features exhibited by products both overseas and in Japan. In the aroma wheels used in this study, whereas wine terms only refer to aroma, sake terms cover both aroma and flavor, and soy sauce terms cover aroma, flavor and texture. Since the purpose of this research is to classify correspondence of each translation within a single wheel rather than comparing the three, we examined each wheel in its entirety.

Issues that need to be considered in the classification process are as follows. The terms included in the aroma / flavor wheels are sensory evaluation terms used to assess the aromas and flavors of foods and drinks. The evaluator needs to know and remember the aromas and flavors that the terms imply, so that they can use those terms as an evaluation measure. The terms included in aroma and flavor wheels are mostly the names of specific foods and objects found in daily life. Therefore, through the food items and other objects, you get a sense of the characteristic aromas or flavors contained therein and come to recognize and associate them with names for things, which you are then able to memorize.

For example, although the main substance that constitutes the scent of banana is isoamyl acetate, people associate other trace ingredients and sense a "banana-ish" or "banana-like" aroma. The aromas of foods and other subjects shown on the flavor wheel indicate the characteristic and representative aromas of the most typical form of such an item. Wine contains various fragrance substances, but the delicately balanced individual fragrance substances can be detected, and you can sense an array of "something-like"/"something-ish" fragrances. Sometimes the terms in the flavor wheel refer to the name of the actual substance that gives the sense of a certain aroma or flavor. For example, acetic acid is the main substance in vinegar and a substance that makes you sense sourness. Among the flavor wheels, some use the term "vinegar"

while others use "acetic acid", showing different levels of detail in terms of indicating sourness.

As described above, different levels of nomenclature are mixed with various metaphorical expressions and the terms for subjects range from generic names to unique substance names. How can we classify these terms of flavor and aroma? In this study, we tried to classify these terms based on the subjects denoted in flavor/aroma wheels and the level of accessibility to those items.

3 Result 1: Classification of Terms Based on Translation Interpretations

We classified the terms based on interpretations of translation from Japanese to English and from Japanese to English, and what kind of aroma or flavor the respective terms actually denote. This resulted in four broad categories: 1) subjects that are more or less the same in the original language as in the translation (further classified by ease of access); 2) subjects for which a translation exists but may carry a different meaning; 3) subjects for which the translation deviates from the original; and 4) subjects for which no translation exists and are therefore shown in the original language (Table1).

Even within category 1), with regards to different food cultures, the biggest difference was whether a specific item was readily accessible in the other region. If the item used to convey the characteristic flavor and aroma is readily available, then it is easy to understand and relate to, but if it is not available then it is hard to understand.

Table1. Categories of Subjects Found in Flavor/Aroma Wheels

	Wine	Sake	Soy sauce
1) Same in both English and Japanese	67	24	41
easy to access	45	16	29
not easy to access	22	8	12
2) Possibly different meaning	17	10	16
3) Deviation from original meaning	3	3	14
4) No translation exists	1	5	3
Total	88	42	74

Table 2. Terms Same in Both English and Japanese – Wine, Sake and Soy Sauce –

Wine Japanese/English
easy to access
remon/lemon, raimu/lime, gurepu-furutu/grapefruit, Yonashi/pear, ringo/apple, meron/melon, painappuru/pineapple, passhon-furutu/passion fruit, raichi/lychee, dorai-apurikotto/dry apricot, orenji-no-kawa/orange peel, banana/banana, razu-beri/raspberry, ichigo/strawberry, puramu/plum, dorai-furutu/prune, jasumin/jasmine, bara/rose, rabenda/lavender, fenneru/fennel, tomato/tomato, diru/dill, taimu/thyme, minto/mint, bei-rifu/bay leaf, toyu/kerosene, bata/butter, kyarameru/caramel, chokoreto/chocolate, tosuto/toast, banira/vanilla, kuro-kosho/pepper, shinamon/cinnamon, natsumegu/nutmeg, kurobu/clove, kokonattu/coconut, hezerunattu/hazelnut, amondo/almond, matsu/pine, toryufu/truffle, sheri-shu/sherry, madeira-wain/madeira, binega/vinegar, joko-eki/nail polish remover, tamanegi/onion, suito-kon/sweet corn
not easy to access
oku/oak, guzu-beri/gooseberry, guava/guava, kashisu/blackcurrant, burakku-beri/blackberry, suikazura/honeysuckle, sanzashi/howthorn, orenji-no-hana/orange blossom, bodaiju/linden, akashia/acacia, sumire/violet, kashisu-no-ha/black currant leaf, yukari-no-ha/eucalyplus, youso/iodine, hiuchi-ishi/flint, bekon/bacon, taru/tar, sandaru-wood/sandalwood, marumero-zeri/quince jelly, gurebi/gravy, uma-no-ase/horse sweat
Sake Japanese/English
easy to access
koge-shu/Burnt, jushi-shu/Plastic, arukoru/Alcoholic, nuka/Rice bran, karameru-yo/Caramel, kobo-yo/Yeasty, kabi-shu/Musty, sanmi/Sour, amami/Sweet Aroma, shioaji, emmi/Salty, umami/Umami, nigami/Bitter, shibumi/Astringent, shigeki-mi/Pungent, tansan gas/Carbonation, kinzoku-mi/Metallic
not easy to access
esuteru/Estery, ryukabutsu-yo/Sulfidic, arudehido/Aldelydic, nikko-shu/Light struck, kami-shu, hokori-shu, tsuchi-shu/Papery/Dusty/Earthy, jiasechiru/Diacetyl, san-shu/Rancid/Acetic, kime/Smoothness
Soy sauce Japanese/English
easy to access
daizu/Soybean, sumi/Burnt, pipipiri/Prickling, watagashi/Cotton candy, shoku-su/Vinegar, yusei-majikku/Magic marker, shodoku-yaku/Disinfectant, satsumaimo/Sweet potato, tosuto/Toast, daku chokoreto/Dark chocolate, akikan/Tin, tetsu/Iron, oisuta-sosu/Oyster sauce, amami/Sweetness, shio-aji/Saltiness, sanmi/Sourness, nigami/Bitterness, shibumi/Astringent, atoaji-no-amami/Lasting sweetness, atoaji-no-shioaji/Lasting saltiness, atoaji-no-sanmi/Lasting sourness, atoaji-no-nigami/Lasting bitterness, watagashi/Cotton candy, shoku-su/Vinegar, etanoru-shu/Ethanol, daizu/Soybean, satsumaimo/Sweet potato, tosuto/Toast, maku-ga-haru/Coating
not easy to access
etanoru-shu/Ethanol, kombu-dashi/Kelp broth, kome-nuka/Rice-bran, nukadoko/Rice-bran paste, kidaru/Barrel, bokuju/Chinese ink, kachiku-sha/Barn, umami/Umami, atoaji-no-umami/Lasting umami, kombu-dashi/Kelp broth, katsuo-dashi/Bonito broth, shiitake/Shitake

Terms found to be the same in both languages (Category 1) for wine, sake and soy sauce are summarized in Table 2.

4 Result 2: Comparison of Terms for Wine, Sake, and Soy Sauce

Below is a list of corresponding terms classified as having different meanings or having no available translation (Table 3-1, 2, 3).

As shown in Table3-1, of the 88 terms extracted from the wine aroma / flavor wheel, the word from the original language was used for just one term. Bouchonné, the French word meaning “corked” in English, is used as is in the Japanese translation. This seems to be because it in addition to the absence of a corresponding Japanese term, it has become more widely recognized relatively recently in Japan as indicating bad flavor. The problem when translating the aroma / flavor of wine is whether the term translated from the original word into the corresponding Japanese makes Japanese people recall an image identical to that recalled by French, American and English people, for example.

Of the 87 terms given as translations, we found that 67 of them indicated clear and concrete subjects. And of these, about 45 words point to common and familiar subjects for both Japanese and Table3-1. Wine Aroma Wheel Terms Requiring More Attention in Translation westerners, making the aromas easy to imagine and therefore leading to a low likelihood of translation problems. Examples include items like lemon, lime, rose, mint, and chocolate. On the other hand, regarding the remaining 22 words, although there is no translation issue for the terms themselves, there is a possibility that the aroma evoked by that word may be different for Japanese and Westerners, so more attention is required in translation. For example, although it may be possible to imagine actual objects such as gooseberry, guava, cassis, honeysuckle, linden, violet, eucalyptus leaves, it is not easy for ordinary Japanese people to imagine their aromas / flavors, and there is also a possibility that people would imagine a totally different thing.

Table3-1. Wine Aroma/Flavor Wheel Terms Requiring More Attention in Translation

WINE terms		2) Possibly different meaning	3) Deviation from original meaning	4) No translation exists
Japanese / English				
Aroma				
<i>ao-ringo</i>	green apple	1		
<i>momo</i>	peach	1		
<i>sakurambo</i>	cherry	1		
<i>piman</i>	capsicum		1	
<i>sibafu</i>	cut grass	1		
<i>shida</i>	fern	1		
<i>hoshikusa</i>	hay	1		
<i>kocha</i>	black tea	1		
<i>tabako</i>	tabacco	1		
<i>pan</i>	bread	1		
<i>kohi</i>	coffee	1		
<i>kemuri</i>	smoke	1		
<i>kanzo</i>	liquorice		1	
<i>Himaraya-sugi</i>	cedar		1	
<i>hachimitsu</i>	honey	1		
<i>shoyu</i>	soy sauce	1		
<i>kawa</i>	leather	1		
<i>masshurumu</i>	mushroom	1		
<i>ki-no-koke</i>	tree moss	1		
<i>bushone</i>	corked			1
<i>gomu</i>	rubber	1		
total		17	3	1

Furthermore, for 17 of those 22 words, because the terms are common there is such a variety of aromas / flavors that people may recall that the real intention may not be accurately transmitted. For example, translating green apple directly as *ao-ringo* may be correct, but the small green apple commonly found in Europe is not distributed in Japan, so it is not clear what Japanese people think of when they hear 'green apples'. There is also a difference between peaches and Japanese white peaches, cherries and *sakurambo* Japanese cherries. In such cases, there is usually a method of translation that shows the difference by including a place name as in “American cherry”, or by adding a color classification or a variety name like “yellow peach”.

Next, we present Table 3-2. Of the 42 terms extracted from the Japanese sake aroma / flavor wheel, the original word was used as is for 5 terms: *ginjo-ka*, *koji*, *hine-ka*, *namahine-ka*, *amakara*. All of them indicate flavors peculiar to sake, and like *bouchonné* in wine, it seems recognition of the

original word and the flavors associated with it has spread with the increase in sake lovers around the world. There were also three words where the meaning was changed by the translation. If translated directly, "kika" means "flavor of tree", but likely to avoid ambiguity, it has been translated as "Japanese cedar". Also, "notan (shading)", usually an indication of complexity, has been translated as "body"; and "nori-mi", literally "glue flavor", is a special phrase that has been translated as "mouth coating".

One major difference from the aroma wheel for wine is that there are few words in the sake wheel indicating the scent of specific fruits and flowers. In addition to sake not being a drink derived from fruit, this is also thought to be due to the fact that explanations for sake that need to convey fruit and flower aromas/ flavors are often provided by borrowing from wine terminology. Eighteen of the 34 words to which the equivalent term was applied point to objects we considered difficult to imagine as they carry such broad meaning or because they are difficult to recall. "Kajitsu-yo (fruit-like)" is fruity, "hana-yo (flower-like)" is floral, "kinomi-yo (nut-like)" is nutty, but the range of possibilities is so broad that it is unclear whether people will be able to think of the specific flavors the words refer to. Using more specific fruit, flower, or nut names may result in the same kinds of issues faced in the translation of wine flavors.

As for the translation of the soy sauce aroma / flavor wheel, as shown in Table 3-3, among the 74 corresponding terms found in both language wheels, three were the original Japanese, and as many as 14 terms were found to be changed from literal translation. Those using the original language were natto, umeboshi, and koku – expressions of food and flavor peculiar to Japan, and for which the foods themselves are recognized around the world in the original language. On the other hand, examples where the terms were changed in translation include translating "kokuto (black sugar)" as "brown sugar" and "shiro-wine (white wine)" as "fruity". Sugar with low purity is called "black" sugar in Japanese but referred to as "brown" sugar in English-speaking countries. Clearly the literal translation does not work in this case. Brown sugar in the United States has a rather high level of refinement and milder flavor com-

pared to "black" sugar from Okinawa which has low purity and strong flavor. Thus, if you wish to express the strength of the soy sauce aroma more precisely it may be necessary to explain further.

Table3-2. Sake Aroma/Flavor Wheel Terms Requiring More Attention in Translation

Sake terms		2) Possibly different meaning	3) Deviation from original meaning	4) No translation exists
Japanese / English				
odor				
<i>ginjo-ka</i>	<i>Ginjo-ka</i>			1
<i>kajitsu-yo</i>	Fruity	1		
<i>hana-yo</i>	Floral	1		
<i>kika</i>	Japanese cedar		1	
<i>kusa-yo/ao-shu</i>	Grassy	1		
<i>kinomi-yo</i>	Nutty	1		
<i>koshinryo-yo</i>	Spicy	1		
<i>kokurui-yo</i>	Grainy	1		
<i>koji</i>	<i>Koji (Fungus)</i>			1
<i>ama-shu</i>	Sweet Aroma	1		
<i>hine-ka</i>	<i>Hine-ka</i>			1
<i>namahine-ka</i>	<i>Nama hine-ka</i>			1
<i>gomu-shu</i>	Rubbery	1		
<i>shibo-san</i>	Fatty acid	1		
Taste				
<i>nori-aji</i>	Mouth coating		1	
<i>ato-aji</i>	Afterfeel	1		
<i>amakara</i>	<i>Amakara (Dryness)</i>			1
<i>notan</i>	Body		1	
total		10	3	5

The other example was of the flavor of "white wine" being translated as "fruity" to describe the flavor of soy sauce. More specifically, it is explained as fruity esters and fruity aroma of white wine. If there is a white wine flavor in Japan's original seasoning soy sauce, it is natural for Japanese to associate that with a fruity aroma, but what kind of aromas does the term "white wine" evoke for an American, for example, perhaps less familiar with soy sauce? This is one clear case for making a point of changing a translation taking into account levels of familiarity and experience with the flavors. By the way, "aka-wine (red wine)" flavor is translated just the same as "red wine" and explained as "red wine astringent aroma associated with red wine/skin of red grapes". Compared to white wine fruit aroma, perhaps red wine astringency is more easily associated with soy sauce.

Table3-3. Soy Sauce Aroma/Flavor Wheel Terms Requiring More Attention in Translation

Soy Sauce terms		2) Possibly different meaning	3) Deviation from original meaning	4) No translation exists
Japanese / English				
Aroma				
<i>mure-ka</i>	Damp	1		
<i>konappoi</i>	Powdery	1		
<i>shigeki-shu</i>	Pungent	1		
<i>kokuto</i>	Brown sugar		1	
<i>shiro-wain</i>	Fruity		1	
<i>yo-shu</i>	Liqueur	1		
<i>aka-wain</i>	Red wine	1		
<i>tsukemono</i>	Pickle		1	
<i>kankitsu</i>	Vinegar	1		
<i>hinoki</i>	Cypress tree		1	
<i>ugai-gusuri</i>	Iodine		1	
<i>beihan</i>	Rice		1	
<i>sumi</i>	Burnt		1	
<i>kohi-no-degarashi</i>	Coffee grounds		1	
<i>bekon</i>	Smoked food		1	
<i>kinoko</i>	Mushroom	1		
<i>iso</i>	Fish		1	
<i>kombu</i>	Briny	1		
<i>sakana</i>	Seaweed	1		
<i>abura</i>	Oily	1		
<i>mame-miso</i>	Bean paste		1	
<i>natto</i>	<i>Natto</i>			1
<i>kocha</i>	Black tea	1		
Taste				
<i>koku</i>	<i>Koku</i>			1
Flavor				
<i>kokuto</i>	Brown sugar		1	
<i>tsukemono</i>	Pickle		1	
<i>kankitsu</i>	Citrus	1		
<i>umeboshi</i>	<i>Umeboshi</i>			1
<i>ugai-gusuri</i>	Iodine		1	
<i>maitake</i>	Mushroom	1		
<i>sashimi</i>	Fish	1		
<i>kombu</i>	Seaweed	1		
Texture				
<i>toromi</i>	Viscous	1		
total		16	14	3

5 Conclusion

In the translation of wine, sake, and soy sauce flavor wheels, we found that subjects denoted with literal translations can be difficult to imagine, possibly leading to recall of different aromas. In order to avoid such issues, it may be wise to use the original word in the source language as is, and for the detail to be understood subsequently as familiarity with the food/drink grows. Also, it may be easier to imagine certain aromas / flavors by replacing the

term with a different word instead of translating it directly, though this then raises the possible issue that the subject imagined is not identical to the subject denoted by the original term. In such cases, it would be necessary to confirm through processes such as actual tasting whether the corresponding terms from the two languages represent the same meaning in each society.

This research focused on English-Japanese translation equivalents in flavor and aroma wheels for foods and drinks. In translating the “language of food,” the terminology only conveys part of the picture and it became clear that it is necessary to undertake a confirmation process to avoid discrepancies between the terms used and the flavors actually experienced. For that reason, individuals must engage in shared taste experiences in order to truly understand and redefine the meaning of the words. We would argue that this need to share the meaning of words through such experiences is relevant to the translation of all kinds of language pairs.

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