Preferred Facing Directions of Pictures: A Comparison of Traffic Signs in Japan and Germany

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Preferred Facing Directions of Pictures: A Comparison of Traffic Signs in Japan and Germany

Yoshinori Nishijima Kanazawa University, Japan

Abstract: Persons or objects on signs seem to have a culturally preferred direction of facing (Kumakura, 1990). Is such a difference in direction also true of pictures on traffic signs between Japan and Germany? People in Japan and Germany drive on the left and the right side of the road, respectively. In this respect, a question arises: Does the difference between left-hand and right-hand traffic in these two countries influence the way the pictures on traffic signs face? The aim of this study is threefold: 1) to collect functionally equivalent traffic signs in Japan and Germany; 2) to compare the pictures on the signs between these countries with respect to their facing directions; and 3) to try to clarify whether and to what extent differences in facing directions are found on the traffic signs. The results are expected to contribute to the study of the relationship between writing directions and facing directions of pictures.

Keywords: Facing direction, preference, traffic signs, Japan, Germany

1. Introduction

It has often been pointed out that every language has its preferred style of linguistic expressions. Ikegami (2012), for example, claims that Japanese and English prefer subjective and objective construal, respectively. If a particular language has its own preference in formulating linguistic expressions, then it can be assumed that pictures also show cultural preferences in construal because they are regarded as a kind of linguistic expression as well. In fact, according to Hayashi (2016), differences between a subjective and an objective construal can be observed in movie posters in Japanese and English. As for pictures in general, Kumakura (1990) pointed out that a particular language society has its preferred facing direction in pictures due to the writing direction of linguistic expressions of the language in question. Pictures in Japan, for example, tend to face to the left, whereas those in English to the right. These different facing directions have been influenced by the traditional writing direction of the language. Namely, Japanese characters such as hiragana, katakana, and kanji are normally written vertically and from right to left, most commonly in newspapers and books. Therefore, in reading them, the eyes traditionally move vertically and from right to left. However, the scripts of European languages, including German, are normally written horizontally in newspapers and books, and in reading them, the eyes move horizontally from left to right. Thus, it is traditional in reading to move the eyes from right to left in Japanese but from left to right in German.

These traditional tendencies are also confirmed with respect to which side of the book is the front cover. In books written in Japanese, pages are turned from left to right, and the front cover is on the right side, whereas in books in European languages such as English, pages are turned from right to left, and the front cover is on the left side. Therefore, from the perspective of people who are familiar with books written in English, books written in Japanese seem to be read from the back cover. Nowadays, however, Japanese characters are often written horizontally from left to right like English due to the widespread use of computers and word processors, into which characters are entered. As a result, an increasing number of books and magazines written in Japanese have been published to be read from left to right.

Based on this fact, Kumakura (1990) claimed that the Japanese language has lost a constant tendency in writing direction. Such inconsistency in the preferred writing direction can occur in various situations in ordinary life in Japan. If so, then the changing writing direction in Japanese can influence the facing direction of pictures. Or so-called globalization in various fields can also influence it. As an important set of functionally corresponding pictures between Japan and Germany, traffic signs can be chosen for investigation.

The aim of this article is threefold: 1) to collect functionally equivalent traffic signs in Japan and Germany; 2) to compare the pictures on the signs between both countries with respect to their facing directions; and 3) to try to clarify whether and to what extent a difference in facing directions is found on the traffic signs.

2. Description of Problem

2.1. Differences in Linguistic Expressions

Every language has its preferred linguistic expressions or styles. For example, the point of view from which linguistic expressions are formulated differs from language to language (cf. Nishijima, 2013b, 2014c). Many studies have addressed differences in such perspectives. Among these, translation-based contrastive analysis has often been performed, especially in the field of cognitive linguistics. Ikegami (2000) can serve as a typical example comparison in such studies.

Ikegami (2000) compared the first sentence of a Japanese literary text, *Yukiguni* ("Snow Country"), by Kawabata Yasunari (the first Japanese winner of the Nobel Prize in Literature), with its English and German translations.

Ikegami (2000, pp. 290–293) shows two perspectives in the following sentences:.¹

- (1) kokkyo-no nagai tonneru-o nukeru-to
 Boundary-PART.GEN long tunnel-PART.ACC go.through-when
 Yukiguni-deatta.
 snow.country-COP.PAST (KAWABATA Yasunari: Snow Country)
 ('when going out of the boundary long tunnel, the snow country was')
- (2) The train came out of the long tunnel into the snow country.

 (transl. by E. Seidensticker)

Glosses have been provided by the author under the Japanese and German examples for better understanding.

(3) Als der Zug aus dem langen Grenztunnel herauskroch, as the train out.of the.DAT long.DEC boundary.tunnel out.crawl.PAST lag das »Schneeland« vor ihm weit ausgebreitet.

lie.PAST the snow.country in.front.of it.DAT wide out.spread.PP

('as the train crawled out of the long boundary tunnel, the snow country lay spread wide in front of it') (transl. by O. Benl)²

The comparison shows the different perspectives clearly: In (1), it is not apparent who was going through the tunnel into the snow country because the sentence has no subject on the surface level. In the scene, the event of going through the tunnel into the snow country is depicted subjectively or experientially from a perspective inside the situation, that is, from the perspective of a narrator placed near the main figure of the story in the situation, or through the eyes of the protagonist of the text. In contrast, (2) and (3) are both described objectively from a perspective outside the situation where the event occurred because the subjects *the train* and *der Zug* are mentioned objectively as third person, that is, from a bird's eye view. Based on the comparison, two perspectives in formulating linguistic expressions can be confirmed:

- (a) From a point of view inside the situation where an event occurs
- (b) From a point of view outside the situation where an event occurs

Such different perspectives can be also shown with another typical example from a situation in ordinary life. Suppose a situation in which passengers wait for their train on a platform in a railway station, and it is arriving soon. They then hear or read the following announcement (Nishijima, 2014a, p. 35):

- (4) hakusen-no uchigawa-de o-machi-kudasai. white.line-of in.side-at HON.wait.HON.IMP ('please wait inside white line')
- (5) Hinter der weißen Linie bleiben behind the DAT white DEC line stay ('stay behind the white line')

The word *uchigawa* 'inside' in (4) is an expression focused on the passengers waiting for their train on the platform and formulated by observing the white line from their point of view. In this sense, the speaker of (4) verbalizes the scene subjectively or experientially from a point of view inside the situation, or from the viewpoint of the passengers waiting on the platform. Conversely, in (5) the preposition *hinter* 'behind' is used. (5) is an expression that focuses on the dangerous railway track and conveys "stay back from there" to avoid possible danger from

² In Ikegami (2000), the phrase *weit vor ihm ausgebreitet* in (3) was omitted. The omission has been added here according to Yasunari Kawabata: *Schneeland*. Roman. Übersetzt von Oscar Benl, München: Deutscher Taschenbuchverlag, 1987, p. 5.

the approaching train. Therefore, the German speaker of (5) expresses the scene from a point of view outside the situation where it occurs, i.e., from an objective perspective apart from the passengers, the platform, and the railway track, which is an expression of the same sort as *Keep out* in English.

This difference in perspectives from which linguistic expressions are formulated can easily lead to mistranslation if a word-to-word translation is made. The following is an example of such a mistranslation. In a hot spring in Kyushu in southwest Japan, visitors can walk on a path. The area outside the path is very dangerous because it is steaming hot. There is thus a prohibition sign with the following Japanese expression and its English translation: *Hodōgai tachiiri kinshi* 'Entry outside walking pass forbidden' and *Keep within the boundary fences*, respectively. This English expression, however, is obviously a mistranslation because it is formulated from the same point of view as the Japanese sentence (4), and in this literal or word-to-word translation, the corresponding preposition *within* is used. In "correct" English, *behind* should have been used instead of *within*, or it would mean that keeping within the boundary fences is safe. For a more detailed discussion, see Nishijima (2014a). Anecdotally, it may be pointed out that there is an appropriate English translation of *uchigawa* 'inside' in Japanese on a sign in a railroad station in Nagoya (see Fig. 1 below):



Figure 1. Warning Sign at a Station in Nagoya³

Written on the sign (Fig. 1) is a Japanese expression *kiisen-no uchigawa-de o-machi-kudasai* 'please wait inside the yellow line,' where the word *uchigawa* 'inside' is used for the spatial relationship. To the left of the Japanese expression, its English translation *Stay Behind Yellow Line* can be seen, where the spatial preposition *behind* is used. The two corresponding sentences are formulated with the different spatial words *uchigawa* 'inside' and *behind* due to the two different construals. That is, the Japanese expression with *uchigawa* 'inside' on the sign is formulated from a point of view of the passengers waiting at the platform, as shown in (4), whereas the English translation with *behind* is correctly described from a perspective outside the situation, like in (5). Therefore, the same thing (event) can be formulated differently. Such a

³ Photographed by the author in November 2016 (cf. Nishijima, 2018).

difference in linguistic formulation patterns can be regarded as a preferred style of the linguistic expression. (For a more detailed discussion, see Nishijima, 2014a.)

In this way, every language has its preferred style in linguistic expressions. In cognitive linguistics, such a difference is discussed in the framework of objective and subjective construals. Subjective construal and objective construal correspond to a perspective inside the situation and outside the situation shown above, respectively.⁴

2.2. Differences in Pictures

In general, it is often pointed out that an objective construal is preferred in English expressions, whereas a subjective one is preferred in Japanese sentences (cf. Ikegami, 2012; Nakamura, 2009). If there are differences in linguistic construal between Japanese and English, then it may be readily expected that such linguistic differences are also reflected in pictures as another form of expression. Hayashi (2016) found that differences in construal occur also in graphical expressions in Japanese and English. Below are two posters for the Japanese animated movie *Karigurashi no Arrietty* 'Arrietty living by borrowing' and its English version, *The Secret World of Arrietty*.



Figure 2. Poster in Japan⁵ Only a Watched Girl is Seen.

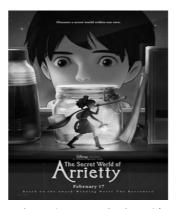


Figure 3. Poster in the US⁶ A Watching Boy and A Watched Girl are Seen.

The poster on the left, Fig. 2, is formulated in Japanese for Japanese people. The right one, Fig. 3, is presented in English for American people. In the Japanese poster, only a girl is drawn as an observed person in the center. In the English poster, however, a boy as an observer and a girl as an observed object are both depicted. The boy as an observer depicted explicitly in the US

⁴ This difference can be also explained within the framework of D-mode and I-mode in Nakamura (2004; 2009). For a comparison of the corresponding sentences between Japanese and German with respect to different construals, see Ozono (2008) and Narita (2009).

⁵ https://images-na.ssl-images-amazon.com/images/I/51LRnM0VMRL. SY450 .jpg

⁶ https://img.cinematoday.jp/a/N0036658/_size_640x/_v_1320136845/main.jpg

poster does not appear in the poster for Japanese people because the poster is constructed rather subjectively through the eyes of the observer. The Japanese poster expresses experientially only what the observer's eyes are focusing on. Thus, it is confirmed that the difference in linguistic preferences as in (1) and (2) as well as (3) is transferred graphically to the posters.⁷

Kumakura (1990) pointed out that the facing directions of pictures show a cultural preference between Japan and Western countries like the US. According to Kumakura (1990), traditional tendencies of Japan and the US are as follows:

- (6) The facing direction of pictures in Japan: left
- (7) The facing direction of pictures in the US: right

Such tendencies, according to Hayashi (2017), can be confirmed in the corresponding posters for the same movies in Japan and the US, as in, for example, the posters for the movies $K\bar{o}ya$ no shichinin 'seven men in the wilderness' for Japanese people and *The Magnificent Seven* (1960) for American people.





Figure 4. Kōya no Shichinin in Japan⁸

Figure 5. Magnificent Seven (1960) in the US9

The facing directions of the seven gunmen on the posters differ between Figs. 4 and 5. Fig. 4, for the Japanese Poster, shows the men facing to the left, whereas in Fig. 5, the US poster, they face right. To examine such cultural differences, Hayashi (2017) compared posters

⁷ For a more detailed discussion, see Hayashi (2016, p. 19).

https://www.amazon.co.jp/%E8%8D%92%E9%87%8E%E3%81%AE%E4%B8%83%E4%BA%BA-%E7%89%B9%E5%88%A5%E7%B7%A8-AmazonDVD%E3%82%B3%E3%83%AC%E3%82%A F%E3%82%B7%E3%83%A7%E3%83%B3/dp/B079VZ31BQ/ref=pd_lpo_sbs_74_img_2?_encodin g=UTF8&psc=1&refRID=B9TZCEH2GSMKNB2CQVE0

 $^{^9\} https://www.amazon.co.jp/Magnificent-Seven-DVD-Yul-Brynner/dp/B000BX0VRI/ref=sr_1_1?s=dv\ d\&ie=UTF8\&qid=1533284413\&sr=1-1\&keywords=the+magnificent+seven+English$

¹⁰ The picture of the seven gunmen on Fig. 4 seems to be a mirror-reversed image of that on Fig. 5. because of the way the main character holds his gun. If so, the picture of Fig. 4 was made by reversing the picture of the original image of Fig. 5 intentionally for a Japanese audience. For a more detailed discussion, see Hayashi (2016).

between Japan and the US for movies that had been made about 50 years ago with those of recent dates with respect to facing directions of the figures. It was found that in the pictures from half a century ago, the traditional tendencies were confirmed statistically: The posters for Japan had figures facing left, whereas in those for the US, they faced right. Currently, however, the traditional tendencies have become unclear, and it is now difficult to clearly distinguish particular facing directions in pictures between both languages (Hayashi, 2017).

There then emerges a question: Do pictures observed in ordinary life also show a cultural preference in styles as languages do? For example, do facing directions of objects drawn on pictures or signs differ by language or culture? Below, you can see various corresponding pictures in Japan and Germany.

The pictures on signs sometimes have clear facing directions. For example, the green persons on traffic signals for pedestrians in Japan and Germany both face left (Figs. 6 and 7)¹¹, and signs for wheelchairs in both countries commonly face right (see Figs. 8 and 9).



Figure 6. Signals for Pedestrians in Japan¹²





Figure 7. Signals for Pedestrians in Germany¹³



Figure 8. Sign for Wheelchair in Japan¹⁴



Figure 9. Sign for Wheelchair in Germany¹⁵

¹¹ In Hong Kong, there are traffic signals for pedestrians where the green person pictures face right (photographed by the author in July 2015).



The direction of traffic in Hong Kong remained unchanged, i.e., on the left as in the UK, after the region reverted from the UK to China in 1997, although traffic in China is on the right.

¹² http://law.jablaw.org/br signal

¹³ Photographed by the author in September 2017 in Berlin.

¹⁴ http://www8.cao.go.jp/shougai/mark/mark.html

https://msp.c.yimg.jp/yjimage?q=Nagh9AAXyLG6UTYpBSCBIHx5tImeJKoH8boEMLo5OYt6eI_ Rs18OTVa5O_f36W0yO7d0BV.zXtHch_HE0UDYCZZ2qj9rbWiIha4y.lA8ljhs_FTepRvGWR_NYB otvNqkE7sTRXqO3RXqnaBmm63a&sig=13avfairh&x=224&y=225

Signs for airplane arrival and departure in Japan have a facing direction to the left like in Fig. 10, and those in Germany to the right, as in Fig. 11.

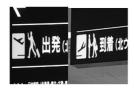


Figure 10. Signs for Arrival and Departure in Japan¹⁶



Figure 11. Signs for Arrival and Departure in Germany¹⁷

The persons on the exit signs, then, have two directions, left-facing and right-facing, as in Figs. 12 and 13, respectively. Of course, the direction depends on where the exit is. If the exit is on the left side or opens leftward, then the picture faces left, and vice versa.



Figure 12. Exit Sign in Japan



Figure 13. Exit Sign in Germany

Furthermore, here are two pictures of a bus and cars on signs:



Figure 14. Bus Terminal on Sign

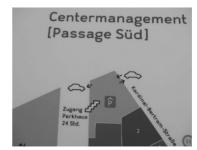


Figure 15. Parking Place on Sign

Fig. 14 is part of an information sign located in a park of Kumamoto Castle, Japan. Fig. 15 is part of the sign located in a shopping center in Hildesheim, Germany. The bus in Fig. 14 faces left, the cars in Fig. 15 right.

So, on the basis of the corresponding signs in Japan and Germany compared above, we can assume that there are cultural differences in the facing directions of pictures as tendencies:

¹⁶ http://www.tokyo-airport-bldg.co.jp/flight/

¹⁷ https://www.munich-airport.de/

(8) Signs in Japan: Pictures face to the left(9) Signs in Germany: Pictures face to the right

In fact, this assumption can be tentatively confirmed in motor companies' advertisement pictures. For example, the pictures of cars on the websites of Toyota and Benz, leading auto manufacturers in Japan and Germany, face different directions, as shown in Figs. 16 and 17, respectively.



Figure 16. Car Line-Up of Toyota¹⁸

Unsere Fahrzeuge

Alle Modelle | AMG-Modelle

Fahrzeugtyp Preis

Unsere Empfehlungen

A-Klasse Limousine ab 24.680,60 €

E-Klasse Coupé ab 46.493,30 €

B-Klasse Limousine ab 46.493,30 €

B-Klasse Limousine ab 46.493,30 €

Figure 17. Car Line-Up of Benz¹⁹

¹⁸ https://toyota.jp/ (accessed on November 4, 2017)

http://www.mercedes-benz.de/content/germany/mpc/mpc_germany_website/de/home_mpc/passengercars.html (accessed on November 4, 2017)

All the cars on the Toyota website for Japanese customers face left, whereas those on the Benz website for German customers face right.

2.3. Research Questions

So-called motorization began in Japan in the 1960s. Along with the popularization of cars at that time, traffic signs increased rapidly, and more pictures were introduced into traffic signs in Japan.²⁰ Because of universal motorization, functionally equivalent traffic signs are to be seen in various regions of the world. Pictures, however, can be influenced by the road conditions and traffic regulations of the regions. For example, motorists in Japan drive on the left (keep left), and those in Germany, on the right (keep right). Thus, the following research questions arise:

- (a) Do the figures on traffic signs commonly face the same direction because of globalization?
- (b) Do the figures on traffic signs in Japan face left, whereas those in Germany face right, according to their cultural traditions?
- (c) If the facing directions depend on the side of the road drivers use, do the traffic rules "Keep left" or "Keep right" determine the directions of the pictures in Japan and Germany?
- (d) What sorts of signs in Japan and Germany have the same facing directions in spite of the different directions of traffic?

This study was conducted to examine these questions.

3. Materials and Method

3.1. Materials

Pictures on traffic signs used in Japan and Germany were collected from the following websites (Nishijima, 2014b).²¹

Japan:

http://law.e-gov.go.jp/htmldata/S35/S35F03102010003.html

http://www.mlit.go.jp/road/sign/sign/

https://www.mlit.go.jp/road/sign/sign/douro/ichiran.pdf

Germany:

http://www.dvr.de/multimedia/downloads/verkehrszeichen.htm

²⁰ History of traffic signs in Japan: https://www.kictec.co.jp/varieties-road-sign/history.php/

²¹ If pictures on signs were not available on the following sites, ones found on the Internet will be used with a reference to the URL. Nishijima (2013a) provides elementary materials of corresponding traffic signs between Japan and Germany for comparison.

http://www.hs-fahrschulen.de/index htm files/verkehrsschilder in deutschland

https://www.adac.de/infotestrat/ratgeber-verkehr/verkehrszeichen/default.aspx

3.2. Method

Based on the websites above, traffic signs with pictures in Japan and Germany were collected. The traffic signs in Japan are divided into four types: keikai-hyōshiki 'warning signs', kiseihyōshiki 'regulatory signs', shiji-hyōshiki 'direction signs', and annai-hyōshiki 'information signs.' The total number of Japanese signs is 196. The traffic signs in Germany are divided into three types: Gefahrzeichen 'warning signs', Vorschriftzeichen 'regulatory signs', and Richtzeichen 'direction and information signs.' The total number of German signs is 180.

Traffic signs with pictures in Japan and Germany may be divided into two types:

Type 1: Signs with facing directions, such as and and



Type 2: Signs without facing directions, such as and and





In this research, Type2 signs will be excluded because they do not have facing directions that are relevant to the study. We then have 35 Japanese signs and 36 German signs. To collect functionally equivalent traffic signs with pictures of facing directions from Japan and Germany, the following two types of signs, furthermore, were excluded from the current research because in Type 3, there were no corresponding equivalent signs between the two countries, and in Type 4, the corresponding pictures had unclear facing directions.

Type 3: No equivalent signs between the two countries:







give a honk in Japan no corresponding sign in Germany

warning to bicycle traffic in Germany no equivalent sign in Japan

Type 4: Signs with unclear directions



Lane for bus priority

In addition, signs for *Follow the direction* such as and are counted as one type because of their identical function. Then, we have 14 functionally equivalent traffic signs with pictures of facing directions.

4. Results and Discussions

The 14 functionally equivalent traffic signs collected from Japan and Germany (Type 1 above) can be subdivided into two types, and each subtype can be further divided into two subgroups. The number in brackets indicates the number of types of corresponding signs in the results:

- 1-a Signs with the same facing direction [6]
 - 1-a-1 Signs with pictures facing to the left [4]
 - 1-a-2 Signs with pictures facing to the right [2]
- 1-b Signs with different facing directions [8]
 - 1-b-1 Signs with pictures facing to the right/left [2]
 - 1-b-2 Signs with pictures facing to the left/right [6]

4.1. 1-a-1) The Same Direction: Facing to the Left

Four types of signs with pictures facing to the left were found.

Level crossing



"踏切あり" fumikiri ari crossing ahead



Bahnübergang train.crossing

Closed to pedestrians



"步行者通行止め" hokōshā tsūkōdome pedestrian pass.close.NOML



Verbot für Fußgänger prohibition for pedestrian

For exclusive use











"専用" senyō exclusive.use Sonderweg special.way

Distinction of passage





pass division



Sonderweg special.way

4.2. 1-a-2) The Same Direction: Facing to the Right

Two types of signs with pictures facing to the right were found. These types are few in number. The following were found.

Slippery road



"すべりやすい suberiyasui slippery



Schleuder- oder Rutschgefahr fling- or slip.danger

Steep grade



"上り急勾配あり" noborikyūkōbai ari



up-hill.steep.grade ahead down-hill.steep.grade ahead

"下り急勾配あり" kudarikyūkōbai ari



Steigung ascent



Gefälle descent

Note: The Japanese signs for steep grades have direction arrows, which suggests that facing right is not always usual. Without right arrows, Japanese road users could interpret the signs as indicating the opposite direction, to the left.

As for the same directions, facing left is two times more than facing right, which could suggest universal human preference of cognition.

4.3. 1-b-1) Different Directions: Japanese Right, Germany Left

Japanese signs facing to the right German signs facing to the left

This type of sign depends on the direction of traffic: left-hand traffic in Japan and right-hand traffic in Germany. Six types of signs were collected.

Animal crossing



"動物が飛び出すおそれあり" dōbutsu-ga tobidasu osore ari animal-SUBJ spring.out danger ahead



Wildwechsel animal.move

Crosswind



"横風注意" yokokaze chūi side.wind caution



Seitenwind side.wind

Falling or fallen rocks



"落石のおそれあり" rakuseki no osore ari fall.stone of danger ahead



Steinschlag stone.hit

Pedestrian crossing







"横断步道" ōdanhodō crossing.walking.pass Fußgängerüberweg pedestrian.crossing

Children



"学校、幼稚園、 gakkō, yōchien, hoikusho ari school, kindergarten, nursery ahead



Kinder children

Road closure









"車両通行止め" sharyō tsūkōdome vehicle pass.close.NOML







Verbot für Fahrzeuge prohibition for vehicle.PL In Japan, the signs are principally placed on the left side of the road, and in Germany, on the right side. Thus, facing directions correspond to the direction of the driver's attention because vehicles come from the left in the near lane at crossroads in Japan and vice versa in Germany.

4.4. 1-b-2) Different Directions: Japanese Left, Germany Right

Japanese signs facing to the left German signs facing to the right

Two types of signs were collected. The first one is related to the direction of traffic.

Roadwork



"道路工事中" dōrokōjichū road.work.now



Arbeitsstelle work.place

The signs on the left and on the right are placed on the left side of the road in Japan and on the right side of the road in Germany, respectively. Roadwork is usually done on the left side of the road in Japan and on the right side of the road in Germany. Therefore, it is natural that the facing directions are opposite in Japan and Germany.

4.5. 1-b-2) Different Directions: Japanese Left, Germany Right Continued

Japanese signs facing to the left German signs facing to the right

The other type of sign is for a one-way road.

One-way road



"一方通行" ippōtsūkō one.way.pass



Einbahnstraße one.way.street

The sign in Japan on the left faces left, while the sign in Germany on the right faces right; furthermore, the string of characters $Einbahnstra\beta e$ on the sign also faces right. Both directions correspond to the tendencies of their traditional directions.

4.6. Comparison

There are six types of corresponding traffic signs whose pictures have common facing directions, of which four signs face left and two face right. In contrast, there are eight types of corresponding traffic signs whose pictures face opposite directions, six face right in Japan and left in Germany, whereas two face left in Japan and right in Germany.

From these data, it can be seen that there is little difference in the numbers of functionally equivalent signs with same facing direction (six types) and those with different directions (eight types). There are, however, some differences in the preferred direction of facing. In this study, fourteen types of traffic signs were analyzed, of which the number of types of right-facing pictures is eight in Japan and four in Germany, whereas the number of types of left-facing pictures is six in Japan and ten in Germany. Among the traffic signs in Japan, eight types of traffic signs have pictures facing right and six facing left, while four types of traffic signs have pictures facing left in Germany. This difference shows that pictures with a left facing direction are preferred in Germany. Left is opposite to the natural direction of writing in Germany, which might make sense to draw the attention of the motorists who drive on the right side of the road.

In this regard, some remarks on traffic signs in Japan can be made. Pictures "For exclusive use" ($seny\bar{u}$) face left, while the picture on the sign for "Road closure" ($shary\bar{o}$ $ts\bar{u}k\bar{o}dome$) faces right. The two types of pictures in Japan, that is, have opposite facing directions. In contrast, both corresponding types of pictures in Germany commonly face left. From these data, it can be said that the traditional natural direction of facing left in Japan is positive, i.e., "For exclusive use," whereas the opposite direction is negative, i.e., "Road closure", so that the road users in Japan can pay more attention to the signs.

Furthermore, differences in the direction of traffic, i.e., left-handed traffic in Japan and right-handed traffic in Germany, have influenced the facing directions of pictures on some traffic signs. On the corresponding signs in Japan, six types face right and one faces left, whereas in Germany, one type faces right and six face left. Except in the case of signs dependent on differences in the direction of driving, there are two types of signs with facing direction to the right and six types with facing direction to the left in Japan, whereas there are four types with facing direction to the right and four types with direction to the left in Germany. Thus, right versus left is two to six in Japan, four to four in Germany. Therefore, the tendency for left-facing signs in Japan (3 times more) is remarkable.

5. Concluding Remarks

The facing directions of the pictures on the traffic signs are largely dependent on the direction of traffic, keep left or keep right, rather than on cultural preference. However, there are some signs independent of the direction of traffic. Six types of such signs face left in Japan, four face right in Germany.

In both countries, ten types of pictures facing left are almost twice as common as six types of pictures facing right, except in the case of signs dependent on differences in the direction of driving. It could be related to universal human cognition why pictures facing left are more

common, which is, however, only speculative and not clear.

Related to our session's theme of "business communication" at the international conference of the 23rd International Association for Intercultural Communication Studies in Macao, 2017, pictures can be applied to advertisements, for example, for cars. Which facing direction of cars is preferred in Japan and Germany? If Japanese people prefer cars facing left, then cars should be presented facing left in advertisements. Such a perspective could also be analyzed in future research.

In future research, it is expected that the results of the current study can be tested against further data regarding the pictures on other signs.

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Author Note

Yoshinori Nishijima is a Professor of Sociolinguistics at Kanazawa University, Japan. He has been a visiting researcher at the University of Heidelberg and a guest professor at the University of Regensburg, Germany. His most recent publication is "A Contrastive Analysis of Functionally Equivalent Routine Formulas in Japanese and German: Towards a More Reliable Comparison of Linguistic Expressions" [in Japanese] (*The Japanese Journal of Language in Society*, 21(1), 2018).

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