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On the Formation Patterns of New Words in Japanese Sign Language*

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1. Introduction

One of the issues that deaf people are concerned about in Japan is the development of a theory and a methodology to expand the vocabulary of sign words. Since sign language is a real and effective means of social communication in the deaf community, there has to be a vocabulary large and flexible enough to accommodate information from various domains of present-day life.

In an effort to address this issue, the Japan Federation of the Deaf (hereafter JFD) organized a committee of specialists in 1979. The committee continuously published books of signs called *New Signs I-IV* (Sign Language Research Committee, 1989-2001), in which a total of 1,224 new signs were proposed as examples of creating neologisms. The main purpose of the project (still in operation) is to study how to achieve intertranslatability between sign language and spoken language.

In this paper, we will first see some of the essentials of lexical and phrasal structure in Japanese Sign Language (Section 2). We will then reveal and analyze formation patterns of new signs proposed by the Japanese Federation of the Deaf (Sections 3 and 4). Finally, we will discuss some of the problems involved in the proposed formations of newly created and freshly

revised signs (Section 5).

2. Essentials of Traditional Japanese Signs

Japanese Sign Language (hereafter JSL) contains many gestural elements that are used by hearing Japanese in nonverbal communication. Yet the role that these emblems play in JSL is extremely limited. In addition, when JSL utilizes these emblems, it combines them with other formative elements, thereby creating a complex morphology and syntax and an elaborate semantics and pragmatics.

Take MONEY for example, a circle sign made by the thumb and the index finger, which comes from an ordinary gesture. MONEY is used in many ways in JSL. [See the drawings at the end of this article.]

- (1) EXPENSIVE: MONEY is raised from down to up.
- (2) CHEAP: MONEY is lowered from up to down.
- (3) INFLATION: Right-hand MONEY and left-hand MONEY are gradually slanted up.
- (4) RICH: Right-hand MONEY and left-hand MONEY are lowered from the shoulders in half circles.
- (5) ECONOMY: Right-hand MONEY and left-hand MONEY are alternately moved circle-wise.
- (6) SALARY: Right-hand MONEY is touched on the forehead and then put on left-hand palm, which is pulled toward the chest.
- (7) TAX: Right-hand MONEY is “opened” and extended forward.
- (8) DEPARTMENT STORE: After right-hand MONEY and left-hand MONEY are alternately moved forward and backward, BUILDING is added.
- (9) BANK: Right-hand MONEY and left-hand MONEY are moved up and down simultaneously.
- (10) STINGY: Right-hand MONEY is placed between the teeth.

- (11) USE: Right-hand MONEY is placed on the left-hand palm and moves forward.
- (12) BUY: Right-hand MONEY is pushed forward and the left hand is pulled to the chest at the same time.
- (13) SELL: Right-hand MONEY is pulled to the chest and the left hand is put forward simultaneously.
- (14) WASTE: Placed on the left-hand palm, right-hand MONEY is extended forward and “opened.”
- (15) BRIBE: Right-hand MONEY is placed under the left elbow.

Although not a general Japanese gesture, HOUSE (fingertips of both hands meet together showing an imaginary roof of a house) is similarly combined with other signs to produce a sizable number of semantically diversified compound signs. This device points to a lexical structure of Japanese sign formation in which basic sign works as a creative basis. HOUSE is used in many ways to construct various signs related to the semantic domain of house and housing.

- (16) SCHOOL: The extended index finger of the right hand is flicked away in a downward motion twice (TEACH), and then HOUSE is formed.
- (17) POST OFFICE: Both hands make the symbol ㊦ of the postal services in Japan (MAIL), and then HOUSE is made.**
- (18) HOUSEHOLD ECONOMY: After HOUSE is made, two MONEY signs are formed with both hands and they move one above the other in a circular motion, one clockwise, the other counterclockwise.
- (19) CARPENTRY: After HOUSE is formed, the fist of the right hand hits down onto the fist of the left hand repeatedly.
- (20) FACTORY: The closed hands are positioned parallel to each other at chest height just in front of the body. The index and middle fingers of both hands are extended and moved back and forth alternately in a circular motion

(MACHINE). Then HOUSE moves away from the body in such a way as if depicting the long roof of a factory.

- (21) APARTMENT HOUSE: While the left hand of HOUSE is kept in the position, the right hand, with the thumb upright and palm facing the chest, moves forward in a chopping motion, representing a range of roofs of apartment houses.
- (22) NURSING HOME: After the thumb of the right hand is bent a few times (SENIOR PEOPLE), then HOUSE is added.
- (23) FIRE: While the left hand of HOUSE is kept in the position, the right hand moves up repeatedly in a half-turning motion as if showing a fire going up.
- (24) ADDRESS: After HOUSE is made, the right hand drops down straight with slightly closed fingers (PLACE/LOCATION), the left hand remaining in the previous position.
- (25) FAMILY: After HOUSE is made, the right hand, thumb and little finger extended (PEOPLE), turns in a clockwise and then a counterclockwise motion under the left palm.
- (26) HOME: After HOUSE is formed, the right hand, palm down, makes a circular motion horizontally under the left hand, indicating the inside of a house.
- (27) NEIGHBORHOOD: After HOUSE is made, the closed hands, palms down and the tips of each thumb and index finger touching, are held apart, and the right hand is moved toward the left (CLOSE).
- (28) ABSENT: The open left hand, palm facing right and a little down to represent the slope of a roof, is placed in front of the chest; the open right hand palm facing left, swings a few times under the left hand (NEGATIVE).
- (29) HOUSEWIFE: After HOUSE is made, the right hand with only little finger extended (WOMAN) is located under the left palm.
- (30) CITY/TOWN: HOUSE is made repeatedly and in quick succession sweeping across the chest from left to right.

3. Formation Principles of Revised Signs

After many years of recording and standardizing a significant number of these traditional signs in a ten-volume series of dictionaries titled *Our Signs* (Sign Language Research Committee, 1969-1986), the JFD started working on expanding JSL vocabulary. This attempt was based on the recognition that more signs were needed if sign language was to be a really important means of communication in the deaf community.

As a step forward in this direction, the JFD embarked on revising those conventional signs that they considered too outdated for contemporary social life or too complicated for everyday use. The policy that the JFD set out for the revision work had three goals:

1. To simplify manual operation
2. To organize precise, concise, and explicit signs, and
3. To make form the basis of meaning.

Remarkable examples of simplified manual operation are DEMOCRACY and LIFE. While the old DEMOCRACY sign (31) had a sequence of four independent signs of PEOPLE + EQUALITY + THINK + DISPLAY in their respective citation forms, the revised form (32) has two signs of PEOPLE + PRINCIPLE, both significantly modulated. Similarly, while the previous LIFE sign (33) used four signs of BE BORN + GROW + DIE + PERIOD, the revised form (34) shows the right hand's thumb and little finger (understood as PEOPLE) making a circle (understood as COMPLETE) in front of the body.

Distinct cases of precise semantic representation are HOME ASSIGNMENT and EXCELLENT. Whereas the previous HOME ASSIGNMENT sign (35) was composed of STUDY + SUBMIT, the new one (36) is made up by HOME + WRITE, since home assignment is essentially a writing job supposed to be done at home. Similarly, EXCELLENT (37) used to be expressed as GREAT + MAN. However, this sign could actually be interpreted as excellent man or person and only applied to excellent human characteristics. For this sign to refer to excellent things in general, it was necessary that the MAN part be eliminated, as is seen in the

revised form (38).

Good examples of making form the basis of meaning are POPULATION and CONTENT. The old POPULATION sign (39) was built by ALL/ENTIRE/FULL/COMPLETE + COUNT, while the new one (40) shows PEOPLE (used in a modulated form) assimilated into the movement component of ALL/ENTIRE/ FULL/COMPLETE. Similarly, the old CONTENT sign (41) was the same as MEANING, but the new one (42) shows the right hand's index finger making a small circle inside the area demarcated by the left hand, based on the interpretation that content means things inside a thing.

These revising principles were also applied to creating new signs, a task that the JFD undertook to produce many important contemporary signs that are used for describing the current situation surrounding the deaf community in Japan. However, these three principles are too vague and subjective for tools of analysis to evaluate the formation procedures of new signs. In order to study how new signs are formed, it is necessary to identify patterns of formation more precisely and elaborately.

4. Formation Patterns of New Signs

While we studied 330 new signs contained in *New Signs I*, a dictionary published by the JFD, we discovered eight types of sign formation methods used for the creation of new signs.

1. Combination of conventional signs in their citation forms

New signs are created by way of combining a series of conventional signs. Thus, ART (43) is made from THEATER and DRAWING. Likewise, TREATY (44) is a combination of CONDITION and PROMISE.

2. Combination of partial componential elements of conventional signs

New signs are built by combinatorial use of partial formatives comprising conventional signs. There are four different patterns in this way.

- a. Two formatives of different signs are combined to produce a new sign

POPULATION (40) uses the handshape of PEOPLE and the movement of ENTIRE, while RACE (45) utilizes the handshape of PEOPLE and the movement of WORLD.

- b. A change in the place element of a conventional sign produces a new sign SINCERITY (46) is a new sign made by TRUE and HEART. Although TRUE originally is signed at the chin, it is articulated in front of the belly when SINCERITY is intended.
- c. A change in the handshape element of a conventional sign makes a new sign
If the left handshape of FOUNDATION (47) changes to mean MONEY, a new sign FINANCIAL RESOURCES (48) is made. Likewise, if the right handshape of ADMINISTRATION/POLITICS (49) changes to denote MONEY, a new sign FINANCE (50) is created.
- d. A change in the movement element of a conventional sign is used for making a new sign
GENIUS (51) is made with raising higher the index finger than used for CLEVER (52).

3. Simulating the strokes of a Chinese character

A new sign is devised with outlining in space the strokes of a Chinese character used for a word or a phrase in Japanese. Many Japanese words and phrases are written in Chinese characters. JSL uses this tradition to invent many new signs. EVENT (53) is made by manually outlining the first of the two characters used for this word in Japanese. Similarly, (GOVERNMENT'S) BUREAU (54) is constructed by simulating in a simplified way the final two sequences of strokes of the character.

4. Borrowing from Gestuno or American Sign Language

New signs are established by borrowing from well-known international sign languages. SEX (55) is a direct loan from Gestuno. Gestuno is the International

Sign Language of the Deaf, created by the World Federation of the Deaf (WFD) in 1973 out of the most understandable signs from diverse sign languages to make the language easy to learn. (See Sign Language Commission of the World Federation of the Deaf, 1979.) PROGRAM (56) also comes from Gestuno, with the right-handshape changed to the index finger form. COMMUNICATION (57) is borrowed from American Sign Language (ASL). JUICE (58) uses ASL's manual letter of J.

5. Use of the manual alphabet

New signs utilize the manual alphabet in many ways.

Characteristic of this feature is BUSINESS SITUATION (59), where the left hand makes letter “ke”, the first one in the three-letter Japanese word (“keiki”) for this meaning, and the right hand makes the ECONOMY sign with a slight modulation. Another case is REPORT (60) where the right hand produces letter “re”, the first of the three-letter Japanese word (“repooto”), and then makes the WRITE sign. Similarly, ENERGY (61) is made by adding letter “e”, pronounced as /3/, to POWER. AIDS (62) is ILLNESS with the right handshape modulated to show letter “e”, which is the first in the spelling of Aids in Japanese (“eizu”).

6. Use of a key word

New signs are created by way of a key word used as a phrasal pivot. In Japanese, for example, word “hin” (thing) is used in a phrase more frequently than as a single word, as is seen in such idioms as “shoohin” (commodity), “henpin” (returned commodity), “buhin” (parts), “gakuyoochin” (school thing), “sakuhin” (creative work), etc. Based on this phrase making method, JSL produces many signs with the pivotal use of the thing sign that outlines three squares as written in this Chinese character. So COMMODITY (63) is COMMERCE/BUSINESS/SELLING AND BYING + THING, RETURNED COMMODITY (64) is REJECT + THING, PARTS (65) is letter BU + THING, SCHOOL THING

(66) is STUDY + NEED + THING and CREATIVE WORK (67) is CREATE + THING.

7. Symbolic representation

New signs are made by symbolic representation of a remarkable feature of an entity. NEW TRUNK LINE (super speed railway system called SHINKANSEN) (68) shows the shape of the first car of a bullet train and NTT (Nippon Telegram and Telephone Co.) (69) outlines the logo of the company.

8. Special mapping of cultural concepts

New signs, particularly those designating a cultural concept, are made on the basis of their perceived prominent features. In HUMAN FEELINGS (70), the modulated MAN AND WOMAN sign (meant for HUMAN BEINGS) formed by the right hand is placed in front of the eyes, and then it is lowered as if illustrating tears dropping from the eyes. The compound sign is based on the belief that Japanese exude tears when they hear stories full of human feelings.

Thus, newly revised and created signs are characterized by easy and simple manual operation and practicably well-matched correspondence with spoken Japanese words and phrases that form the basic concepts of those newly added signs. Simplified and facilitated manual operation enables more information to be transmitted within a shorter time span. More use of manual spellings contributes to making new signs of precise semantic differentiation. Furthermore, use of manual letters or Chinese characters as a phrasal pivot makes it possible to produce many phrasal signs of various semantic domains.

At the same time, a combination of certain aspects of two conventional signs (for example, a combination of the handshape of one sign and the movement of another) is in agreement with the fundamentals of natural sign formation. New signs made in this way are easy to use (encode and decode) and are likely to be registered in the continuously expanding vocabulary of JSL. If the use of these formative combination methods and the use of those speech-influenced methods are kept in balance, new signs will have no difficulty finding their

way into the language.

Additionally, introduction of Gestuno and ASL signs into JSL indicates that Japanese deaf people have more and more contacts with international signers. At the World Congresses of the Deaf held every four years, thousands of deaf people use their own national sign language, but they also try to adjust it in an attempt to achieve a certain degree of mutual understandability. Borrowing from lexicons of international sign languages can be a good way to expand the vocabulary resources of JSL. Actually, one third is from foreign sources in Spoken Japanese neologisms.

5. Problems of New Signs

As is shown above, JSL has discovered natural and productive methods to reform conventional signs and create new signs. However, these methods are not perfect. This fact can be pointed out in view of some different kinds of problems and difficulties observed in several new signs. The following are some examples of phrasal signs of various semantic domains.

Firstly, OLD SAYING (PROVERBS) (71) is made by the left hand giving a modulated AFFAIR (EPISODE, EVENT) (72) and the right hand making SAY. The problem is with AFFAIR, the use of which here emanates from the half homophonous relation between the pronunciations of the Japanese expressions “old saying” (kotowaza) and “affair” (kotogara). In other words, the pronunciations, rather than the meaning, of “old saying” was adopted in the making of this new sign. A semantically constructed sign could have been a modulated OLD TIMES (left hand) (73) + SAY (right hand). The trend toward homophonous harmony is conspicuous among new signs—an indication that sign language is being influenced and overwhelmed by spoken language. This situation should be appropriately controlled. An extremely homophonous sign can be semantically null.

Secondly, INTRODUCTION (BEGINNING) (74) is made up with HOUSE simulating the movement characteristic of ENTER. The combination can be justified by the fact that introduction is symbolized as entering the house of a master. This is because, in old times,

when persons were beginning to learn a certain art, trade, or subject, they used to work as apprentices of their respective masters. The problem here is that entering the house is signed as if turning down the house. Confusingly enough, there is another sign that does the opposite (that is, turns up the house) and means ESTABLISH (SET UP). So, INTRODUCTION can very likely be confused with NOT ESTABLISH, or more naturally HOUSE TURNS DOWN. Additionally, JSL assumes that going up is a good and positive thing, while going down is a bad and negative thing. With HOUSE slanting down, it is likely that INTRODUCTION is misinterpreted as something bad and negative. In an attempt to make new signs that use fewer motions for more meanings, it often happens that traditional meaningful elements are ignored and abandoned. This tendency should be appropriately curtailed in order to assure semantic continuity between conventional signs and newly created signs.

Thirdly, DIALECT (75) consists of PLACE (left hand) + SAY (right hand). Here, in apparent accordance with a rule used for the creation of new signs (a rule that says “Do not move uselessly”), PLACE is shown only once. However, if PLACE is shown twice or three times, DIALECT can mean more properly what is supposed to mean, that is local varieties of a language used in various places. It should be emphasized here that repetition is an important conceptual parameter in sign language. Careful distinction should be made between repetition as a conceptual parameter and repetition made ad hoc.

Fourthly, the confusing similarity of SINCERITY (46) and FAITHFULNESS (HONESTY) (76) should be examined. As reported in example (46) in Section 4, SINCERITY is made up with TRUE placed in front of the belly (instead of the original jaw) and HEART. HONESTY is different from SINCERITY only in that the TRUE hand placed in front of the belly moves up and then down. This small difference can be recognized at the lexical citation level, but may prove difficult to perceive in the actual conversation situation. No doubt, the reason for making two distinct signs is the eagerness to conform to the standard of lexical differentiation maintained in Spoken Japanese. The following question should again be examined more carefully. Is it necessary, desirable, and practical to have all words, or as many

words as possible of Spoken Japanese represented in the lexicon of JSL?

Finally, NATURAL RESOURCES (77) should be evaluated here. With the Japanese word for natural resources being “(tennen) shigen,” it is shaped by the left hand forming manual letter “shi” and the right hand (open, palm down) moving around a horizontal imagined circle, a sign that is so general and ambiguous that it can mean anything. However, FINANCIAL RESOURCES (48) is MONEY (left hand) + FOUNDATION (right hand). The two NATURAL RESOURCES and FINANCIAL RESOURCES signs have a conceptual and semantic feature in common. Actually, the Japanese words (“shigen” and “zaigen”) for them share a common Chinese character and thereby a common phonological feature. The point here is that NATURAL RESOURCES can be constructed after the pattern of FINANCIAL RESOURCES. In this case, NATURAL RESOURCES could be built up with the left hand showing manual letter “shi” + FOUNDATION (right hand). This method is in complete concordance with the new sign formation policy of using a key concept as a pivot (whether represented by a manual letter or a sign) in the generation of a conceptually and semantically shared group of signs. Yet, this method is not applied widely enough as is seen in the making of NATURAL RESOURCES.

As has been mentioned, the problems found in currently reformed and newly invented signs in JSL can be solved if the following suggestions are taken into consideration in an effort to expand sign vocabulary.

- 1. When spoken words are used as a frame of reference, semantic features should be utilized. Phonetic rhyming should be avoided.
- 2. When signing motions are simplified, careful distinction should be made between redundancy and repetition. While redundancy in movement can be eliminated because it is extralinguistic, repetition can be better utilized because it plays semantic and grammatical roles in sign language.
- 3. When formative elements (handshape, movement, place) are combined, careful assessment should be made of the semantic and grammatical features that are

culturally and linguistically inherent in these parameters. Placing a hand at the belly should presuppose a culturally encoded meaning, and so does moving upward or downward.

- 4. No signs should be made that are difficult to distinguish from one another.
- 5. General formation patterns should be applied systematically. A key concept should be used as a pivot in a set of collocations and colligations.

6. Conclusion

Thus far, formation patterns of new signs in JSL have mainly been examined and some of the problems involved in the actual formations of current neologisms have been discussed. The formation techniques used by word makers of the JFD have generally been found useful and effective. Where they are not, they have been found as misapplied. Correct application can rectify the situation.

In order to advance further expansion of sign vocabulary, it is necessary to see how deaf people use these neologisms. The more frequently they use these new signs in their daily conversations, the more willing they will find themselves to incorporate these new signs into their active vocabulary.

It is also important to notice that deaf people are actually creating many new signs among themselves. They forge these new signs in various domains of their everyday concerns, ranging from family and workplace to economics and politics. These signs are “unofficial” and rarely recorded. There should be many interesting rules and methods of sign coinage hidden in these grass-roots activities.

The current upsurge of a tremendous amount of “official” new signs has led many people to recognize the paramount importance of stimulating and establishing sign language studies as a discipline of scientific inquiry. It is to be hoped that an attempt to solve real-world problems will be combined with an attempt to investigate theoretical foundations of the nature of sign language.

* *An earlier version of this paper appeared in Honna and Kato (2005).*

** For a brief discussion of Japanese Sign Language structure, see Honna and Kato (1995). For sociolinguistic description of the social status of sign language and deaf culture in Japan, see Honna and Kato (2003).

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Illustrations will be added here