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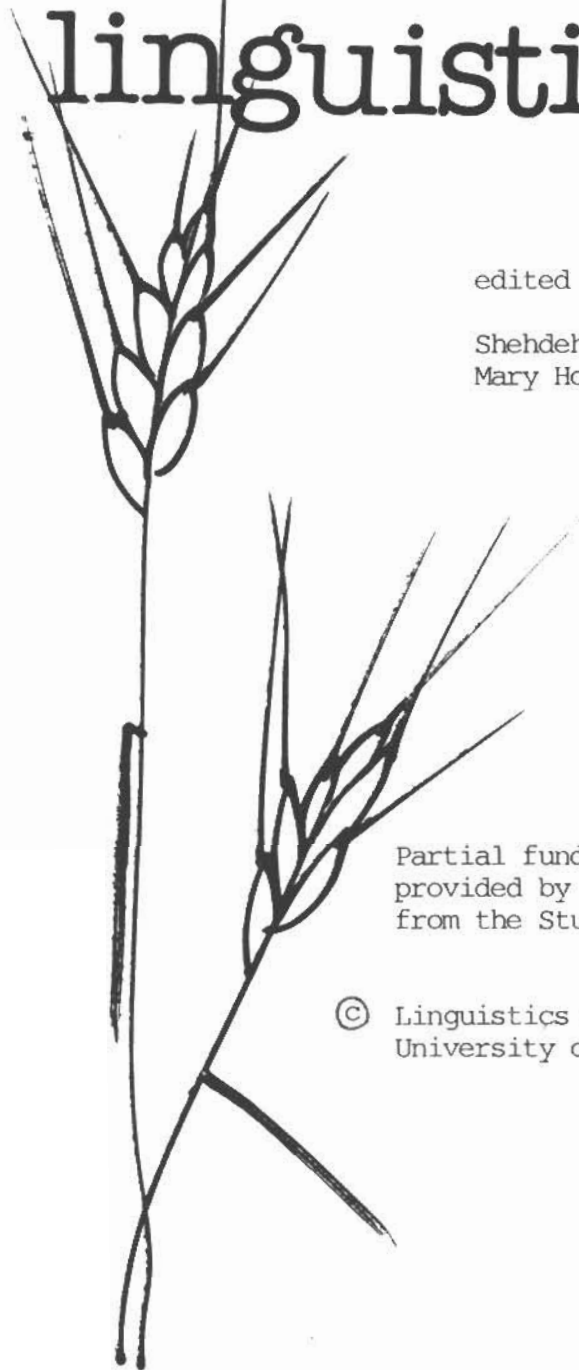
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EXPRESSIVE PHONEMES IN JAPANESE

Julie Bruch

Abstract: It was theorized that phonemes and meaning may be related in a manner that is not arbitrary. Japanese reduplicative onomatopoeia and metaphoric onomatopoeia were used for an investigation of the functioning of the phoneme as a minimal meaningful unit in language. The reduplicative words were broken down into groups according to what phonemes and CV sequences they contained and checked for recurring meaning attributes within those groups. It became apparent that there are sound-meaning correspondences and that there is a relation between the signification of a sound and its articulation. The findings point toward possible universals in phonetic symbolism.

When the relationship between sounds in language and meaning ceases to be arbitrary, and a patterned conditioning of specific meanings being linked with specific sounds results, phonetic symbolism is present. Certain sounds inherently suggest certain meanings. In Japanese a striking and regular relationship is found between phonemes and semantic sense in at least one area of the language. Revealed in the onomatopoeia and metaphoric onomatopoeia is a rich and extensive presence of phonetic symbolism which warrants careful and serious consideration.

The Nature of Japanese Onomatopoeia

The term "giongo" in Japanese corresponds to our conception of words such as "tick-tock" or "meow" which imitate abstract sounds. "Gitaigo" or what is termed here "metaphoric onomatopoeia" refers to words such as "twinkle" or "hurly-burly" which express actions or movements, emotions, or physical sensations and perceptions in the same imitative manner. Together these two types of words fill an important role in descriptive discourse in Japanese. Very often they are reduplicated and serve as adjectival or adverbial elements in a sentence. They are found in all styles and forms of the language to some degree, but are most common in informal spoken Japanese. Some of them are extracted from verbs or adjectives, e.g., uku 'to float' and uki uki 'buoyantly, cheerfully, with a light heart,' while others appear to be purely onomatopoeic: hira hira 'fluttering, flapping' or piri piri 'a stinging sensation, the feel of an electric shock, a spicy taste.'

Motivation for Using Onomatopoeia as Base

Traditionally investigations in phonetic symbolism have dealt with what speakers of a language perceive about sound and meaning, but this approach has led to criticisms of the subject as being "mentalistic" (French 1972:305) or "non-structured peripheral phenomena" (Ultan 1971: 295). Experiments were conducted wherein subjects were asked to match

foreign language words to English, to other foreign languages, or to antonyms in the same language on the basis of sound and general subjective impression (Tsuru and Fries 1933, Brown, Black and Horowitz 1955, Maltzman, Morrisett and Brooks 1956, Brackbill and Little 1957, McMurray 1960). Other experiments involved artificial language or nonsense words with meanings assigned or chosen by the subjects (Sapir 1929, Newman 1933, Bentley and Varon 1933, Birch and Erickson 1958, Davis 1961, Taylor and Taylor 1962, Tarte and Barritt 1971, Kim 1977). These experiments have revealed some interesting conclusions, but are limited to what is in people's minds rather than what actually exists in the language. Therefore, in order to support the findings of those types of investigations and broaden their scope, an examination of concrete language data is necessary. Taylor and Taylor (1965:413) posit the following distinction: "subjective phonetic symbolism (that detected by observers)" and "objective phonetic symbolism (overrepresentation of particular sounds in words of particular connotations in natural languages)." In the corpus of 864 onomatopoeic words gathered from Japanese for this study, the actual distribution of sounds and meanings was explored in accordance with the concept of "objective phonetic symbolism."

It is the nature of onomatopoeia to represent sight or sound perceptions (meanings) with linguistic sounds, so in some cases it may be redundant to label onomatopoeia as "phonetically symbolic," and its occurrence may be too simplistic to incur interest or be of significance. However, in Japanese the range of onomatopoeic words is such that they seem to be participating in the language more fully than does the onomatopoeia of English. For example, some words may occur only in the presence of a transitivizing verb (suru) making up what would be a simple verb in English: kyoro kyoro suru (literally: big goggle eyes do) 'stare' or yota yota suru 'stagger.' Onomatopoeic forms in Japanese may take an attributive suffix or particle to form an adjective: tado-tadoshi 'faltering, unsteady, tottering.' Since these words are not only onomatopoeia but also pose as syntactically functioning entities, they seemed to be an ideal subset of the language for a study of phonetic symbolism.

A Study of Japanese Phonetic Symbolism

In order to discover the nature of sound and meaning relationships in this area of Japanese and to probe whether or not any information of more general linguistic significance might be found, 864 words were collected and sorted for investigation. The words were put through two separate classification procedures: 1) all words containing a particular phoneme and 2) all words containing a particular CV sequence. This provided lists of all words containing, for example, the phoneme /p/ and all words containing /pa/. Because of the phonological structuring restrictions in Japanese and because of the written syllabary (ka か, ki き, ku く, ke け, ko こ) the CV sequence is a psychologically real unit for speakers of Japanese, and as such, the functions of the individual phonemes are affected by their environment. Thus, the CV unit, as well as single phonemes, were examined for expressive qualities or symbolism.

Method

As mentioned above, all the words were separated into groups according to the sounds they contained. Thus, there were lists of words for each of the members of the Japanese syllabary:

/ka, ki, ku, ke, ko/ /kya, kyu, kyo/
 /ga, gi, gu, ge, go/ /gya, gyu, gyo/
 /na, ni, nu, ne, no/ /nya, nyu, nyo/ and etc.

This involved 102 lists in which particular sounds were being grouped for study. Each list contained between 50 and 200 words.

As the list of words containing /ka/ was examined, any recurring meaning components were noted on a grid. The ideas of bigness, brightness, discontinuity, dryness, and hardness were repeated over and over throughout the list of /ka/ words. A similar examination and note-taking was performed on the other members of the /k/ series in order to distinguish what common meaning qualities might be present in the entire group containing /k/ and to extract any meanings that might have been influenced by the presence of the vowels. This same process was repeated for each sound and its list of words. Then the meanings found for /ka, ga, sa, ta, da, na, ha, pa, ba, ma, ya, ra, wa/ were compared to observe what meaningful qualities the /a/ was contributing, and similarly the other vowels were examined. After grouping sounds from the syllabary and noting the predominant meanings which recurred for each group, a second investigation, identical in method, was carried out on lists of words containing specific single phonemes rather than a CV sequence. Finally, the results from the two classification procedures were compared and tested against each other.

Results

Meanings did recur in conjunction with certain sounds. For example, in the box labeled "/nu/" on the grid, attributes of "slimy, sticky, smooth, wet" were listed as being predominant among words containing /nu/. In addition, a relation was found between the meanings of sounds and the articulation process used in producing them. The natural phoneme classes and symbolic meaning were connected. This is not a novel notion. Richard Paget in 1930 suggested a "gestural" origin of speech whereby "the sound of the word is frequently found to be due to postures and gestures of the organs of articulation which bear a pantomimic relation to the idea or action to which the word refers" (p. 174). Sapir (1929:69) proposed that phonetic symbolism may exist because of the influence of acoustic qualities of sounds (e.g., characteristic high or low frequencies of vowels may offer a corresponding high or low symbolic quality to a vowel) or because of kinesthetic properties (articulatory position of the tongue and size of the oral cavity). A summary of the findings of this study follows.

Meaning Attributes of Japanese Phonemes

k -- hard, stiff, discontinuous
 t -- hard, stiff, discontinuous

p -- light, small, without resistance, discontinuous
 g -- heavy, dirty, big, hard, discontinuous
 d -- heavy, dirty, big, discontinuous, long
 b -- heavy, dirty, big, discontinuous
 s -- smooth but with friction, dry, quiet, continuous
 ʃ -- friction, quiet
 z -- heavy, dirty, big, rough, friction
 h -- no resistance, airy, movement in air or liquid
 tʃ -- discontinuous
 ts -- smooth, discontinuous
 dʒ -- restless, rough, discontinuous
 n -- wet, flexible, soft, slimy, sticky, slow
 m -- big, many, soft, undesirable, slow
 w -- flexible, soft, slow
 y -- non-firm, slow
 r -- discontinuous movement, smooth, soft
 n (occurring syllable finally) -- completion, finality, hard, big,
 many, loud (ringing), discontinuous
 a -- bright, non-trivial, non-bound, big
 i -- small, fast, hard, sharp, light, intense
 u -- round, smooth, dark, big, continuous
 e -- undesirable, non-sharp
 o -- round, bouncy, big, discontinuous

Within a word, the symbolic qualities of a sound are stronger when that sound or CV sequence is word initial. Within a CV sequence, the distinct meaningful qualities of the autonomous C and V work together with the V symbolic of a motion or sensation and the C symbolic of the subject of the motion or sensation. There is, thus, no contradiction in the fact that a syllable such as /gi/ contains a consonant symbolizing largeness and heaviness together with a vowel symbolizing smallness and lightness. The word gira gira 'glitter' may be edified by recognizing that the glittering motion is small and fast (i.e., the /i/), but it is being produced by a strong big source such as the sun (i.e., the /g/). This is in contrast to kira kira 'twinkle, sparkle' (the only change is the initial /k/, in which the producer of the motion is smaller, perhaps a star.

Within a word unit, two syllables may provide contrasting symbolic qualities. For example, gowa gowa 'starchy, rough' contains /g/ symbolizing hardness and also /w/ symbolizing flexibility. For this reason, a symbolic strength hierarchy is posited in which word initial sounds are strongest or in which sounds with the highest frequency in the language may take precedence in attributive function over those occurring less frequently. Many times, however, the syllables of a word complement each other in meaning as in huwa huwa 'soft, fluffy' where /h/ and /w/ are symbolically complementary.

In addition to the above meaning attributes, the nuance of Japanese words may purposely be changed with the voicing of initial voice-

less consonants, addition of various suffix forms, word medial consonant gemination, and variations in pitch accent. All of these may be used singly or in combination to slightly change the meaning effect. The word pata pata may take numerous forms (e.g., bata bata, patari patari, pattari pattari, patan patan, battan battan) all with the same basic meaning of flapping or fluttering, but with resulting changes in the loudness, speed, heaviness, interval length, emphasis, and size of the flapping or fluttering. To summarize this phenomenon: 1) voicing adds qualities of heaviness, slowness, loudness, 2) /r/ suffix slows the action and adds interval separation and size, 3) gemination adds emphasis or intensity and distribution in time, 4) /n/ suffix adds slowness, semi-completion, largeness, and loudness, 5) final pitch accent with a glottal stop makes the action slower or discontinuous and separated or occurring at irregular intervals.

It was found that related meanings were often carried by sounds which were also phonetically related. Some examples follow.

Stops: abruptness, discontinuity, hardness

kata kata 'clatter, rattle'

dota dota 'walking roughly, knocking things down'

pika pika 'glitter, twinkle'

Fricatives: friction, quietness, distribution of movement through air

zori zori 'the feel of a two-day beard'

gosi gosi 'scrub, rub hard'

hira hira 'flutter, flap, scatter'

Semivowels: non-firmness, slowness

wasu wasu 'unsteady, continuous movement'

huwa huwa 'soft, fluffy, spongy, unsteady'

yusa yusa 'slow, heavy, swinging, swaying'

Flapped /r/: discontinuous movement (especially when it occurs in the second syllable)

hiri hiri 'tingle, smart'

pero pero 'lick up, lap'

mera mera 'go up in flames'

Back Vowels: bigness, slowness, non-sharpness

mosa mosa 'very slow, daydreaming'

buka buka 'way too large, baggy'

notari notari 'slow, big continuous waves'

Voiced Consonants: almost always bigger, heavier, and slower than unvoiced consonants

pata pata 'flitter, flutter, flap, patter, flop'

bata bata (same as for pata pata but produced by a heavier and larger source and more slowly)

The manner of articulation of these sound classes and their attributive characteristics may be related. As the speech apparatus produces stops, for example, "hardness" and "discontinuity" are involved. Likewise, parallels may be seen between the meanings found for fricatives, semivowels, and the flapped /r/ and the respective movements used in articulating them.

These meaning attributes found for Japanese showed several similarities with the findings of past studies which involved artificial language. The symbolic qualities of "smallness" for /i/, "largeness" for /a/, and "roundness" for /u/ were generally supported in other work (Sapir 1929, Newman 1933, Bentley and Varon 1933, Tarte and Barritt 1971). Voiced consonants being symbolically larger was found also in the study done by Newman.

Implications

This study may serve as motivation for other much needed studies on what actually exists in human languages in the area of sound symbolism. Since much of the sound-meaning relationship is arbitrary, it is necessary to search out languages and subsets of languages, such as the onomatopoeia of Japanese, which provide a clear platform for studies of this nature. It may be that some language universals exist, but the literature to date in this area is too sparse to make conclusions yet. Even if future findings do disprove a universality of sound and meaning relationships, they may contribute to the understanding of individual languages and culture based ways of perception.

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