

真

William J. Poser
Stanford University

[This paper appeared in: Carol Georgopolous and Roberta Ishihara (eds.) *Interdisciplinary Approaches to Language: Essays in Honor of S.-Y. Kuroda*. Dordrecht: Kluwer Academic Publishers. (1991). pp.449-458. As this volume is not widely available, I have provided this version based on my original text. The text is the same as in the published version, but details of pagination and formatting are different. In the published version the references were merged into the common bibliography at the end of the volume.]

1. Introduction

One of the several thousand Chinese characters used to write Japanese is 真, whose native reading is /ma/.¹ When given its Sino-Japanese reading this character is often glossed “truth” or “reality” (Nelson 1974;220) and something like this is indeed one of its meanings when given its native reading as well. However, when given its native reading, 真 figures most prominently in two constructions in which it is prefixed to nouns, and perhaps adverbs and adjectives.² The nature of these two processes, and in particular the meaning of these uses of 真, is the topic of this essay. I hope to show that both processes share a common semantics, namely that of selection of the prototype.

¹ For those unfamiliar with Japanese writing, it is necessary to know that Chinese characters used in Japanese generally have two classes of pronunciations, often associated with different meanings. One set of pronunciations consists of native Japanese words represented by the character. The other set, referred to as “Sino-Japanese” readings, consist of assimilated forms of words borrowed from Chinese. Since a single character is sometimes used to represent more than one Japanese word, and since Japanese has borrowed from different Chinese dialects at different times, it is possible for either class of reading to have more than one member.

² I hedge here not because there are no examples of translation-equivalents of English adjectives and adverbs formed by prefixation with 真 but because the adverbs and adjective stems to which 真 attaches are arguably nouns in Japanese. 真 does not co-occur with the adverbs derived from conjugated adjectives, and it is attached more readily to bare adjective stems than to conjugated adjectives.

2. The Derivational Uses of MA

The first of the two derivational uses of MA is illustrated by the formation of adjectives such as *makkuroi* “pitch black” from *kuroi* “black”. In this use the prefixation of MA is often accompanied by gemination of the initial obstruent of the stem. The semantics of this process is rarely precisely defined.³ Martin (1952;70-71) is typical in his reference to MA as “. . . a prefix with intensive meaning . . .”. Nelson (1974;220), who glosses MA as “just, right, due (east); pure, genuine, true” is more accurate, but such glosses fail to bring out the underlying generalization.

It is clearly insufficient to say merely that MA is an “intensive”, for there are many interpretations of such a term that are inappropriate in this case. For example, it is impossible to prefix MA to /taka/ “high,tall” to obtain a form *ma(t)taka* meaning “very tall”. The same is true of /ooki/ “big”, /mizika/ “short”, and a great many other adjectives. There is something special about the adjectives to which it is possible to prefix MA, and the range of morphological and phonological types to which it is possible to prefix MA suggests that the relevant restriction is semantic in character.

I give here a sizable though by no means exhaustive collection of examples.⁴

(1) Examples of MA

| Base | Gloss | Derivative | Gloss |
|--------|-------|------------|-------------|
| aka | red | makka | deep red |
| ao | blue | massao | deep blue |
| kuro | black | makkuro | pitch black |
| siro | white | massiro | snow white |
| higasi | east | mahigasi | due east |

³ A more precise definition is given by Kindaiti et al. (1981), discussion of which I postpone to the latter part of this paper.

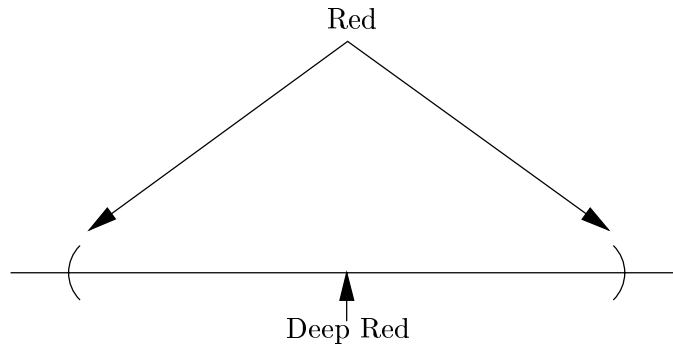
⁴ The form *makka* is irregular; the expected form is **maaka*. The form *massao* reflects the fact that *ao* is one of several Japanese words that sometimes surfaces with an initial /s/ in combination. Cf. *ame* “rain” but *haru-same* “spring rain”. Martin(1952;71) lists *mattaku* “perfectly, completely” as a derivative formed with MA, but it is unclear what it might be a derivative of. There is no stem /taku/ with an appropriate meaning (the available candidates are “house”, “table”, and “handbell”, none of which seems promising), and for what it is worth, whereas all of the clear cases are written with the character MA, the /ma/ of *mattaku* is not.

| | | | |
|----------|---------------|------------|--------------------|
| kita | north | makita | due north |
| minami | south | maminami | due south |
| nisi | west | manisi | due west |
| fuyu | winter | mafuyu | dead of winter |
| natu | summer | manatu | midsummer |
| hiru | noon | mahiru | high noon |
| hiruma | noon | mappiruma | high noon |
| yonaka | midnight | mayonaka | dead of night |
| mae | front | maNmae | right in front |
| sita | below | masita | right below |
| sugu | at once | massugu | straight ahead |
| syoomeN | front | massyoomeN | straight ahead |
| ue | top | maue | right on top |
| ura | back | maura | right in back |
| usiro | back, rear | mausiro | right behind |
| yoko | side, flank | mayoko | just beside, abeam |
| itimonzi | straight line | maitimonzi | straight |
| naka | center | maNnaka | dead center |
| maru | circle | maNmaru | a perfect circle |
| sikaku | rectangle | massikaku | a perfect square |
| mukai | opposite | mamukai | directly opposite |
| mukoo | opposite | mamukoo | directly opposite |
| atarasii | new | maatarasii | brand new |
| futatu | two | mapputatu | exactly half |

| | | | |
|----------|-------------|-------------|-----------------------|
| hadaka | naked | mappadaka | stark naked |
| kura | darkness | makkura | pitch dark |
| saityuu | amidst | massaityuu | in the very midst of |
| sakari | zenith | massakari | in full bloom |
| sakasama | upside-down | massakasama | straight upside-down |
| saki | tip | massaki | foremost |
| syooziki | honesty | massyooziki | downright honest |
| tadanaka | among | mattadanaka | right in the midst of |
| taira | level | mattaira | perfectly level |

What is immediately striking about many of these examples is that the base form denotes an interval, the center of which is picked out by the derivative in MA. For example, we may think of “red” as denoting an interval on the color spectrum, the boundaries of which are vaguely and situationally defined, whose center is denoted by “deep red”.⁵

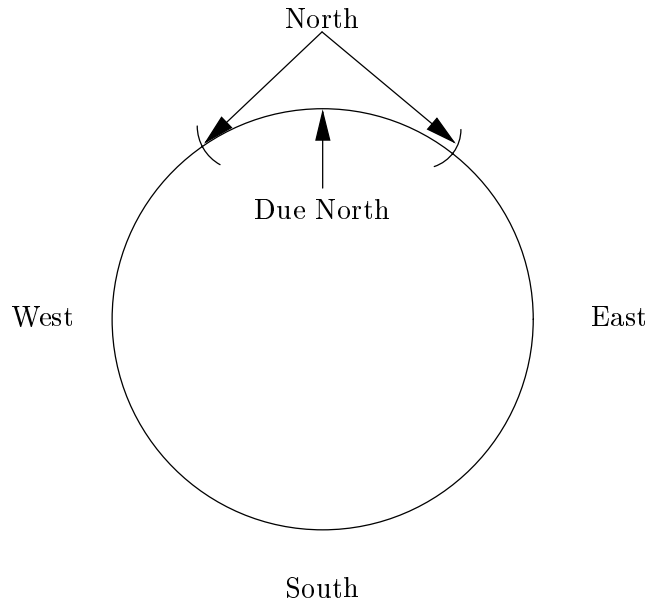
(2) Red



The same analysis is available for many other cases where the interval is not an interval on a line but an interval on a circle. For example, if we represent the cardinal directions on a circle as below, the denotation of “North” is an interval at the top of the circle. ‘due North” is the center of this interval. The same can be said of the seasons, the times of day, and of such positional terms as “in front”, “behind”, “above” and so forth.

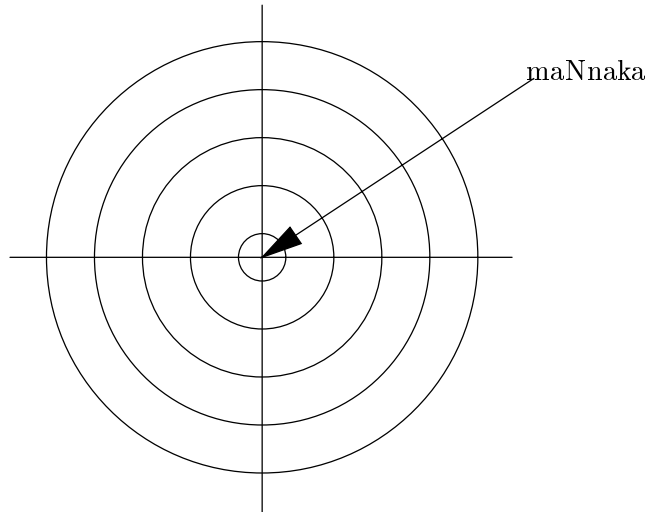
(3) The Points of the Compass

⁵ That is, it is the center of an interval along the frequency spectrum. In terms of saturation, “deep red” is presumably at the extreme.



In all of the cases discussed so far, the interval whose center the MA-word denotes is single dimensional. It is possible, however, for the interval to be multi-dimensional. Consider, for example, the form *maNnaka* “the very center”. This can refer to the middle of a line segment, but it can equally well refer to the center of a circle, as illustrated below, the center of a sphere, and in principle the center of a higher-dimensional object.

(4) The Very Center



This requires us to generalize our definition of MA; MA restricts the denotation of the base form to the center of the ball (in the sense of topology).

Although this hypothesis works well in many cases, it fails to accommodate a number of examples. Consider, for example, *mappadaka* “stark naked”. There is no plausible analysis on which there is a continuum of states of nakedness whose center is complete nakedness. Rather, any state other than stark nakedness requires that the subject wear some clothing, and as one becomes more naked, by removing clothing, one more closely approaches the state of absolute nakedness. In other words, in this case the absolute point denoted by the MA-word is not in the center of the ball but is at one edge. The same holds true of *massyooziki* “downright honest”, where this state is at one extreme of a continuum between absolute honesty and extreme dishonesty, and of *makkura* “pitch dark”, which lies at one extreme of the continuum between absolute darkness and bright light. Such examples as these demonstrate that it is not necessary that the stem denote a ball the center of which is picked out by the prefixation of MA.

What unifies all of the cases discussed thus far is that there is a canonical point that represents the absolute state. In some cases this is the center of a ball, in other cases it lies at one edge. I suggest that what prefixation with MA does is to restrict the denotation of the base form to this canonical point, which, to use the terminology of Rosch (1975), I will refer to as the *cognitive reference point*.

What, then, prevents the prefixation of MA to adjectives like *taka* “tall”? Suppose we follow the tradition in semantics (Kamp 1975, Klein 1980) that defines such adjectives in inherently relational terms, where *tall*(*x*) is taken to mean *height*(*x*) > *c* where *c* is a contextually determined reference value for height. This reference value we may take to be the cognitive reference point for “tall”. What distinguishes “tall” both from adjectives like “red” and adjectives like “naked” is that its reference point necessarily lies outside its extension. Prefixation of MA is therefore impossible since, by virtue of the fact that MA restricts the denotation to the reference point, it would lead to a contradiction.

Although this proposal for the semantics of MA explains the ill-formedness of some potential MA-derivatives, it fails to account for the ill-formedness of others. For example, by the logic that we have thus far followed, we ought to be able to prefix MA to the secondary compass points, since these too are analysable as neighborhoods of a reference point, which the prefixation of MA would pick out. But these forms are in fact unacceptable.

(5) Secondary Compass Points

| Base | Gloss | Derivative | Gloss |
|--------|-----------|--------------|---------------|
| toonan | Southeast | *ma(t)toonan | due Southeast |

| | | | |
|---------|-----------|---------------|---------------|
| seinan | Southwest | *ma(s)seinan | due Southwest |
| toohoku | Northeast | *ma(t)toohoku | due Northeast |
| seihoku | Northwest | *ma(s)seihoku | due Northwest |

The same is true of non-basic color terms (in the sense of Berlin & Kay 1969). From *nezumi-iro* “grey” (literally “mouse-colored”) we cannot derive **ma(N)nezumi-iro* “true grey”, nor from *murasaki-iro* “purple” can we derive **ma(N)murasaki* “deep purple”. Similarly, there are no MA-derivatives based on stems containing negative prefixes. All of the well-formed derivatives in MA are basic in that they lack compositional morphological structure and in other respects make use of basic levels of analysis. This suggests that we might invoke the notion of *basic-level category* put forward by Rosch et al. (1976). As the survey in Lakoff (1987) indicates, this notion has been found to play a role not only in psychological experiments of the sort performed by Rosch but in folk biological taxonomy (e.g. Hunn 1977). Although I cannot offer a rigorous defense of the characterization of the forms to which MA may be attached as basic, I suggest that MA attaches only to terms that denote basic-level categories.

To summarize this first part of my analysis, I propose that MA restricts the denotation to the cognitive reference point, and that the prefixation of MA is impossible in those cases in which the reference point is external to the extension, as well as in those cases in which the category is not basic-level.

The second derivational use of MA is much more straightforward to characterize. In this case, MA is prefixed to terms that denote a class and MA picks out the most typical member of the class. In most cases the class refers to a living being. Indeed, the most common examples seem to be marine organisms.⁶

(6) Marine Organisms

| Base | Gloss | Derivative | Gloss |
|--------|------------------------|------------|---|
| azi | horse mackerel | maazi | the horse mackerel <i>Trachurus trachurus</i> |
| bora | mullet | mabora | the common mullet |
| haze | goby | mahaze | the goby <i>Acanthogobius flavimanus</i> |
| iruka | dolphin | mairuka | the common dolphin |
| kaziki | swordfish or spearfish | makaziki | the common spearfish |
| karei | flatfish | magarei | the right-eyed flounder |
| koi | carp | magoi | the black carp |

⁶ Why marine organisms predominate is unclear. It may be due to their great importance in the Japanese diet.

| | | | |
|------|------------------------------------|--------|--|
| koti | flathead | magoti | the common flathead |
| tai | sea bream (class <i>Sparidae</i>) | madai | the red sea bream <i>Chrysophrys major</i> |
| tako | octopus | madako | the common octopus <i>Octopus vulgaris</i> |
| tara | cod | madara | the Pacific cod |

In each case, the basic form denotes a class consisting of a number of species or varieties, and prefixation of MA restricts the denotation to a single typical species or variety, that is, to the prototype of the class.

In addition to such examples with marine organisms, there are occasional examples involving other types of organism, such as the following.

(7) Miscellaneous Examples

| Base | Gloss | Derivative | Gloss |
|------|-----------|------------|---|
| hiwa | siskin | mahiwa | a siskin |
| kamo | wild duck | magamo | the mallard duck |
| take | bamboo | madake | the bamboo <i>phyllostachys bambusoides</i> |

This second use of MA is, on the analysis given, virtually identical to the first. Picking out the prototype is the same operation as restricting the denotation to the cognitive reference point, for the prototype of a class of organisms is nothing other than its cognitive reference point. Although the domains may be different, the semantic operation performed by the prefixation of MA in the two cases is the same.

This observation leads directly to the question of whether the two uses of MA under discussion represent one morpheme or two. There are two apparent differences between them which might lead us to conclude that two distinct morphemes are involved. The first is the fact already noted that the domains of the two uses of MA are different, in that in one case MA attaches to terms denoting living beings, while in the other case it attaches to a variety of other words. This apparent difference might well be artifactual, if the semantic operation performed on adding MA is the same in both cases. That is, if MA can be added subject only to the condition that the stem denote a basic-level category and the condition that the output be semantically consistent, the perception that there are two distinct uses will result simply from our naive analysis of the forms.

What is more problematic for a unified approach is the fact that the two uses are associated with different morphophonemics. The first use sporadically triggers gemination of the initial obstruent of the stem, while the second use never triggers

gemination. Instead, with few exceptions it triggers the rule known in Japanese as *rendaku*, whereby the initial obstruent of the second member of a compound becomes voiced. The gemination observed in the first usage of MA is sufficiently irregular that it is questionable whether this behaviour should be accounted for in the underlying phonological representation of the morpheme, but we must still account for the fact that the second usage of MA is never associated with gemination, but is usually associated with *rendaku*.

In a theory that makes use of morphological levels, such as the theory of Lexical Phonology, it is possible to account for the two different morphophonemic behaviours by supposing the affixation of MA to take place at two different levels in the morphology. When it is attached at the level at which compounding takes place, *rendaku* will apply, as it does also in such compounds as *magokoro* “sincerity” and *magao* “a serious look”, which fall outside the two systematic uses of MA. When it is attached at another level, there will be no *rendaku*. If we can explain why MA attaches to the names of organisms at one level and to other terms at another level, which at present I am unable to do, then we may be able to treat the two uses of MA as instances of a single morpheme. Otherwise, we must posit two distinct morphemes MA, albeit closely related.

I observed above that most references to MA give only a vague definition. There is at least one exception to this, namely the definition given by Kindaiti et al. (1981;1085), who define MA as follows:⁷

- (1) an honest attitude, e.g., in the expression *zyoodan o MA ni ukeru* [“to take a joke seriously”, literally “to take a joke as MA”], that is, “to treat as the truth”, as in *magao* [“a serious look”, a compound of MA with *kao* “face”], *maningen* [“an honest person”, a compound of MA with *ningen* “human being”].
- (2a) pure and unsoiled, e.g. *magokoro* [“sincerity”, a compound of MA with *kokoro* “spirit”]
- (2b) pure and unmixed with any other element, e.g. *makita* [“due north”], *maatarasii* [“brand new”], *mamizu* [“fresh water”].
- (2c) The most typical of a certain type (of living thing), e.g. *maazi* [“the horse mackerel *Trachurus trachurus*”], *magamo* [“the mallard duck”].

⁷ The translation given here is my own. I have added translations of examples in square brackets. Explanations are given for those items not discussed elsewhere in the text.

The cases of interest to us are (2b) and (2c). The latter is right on the mark, and indeed is essentially the same as that offered here, but the definition in (2b) “pure, unmixed with any other element”, differs from my own. I prefer the definition put forward here for two reasons. First, it permits us to see the close relationship between the two uses of MA, which Kindaiti et al.’s definition obscures. Secondly, Kindaiti et al.’s definition is less precise in that we must, in order to understand examples such as *makita* “due North”, appeal to an excessively vague notion of purity. For example, if we are to explicate the well-formedness of *makita* we must say something to the effect that “due North” is “North” with no admixture of either “East” or “West”. But exactly what properties are relevant? We might take the position that the MA-predicate is satisfied if the entity of which the MA-word is predicated can satisfy no other predicate, but this is absurd.⁸ But if some other predicates may also be true, which are they? The definition provides us with no help in discovering which ones they may be. I conclude that the definition offered here, in terms of restriction to the cognitive reference point, is superior to that offered by Kindaiti et al.

One further point requires elucidation. I have thus far characterized MA as restricting the denotation to the reference point, as a result of which we might think that MA-words would denote points. For example, we would expect *mahiru* “high noon” to denote the very moment of 12:00 o’clock, and *manatu* “midsummer” to denote the very moment of midsummer. But this is not the case. *manatu*, for example, denotes an interval about the moment of midsummer which, depending upon the context, may have a radius of as much as a week. Even when MA has been added, there is some leeway as to exactly how close to the reference point the subject must be in order for the predicate to be satisfied. We might try to solve this problem by making MA vague, supposing that it means “within some contextually determined distance of the reference point”, but this leaves the distance ill-defined and fails to explain why this distance is never greater than that required by inherent comparatives such as “tall”. If it were, we ought to be able to derive such forms as *ma(t)taka* from *taka* “tall”, with meanings like “tall, but not very tall”. I suggest that we need not modify the proposed semantics of MA in any way. Rather, I suggest that in any given context a scale is chosen with a certain resolution, and that once this quantization of the dimension of interest is given, MA is interpreted as restricting the denotation to a distance of 0 from the reference point, measured

⁸ If the absurdity of this proposal is not immediately apparent, consider that it would mean that we could not say that “That box is pitch black.” (in Japanese, *Sono hako wa makkuroi.*) because we can also say, at the same time and of the same box, “That box is big” (in Japanese, *Sono hako wa ookii.*).

on the given scale. This guarantees that the vagueness of MA will be well-defined once the resolution of the scale is determined, and it guarantees that MA-derivatives of inherent comparatives will never be non-contradictory.

3. Conclusion

If the analysis of the semantics of MA put forward here is correct, MA provides an extraordinarily direct reflection of the role of cognitive reference points and basic-level categories in linguistic semantics. Although there is considerable evidence of a variety of kinds for such notions, few if any of the phenomena previously explained in terms of these notions make use of them so directly.

MA is interesting and unusual in that it refers directly to the reference point and is restricted to basic-level categories. Moreover, in distinguishing between forms whose reference point lies within the extension, that is, those that have prototypes, and those whose reference point lies outside the extension, it militates against a strong version of prototype semantics, while supporting a weaker version in which some but not all words have prototypes.

References

- Abe, T.: 1978, *Gensyoku Gyorui Kensaku Zukan*, (Full Color Illustrated Guide to Fish) Hokuryukan, Tokyo.
- Berlin, B. & P. Kay: 1969, *Basic Color Terms*, University of California Press, Berkeley.
- Coleman, L. & P. Kay: 1981, "Prototype Semantics and the English Word *Lie*," *Language* 57,26-44.
- Hunn, E. S.: 1977, *Tzeltal Folk Zoology: The Classification of Discontinuities in Nature*, Academic Press, New York.
- Kamp, H.: 1975, "Two Theories of Adjectives," in E. L. Keenan (ed.), *Formal Semantics of Natural Language*, Cambridge University Press, Cambridge.
- Kay, P. & C. K. McDaniel: 1978, "The Linguistic Significance of the Meanings of Basic Color Terms," *Language* 54,610-646.
- Kindaiti, K., H. Kenboo, H. Kindaiti, T. Sibata & T. Yamada: 1981, *Sin Meikai Kokugo Ziten*, (New Explanatory Japanese Dictionary) Sanseido, Tokyo, (3d edition).

- Klein, E.: 1980, “A Semantics for Positive and Comparative Adjectives,” *Linguistics and Philosophy* 4,1-45.
- Lakoff, G.: 1987, *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*, The University of Chicago Press, Chicago.
- Martin, S. (1952) *Morphophonemics of Standard Colloquial Japanese*, (Language Dissertation No. 47) Linguistic Society of America, Baltimore.
- Nelson, A. N.: 1974, *The Modern Reader’s Japanese-English Character Dictionary*, Charles E. Tuttle Company, Rutland, Vermont.
- Rosch, E.: 1975, “Cognitive Reference Points,” *Cognitive Psychology* 7,532-547.
- Rosch, E. & C. B. Mervis: 1975, “Family Resemblances: Studies in the Internal Structure of Categories,” *Cognitive Psychology* 7,573-605.
- Rosch, Eleanor, Mervis, Carolyn B., Gray, Wayne D., Johnson, David M., and Penny Boyes-Braem (1976) “Basic Objects in Natural Categories,” *Cognitive Psychology* 8,382-439.