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# The IN / ON Continuum and Three Japanese Verbs<sup>\*</sup>

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## 1. Introduction

One of the basic facts of living in a three-dimensional world is that entities exist in some location, and humans often find it useful to talk about the location of these entities.<sup>1</sup> This fixing of a location in space necessarily involves considering the relation between two or more entities. The location of anything would be impossible to describe without referring to some second entity. Even when we merely say that something is ‘here’, the location of the object is encoded as being near another entity (in this case, the speaker.)

However, there is great crosslinguistic variability in which relations are treated as relevant or important in different languages. Different languages refer to different types or categories of spatial relations in their morpholexical resources (such as prepositions, as in English, or relator nouns, as in Mandarin, or case endings, as in Finnish). What's more, some languages appear to be representing completely different types of information in their terms for spatial relations. For example, it is difficult to compare English *in* and *on*, which are based on concepts such as containment and support, with Korean terms covering similar spatial relationships, which fundamentally refer to loose and tight fit (Bowerman and Choi 2001, Choi and Bowerman 1991), and neither of these seems comparable

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<sup>\*</sup> I would like to thank Eric Pederson, two anonymous reviewers, and my language consultants, for assistance with this paper. Any remaining errors are, of course, my own.

<sup>1</sup> This paper is a revision of data and analysis originally presented in my dissertation (Benom 2007).

with spatial relations as described in Cora by Casad (1988), which are motivated by mountain topography, referring to concave/convex, for example, or facing/occluded slopes, and these are all distinct from the Chalcatongo Mixtec system of deriving spatial terms from terms for body parts (Brugman and Macaulay 1986).

Given this situation, the fact that Bowerman and Pederson (1992, ms; see also Bowerman 1996, Bowerman and Choi 2001, Feist 2000, Feist and Genter 1998, 2001, 2003, Levinson et al. 2003) discovered a cross-linguistic cline between the situations described by languages' terms for containment ("IN") and their terms for support ("ON"), seems remarkable.<sup>2</sup> Bowerman and Pederson presented a set of drawings of spatial relations to speakers of more than forty<sup>3</sup> languages and elicited their descriptions. From the ON extreme, that of the Figure<sup>4</sup> being supported from below by the Ground, to the IN extreme, that of the Figure being completely included within the Ground, languages categorize these spatial configurations in different ways.

Where each language divided IN and ON varied, with some languages, such as Dutch, making more than two distinctions (with *op*, *aan*, and *in*), and others, such as Spanish, having a single term (*en*) that covered the entire continuum. Still other patterns were seen in as well, with Berber having two terms (*di* and *x*) that overlap, rather than having a clean boundary between them.

They then charted which situations were grouped in each language and found that there is a continuum between the extremes of complete containment and support from below, and that languages tend very strongly to use a given term for contiguous spatial relations scenes, but not to skip scenes. Despite all the variation, what is significant is the fact that no language defies the continuum by grouping

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<sup>2</sup> In Bowerman and Pederson (1992, ms) and elsewhere in the literature on spatial relations, lowercase, italicized words (for example, English *in*) are used to represent the concept (in this case, of in-ness) in English, i.e. the limit of situations described in English by the lexeme *in*. When the word is in all capitals (such as IN), it is used to represent in-ness (in this case) that is not specific to English, but pertinent to the language in question or referring to the general sense of containment (again, in this case), which may be categorized differently in different languages.


<sup>3</sup> Results based on thirty-four languages were reported in 1992, but they have now extended their research to cover nearly fifty languages, and the continuum is still intact (Pederson p.c.).

<sup>4</sup> I use the terms *Figure*, *Ground*, *Path*, and *Manner* as in Talmy (2000).

discontinuous situations. In other words, not a single language in the study grouped discontinuous relations by expressing them with a single form, but used a distinct form to express an intermediate relation. The continuum is given below:

**Table 1 – The IN/ON continuum**


(adapted from Bowerman and Pederson 1992, ms.)

	<b>Spatial Relation</b>	<b>Example</b>
	a) support from below	cup on table
	b) marks on a surface	cancellation on postage stamp
	c) clingy attachment	spider on ceiling
	d) hanging over/ against	picture hanging on wall
	e) fixed attachment	doorknob on door
	f) point-to-point attachment	apple on branch
	g) encircle with contact	ribbon around (on) candle
	h) impaled/ spitted on	apple on stick
	i) pierces through	stick in apple
	j) partial inclusion	flowers in vase
	k) inclusion	apple in bowl

Based on Table 1, one can predict that, for instance, if a language's term coding situations of a Figure impaled on a Ground (relation (h) in Table 1) is the same as its term coding support from below (relation (a) in Table 1), that this term will be used for every intermediate situation on the continuum, without skipping a relation and without the IN term being applicable to any intermediate relation (in this case, (b-g) in Table 1). The patterns found in English, Dutch, Spanish, Berber, and Japanese are presented below in Table 2.

**Table 2 – Five languages and the IN/ON continuum**

(based on Bowerman and Pederson 1992, ms)

	<b>Spatial Relation</b>	<b>English</b>	<b>Dutch</b>	<b>Spanish</b>	<b>Berber</b>	<b>Japanese</b>
	a) support from below	on	op	en	x	ue
	b) marks on a surface	on	op	en	x	
	c) clingy attachment	on	op	en	di / x	
	d) hanging over/ against	on	aan	en	di / x	
	e) fixed attachment	on	aan	en	di	
	f) point-to-point attachment	on	aan	en	di	
	g) encircling with contact	on	aan/om	en	di	
	h) impaled/ spitted on	on	aan	en	di	
	i) pierces through	in	aan	en	di	
	j) partial inclusion	in	in	en	di	naka
<b>IN</b>	k) inclusion	in	in	en	di	naka

However, for some languages in their study, including Japanese, Korean, Tzotzil, Tagalog, and Zulu, the IN/ON continuum appears not to be very relevant. As seen in Table 2, Japanese has forms expressing inclusion (the relator noun *naka*, which also can express partial inclusion) and support (the relator noun *ue*), but these forms do not cover any of the intermediate relations on the continuum. Instead, it appears that Japanese relies on the use of pragmatic inference to express these relations. The fact that Japanese links inclusion and partial inclusion is hardly evidence that the IN/ON continuum is deeply relevant, since functional considerations naturally link the two spatial situations (e.g. flowers and cigarettes

require partial inclusion in water and mouths, respectively, for functional reasons, whereas soup and wine require complete inclusion in pots and glasses, also for functional reasons.) Therefore, while it is possible to plot the Japanese forms on the continuum without defying it, the question arises of to what extent the continuum is truly relevant in languages such as Japanese.<sup>5</sup>

Is this a continuum that lies in our cognitive systems that different languages simply divide up differently? It seems to be something more powerful than linguistic arbitrariness governing the establishment of categories, but to what extent is it universal? Does it apply in some languages, but in others, it is simply irrelevant? Or might it be universally germane, as long as one knows where to look?

If it is a tendency that is attested in many languages, it is certainly important, but if it is a universal gradient, whether by virtue of the facts of human spatial cognition or for some other reason, it is that much more significant. While it is beyond the scope of this paper to attempt to definitively answer this question (see Brala 2007 for discussion of the universality of the continuum), it is relevant to look more deeply at Japanese to see if it reflects the continuum in a more significant way, or ignores it, or contains semantic elements which run counter to the continuum.

This paper will examine whether the IN/ON continuum is truly relevant in Japanese by looking at the three verbs *tooru*, *nukeru*, and *toorinukeru* (all translational equivalents of English (*go*) *through*). It has previously been shown that English *through* respects the IN/ON continuum, following the same pattern as *in* (Benom 2007). In Japanese, spatial relations may be expressed in the verb, and these verbs express information about containment, similar to that of English *through*.<sup>6</sup> Therefore, these verbs are logical candidates for encoding information about the spatial relations defined by the continuum.

To be clear, a close relationship between *through* and *in* exists. Specifically, *through* can be used to refer to a Figure moving within and exiting from precisely

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<sup>5</sup> Additionally, another issue surrounding Table 2 is this: Japanese *ue* is not, strictly speaking, completely parallel to English *on*, for example, in that it is essentially always used with a further locative marker (*ni* or *de*).

<sup>6</sup> Other verbs, such as *iru* ('be in/at a location') were excluded from consideration because of the general nature of the spatial relationship they specify.

the same range of spatial relationships described by *in* (Benom 2007).

The remainder of this paper is structured as follows: section 2 will test each of the three verbs to see how they behave with respect to the IN/ON continuum, and this will be followed by a discussion in section 3 before section 4 concludes the paper.

## 2. Japanese and the IN/ON continuum<sup>7</sup>

The single most common translation of *through* in English-Japanese dictionaries is *toorinukeru*, a compound verb made of the verbs *tooru*, having meanings<sup>8</sup> such as “pass or go through, pass by, walk along, work or have an effect (said of an excuse), have (utilities) connected, pass or take (a test)” and *nukeru*, having meanings that include “come out, go through (e.g. an alley), be left out, be gone, be missing, get rid of (e.g. a bad habit), recover (e.g. from fatigue)”<sup>9</sup> Note that it may seem odd to translate an English preposition with a Japanese verb, but due to the fact that English verbs typically express Manner, whereas Japanese verbs typically express Path (e.g. Allen et al 2007, Ohara 2002, Talmy 2000), the most essential (and most easily translatable) information is being translated in this way. Because various uses of *through* may be translated with any of these three verbs, I will examine all of them here, based on the analysis described in Benom (2007; for further analysis of the three verbs, see also Benom 2009, Kageyama 1980, Morita 1989, and Sumi 2000, 2001). It is important to study all three verbs not only because they can all be used to translate *through*, and therefore serve the ultimate goal of a full contrastive analysis, but also because we cannot be certain precisely where in Japanese we might find effects of or adherence to the IN/ON continuum. As these verbs all express spatial relationships, it seems prudent to include all of them in this analysis.

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<sup>7</sup> The Japanese data presented here were either elicited or checked by working with seven native speakers.

<sup>8</sup> These definitions are my own.

<sup>9</sup> Due to the morphophonological rules of modern Japanese, the combination of *tooru* and *nukeru* is realized as [*toori-nukeru*]. As in many languages, the semantic constraints associated with compound verbs in Japanese are not well understood (see e.g. Shibatani 1990:245, Tsujimura 2007:169), but in Japanese this is a regular process in which both verbs contribute meaning to the compound.

This study began as a contrastive analysis of English *through* and the three Japanese verbs. *Through* was shown to respect the IN/ON continuum, and therefore the question of whether the three verbs similarly did so was investigated. If Japanese *toorinukeru*, *tooru*, and *nukeru* are truly expressing something similar to English (*go through*), one would expect that the IN/ON continuum would be relevant, defining the limits of a Ground for which a Figure can ‘go through’ (*tooru/ nukeru/ toorinukeru*), as it does in English. If the continuum is seen to apply, it will be evidence for its multi-faceted applicability. If it is contradicted, however, we will have evidence against the presumed universality of the continuum.

### 2.1. *Tooru* and the IN/ON continuum

Here, I will ask the question of whether the IN/ON continuum is relevant to *tooru*. Presenting speakers with descriptions of scenes of total and partial inclusion, as well as piercing through, there was unanimous agreement that *tooru* could be used. These descriptions are shown below.

Total inclusion:

- 1) *omise no naka wo to--tte ki-ta*  
 store GEN inside OBJ *tooru*-NF come-PAST  
 ‘(I) came through the store’

Partial inclusion:

- 2) *kodomo you puuru wo toot-te arui-te ki-ta*  
 child type pool OBJ *tooru*-NF walk-NF come-PAST  
 ‘(I) came (by) walking through the kiddy pool.’

Piercing through:

- 3) *boo ga ringo wo toot-te-iru*  
 stick SUB apple OBJ *tooru*-NF-IMP  
 ‘The stick is in/ piercing through the apple.’

With a Figure impaled on a Ground, however, all speakers rejected the following use of *tooru*.



Impaled by:

- 4) \**ringo ga boo wo toot-te-iru*  
apple SUB stick OBJ tooru-NF-IMP  
(Trying to say ‘The apple was impaled by the pen.’)

For situations in which the Figure encircles the Ground, *tooru* was also soundly rejected:

Encircling:

- 5) \**ribon ga boo wo toot-te-iru*  
ribbon SUB stick OBJ tooru-NF-IMP  
(Trying to say ‘The ribbon was encircling the stick’)

All other attempts to elicit or create uses of *tooru* with other scenes located on the IN/ON continuum were unsuccessful, until I gave the consultants the example below, attempting to create a sentence from the opposing side of the IN/ON continuum (expressing support from below).

- 6) %*yama wo toot-te ki-ta*  
mountain OBJ tooru-NF come-PAST  
‘I came through/over the mountain.’

In this case, the consultants that accepted the sentence (N= 3 of 7) agreed that it was possible that the Figure took a Path over the top of the mountain. However, upon further questioning, all noted that they were conceptualizing a road surrounded with large trees. Additionally, all seven consultants preferred the addition of *michi* (road) to the direct object (making it *yama michi* ‘mountain road’), suggesting that they looked for containment in the (conceptualized) geometry of the scene, either three dimensionally, as with the large trees, or two-dimensionally, as with the road. Finally, all consultants rejected the sentence when the relational noun *ue* (‘on, on top, above’) was added, assuming that the Figure traveled on foot, as seen in the example below. Interestingly, the following sentence was unanimously accepted if the consultants were told that the Figure is a bird.

- 7) *yama no ue wo toot-te ki-ta*  
mountain GEN on.top OBJ tooru-NF come-PAST  
'(The bird) came over the mountain.'  
\*'(I) came over the mountain (on foot).'

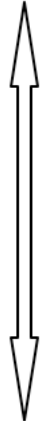
The example in (7) cannot mean 'I walked over the mountain'. If the Figure is flying, *ue* refers to the space above the mountain, and therefore the Figure is seen as located within this space temporarily during the course of the event. More evidence that *tooru* expresses containment can be seen by examining example (8) below.

- 8) *yaoya no mae o toot-te kita*  
grocer GEN front OBJ tooru-NF come-PAST  
'(I) passed by the grocer's (on the way here).'

Here, I will argue that the relationship expressed in (8) is one of containment. In this case, the Figure is described as passing "through the space in front" of the grocer's – in other words, there appears to be a relationship of containment conceptualized, especially given that, without *no mae* (GEN front; 'in front'), speakers interpreted this sentence to mean that the Figure necessarily entered the grocer's, rather than just passing by. While this shows that the use of *tooru* appears to be based on conceptualization of containment, it also reveals that the containment may be very 'casual', as the Path is 'contained' within the general area in front of the grocer's. This is permissible due to the fact that the crossing of boundaries is not relevant to the use of *tooru* (as described in Benom 2007, 2009).

Based on this analysis, the potential for the application of *tooru* to scenes defined by the IN/ON continuum is shown in table 3 below.

**Table 3 –Tooru and the IN/ON continuum**

	<b>Spatial Relation</b>	<b><i>tooru</i></b>	
	ON	a) support from below	NO
		b) marks on a surface	NO
		c) clingy attachment	NO
		d) hanging over/ against	NO
		e) fixed attachment	NO
		f) point-to-point attachment	NO
		g) encircling with contact	NO
		h) impaled/ spitted on	NO
		i) pierces through	YES
		j) partial inclusion	YES
	IN	k) inclusion	YES

Therefore, it has been shown that *tooru* does heed the IN/ON continuum, and that the range of spatial relationships within this continuum to which it applies is precisely the same as that described for English *in* and *through* (total inclusion, partial inclusion, and piercing through, as described in Benom 2007).

**2.2. Nukeru and the IN/ON continuum**

Here, I will show that the IN/ON continuum is relevant to *nukeru*. Native Japanese speakers strongly reject the use of *nukeru* for situations involving a Figure coming off of a Ground which had been supporting the Figure from below, such as:

- 9) \**teeburu kara koroku ga nuke-ta*  
 table from cork SUB *nukeru*-PAST  
 (Trying to say: ‘The cork came off of the table.’)

*Nukeru* is also unacceptable with situations such as marks on a surface: if pen marks are removed (come off of) a table, one would use *ochiru* (‘fall, come out’) or *toreru* (‘come off/out’). Situations of clingy attachment are treated identically; a sticker falling off of where it had been stuck also would be described with *ochiru* or *toreru*. Hanging things that come off generally take

*ochiru*, probably because the falling is so salient, but if a picture comes off its hook while someone is trying to straighten it, *toreru* (or *hazureru*, ‘to come off/apart’) would be used, and not *nukeru*. Situations of the Figure coming undone from fixed attachment and point-to-point attachment to the Ground also used *ochiru* or *toreru*. For all of these situations, without exception, *nukeru* is not used.

*Nukeru* is acceptable for situations of total and partial inclusion, such as that in (10) below:

Partial inclusion:

- 10) *ke ga nuke-ta*  
hair SUB nukeru-PAST  
‘A/Some hair came out’

Total inclusion:

- 11) *biiru no ki ga nuke-ta*  
beer GEN bubbles SUB nukeru-PAST  
‘The beer went flat.’ (lit. the beer’s bubbles came out)

*Nukeru* can be used with situations where a Figure piercing through a Ground comes out:

Piercing through:

- 12) *boo ga ringo kara nuke-ta*  
stick SUB apple from nukeru-PAST  
‘The stick came out of the apple.’ (where it had been stuck)

It is also used when a Figure impaled on a Ground comes out:

Impaled by:

- 13) *ringo ga boo kara nuke-ta*  
apple SUB stick from nukeru-PAST  
‘The apple came off of the pen.’ (The pen had been stuck inside)

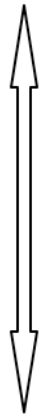
For situations in which the Figure encircles the Ground, *nukeru* can also be used:

Encircling:

- 14) *ribbon ga boo kara nuke-ta*  
 ribbon SUB stick from nukeru-PAST  
 ‘The ribbon came off the stick’ (where it had been tied)

Based on this, we can see that *nukeru* applies to the spatial configurations represented in Table 4.

**Table 4 –Nukeru the IN/ON continuum**

	<b>Spatial Relation</b>	<b><i>nukeru</i></b>
	a) support from below	NO
	b) marks on a surface	NO
	c) clingy attachment	NO
	d) hanging over/ against	NO
	e) fixed attachment	NO
	f) point-to-point attachment	NO
	g) encircling with contact	YES
	h) impaled/ spitted on	YES
	i) pierces through	YES
	j) partial inclusion	YES
	<b>IN</b>	k) inclusion

Therefore, once again, it can be seen that the IN/ ON continuum does, in fact, apply to Japanese. However, the category defined by *nukeru* is different than that defined by *tooru* and English *through*.

### **2.3. Toorinukeru and the IN/ON continuum**

Finally, I will investigate whether the ON to IN gradient is relevant to *toorinukeru*. Translations of various spatial scenes are shown below.

Total inclusion:

- 15) *omise no naka wo toorinuke-te ki-ta*  
 store GEN inside OBJ toorinukeru-NF come-PAST  
 ‘(I) came through the store’

To test a scene of partial inclusion, I described (and in some cases drew a picture of) a tall person walking on a path surrounded by low structures (like sheds), such that the Figure's head rises above the roofline. Speakers were happy to use the following to describe this scene.

- 16) *soko (no roji) wo toorinuke-te ki-ta*  
there (GEN alley) OBJ toorinukeru-NF come-PAST  
'(S/he) walked through (the alley) there.'

To test a scene in which the Figure is piercing through the Ground was not strictly possible, due to the requirement of motion associated with *toorinukeru*. This means that any Path that traverses a Ground and is included in a Ground must emerge, and therefore the Path itself 'pierces through' the Ground in the examples above. However, drawing pictures of Figures that are piercing through the Ground at some point during the motion event, after entering and prior to emerging from the Ground, elicited use of *toorinukeru*, as in (17) below.

Piercing through

- 17) *boo ga ringo wo torinuke-ta*  
stick SUB apple OBJ toorinukeru-PAST  
'The stick went through the apple' (the stick is 30 cm long; the apple has a 10 cm diameter)

With a Figure impaled on a Ground, however, my consultants unanimously rejected the following use of *toorinukeru*

Impaled by:

- 18) *\*ringo ga boo wo toorinuke-te-iru*  
apple SUB stick OBJ toorinukeru-NF-IMP  
(Trying to say 'The apple was impaled on the stick.')

For situations in which the Figure encircles the Ground, *toorinukeru* was also soundly rejected, as seen below.

Encircling:

19) \**ribon ga boo wo toorinuke-te-iru*

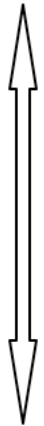
ribbon SUB stick OBJ toorinukeru-NF-IMP

(Trying to say ‘The ribbon was encircling/ encircled the stick’)

All other attempts to elicit or create uses of *toorinukeru* with other scenes located on the IN/ON continuum were unsuccessful. Because the IN/ON continuum was designed to test basic spatial relations terms, it is not always easy to create possible uses for complex terms such as *toorinukeru*. All of my attempts to create or elicit acceptable uses of *toorinukeru* applying to scenes of being impaled by, encircling, attachment (all types on the continuum), hanging over, marks on a surface, and support from below were rejected unanimously. Several ‘natural’ ways of expressing these relationships in Japanese are described in Benom (2007); none involve the use of *toorinukeru*.

Based on this analysis, it can be seen that *toorinukeru* applies to the same range of scenes on the IN/ON continuum as both *tooru* and *through*, as in table 5 below.

**Table 5 –Toorinukeru and the IN/ON continuum**

	<b>Spatial Relation</b>	<b><i>toorinukeru</i></b>
	a) support from below	NO
	b) marks on a surface	NO
	c) clingy attachment	NO
	d) hanging over/ against	NO
	e) fixed attachment	NO
	f) point-to-point attachment	NO
	g) encircling with contact	NO
	h) impaled/ spitted on	NO
	i) pierces through	YES
	j) partial inclusion	YES
	k) inclusion	YES

### 3. Discussion

The data presented in section 2 showed that the IN/ON continuum was relevant to the semantics of the three verbs studied, in that the variety of spatial relations to which each verb applies forms a category that respects the continuum.

Interestingly, the three verbs were shown to differ in the extent of the continuum to which they apply; while *tooru* and *toorinukeru* matched English *in* and *through* precisely, *nukeru* was shown to apply to a broader portion of the continuum.

However, it should be clearly stated that the IN/ON continuum does not define the entirety of the meaning of these verbs, or even the full specifications of their spatial configurations. There are other geometric factors to the meaning of these verbs, in addition to expressing categories defined by the continuum. For instance, *nukeru* and *toorinukeru* require that the Figure fit the Ground tightly before the event begins or during the event, before it terminates. I have referred to this as the “tightness requirement” in previous work (Benom 2007). For example, in the sentence in (14), repeated below as (20), requires that the ribbon was tightly tied around the stick before the *nukeru* event.

Encircling:

- 20) *ribon ga boo kara nuke-ta*  
ribbon SUB stick from nukeru-PAST  
‘The ribbon came off the stick’ (where it had been tied)

If the ribbon had been only loosely or haphazardly tied around the stick, the use of *nukeru* is rejected.

Another geometric factor that was not discussed above is this one: for both *nukeru* and *toorinukeru*, the shape of the Ground must be maintained in order for the lexeme to apply. For instance, my consultants were happy to accept the sentence in (21):

- 21) *pisutoru no tama ga mado garasu wo toorinuke-ta*  
pistol GEN ball SUB window glass OBJ toorinukeru-PAST  
‘The bullet went through the window pane.’



However, there are other, nearly identical, sentences that they rejected:

- 22) ?*booru ga mado garasu wo toorinuke-ta*  
ball SUB window glass OBJ toorinukeru–PAST  
(trying to say) ‘The ball went through the window pane.’

This is because the (necessarily tight) containment relationship that the Figure temporarily enters into with the Ground must be easily cognizable for speakers – and therefore the Ground must be in its original form, or close to it, even after the event is completed. If the windowpane shatters so that it is no longer clearly cognizable as the Ground in a containment relation, speakers reject the example in (22). If, however, they are presented with a context in which the glass doesn’t shatter, but rather a hole that is the shape and size of the ball is left in the glass, they happily accept (22).

#### 4. Conclusion

In this paper, I presented data that reveal that the IN/ON continuum is deeply relevant in Japanese, despite what analysis of its postpositions and relator nouns would lead one to believe. For each of the verbs *tooru*, *nukeru*, and *toorinukeru*, all translational equivalents of English *through*, the range of spatial relationships defined formed a category that respected the IN/ON continuum.

The verbs studied here express geometric information other than that contained in the IN/ON continuum, as was described in the discussion surrounding examples (20-22). Therefore, it would be a mistake to think of their extension on the continuum as a full analysis of their semantics. However, what is most relevant here is that the pattern of spatial relationships to which each verb applies is predicted by the IN/ON continuum.

It is interesting that the continuum is relevant to the semantic domain of application of these verbs, rather than to the use of elements more commonly thought of as expressing basic locative information, such as adpositions and relational nouns. The fact that it applies to the three Japanese verbs examined does not imply that Bowerman and Pederson’s cline is necessarily universal. However, it means that the continuum does apply even to a language such as Japanese, which does not express spatial relations in its postpositions or particles,

and which seems to express such relations primarily through pragmatic inference, albeit in a place where it may not have been expected. This supports the possibility that the continuum may be relevant in all languages, including languages for which it seems irrelevant based on analysis of morpholexical items that most commonly express spatial relations (adpositions, relator nouns, and case endings), as long as one knows where to look.

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## IN と ON の連続体と日本語の三つの動詞

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Bowerman and Pederson (1992, ms) が明らかにしたように、多くの言語において、内包 (IN) から支え (ON) までの空間的關係を表す言葉は、連続体あるいは含意の尺度を形成する (Bowerman 1996, Bowerman and Choi 2001, Feist 2000, Feist and Genter 1998, 2001, 2003, Levinson and Meira 2003)。25 の異なる語族から 40 以上の言語を調べた彼らの研究結果によると、2 つの静止物の空間關係をとらえる図式的状況は IN から ON への連続体としての含意的な段階化が可能である。各言語で IN と ON の区分箇所が異なる。いくつかの言語 (例: オランダ語) では、3 つ以上の単語が IN/ON の連続体をカバーする。他のいくつかの言語 (例: スペイン語) では、1 つの単語で IN から ON までの連続体を全てカバーする。さらに他のケースも見られる。ベルベル語では、2 つの用語 (*di* と *x*) が重複しており、はっきりとした境界を持たない。重要な事は、彼らの研究では、どの言語も連続体の規則に反する事はないということである。しかし、日本語を始めとして、IN から ON への連続体が、深い関与を示さないように思われる言語がある。では、IN から ON への連続体は全ての言語に共通かどうかと言う疑問が生じる。本論文では、IN から ON への連続体が実際に日本語にもあてはまるのかという問題を後置詞と Relator 名詞の分析に基づいて論じる。その結果、IN から ON への連続体は日本語の他の部分で関連しており、IN から ON への連続体はすべての言語に関係するという考えを支持する。

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