On the (im)possibility of translation

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I. Introduction

Translation, as many people conceive of it, is impossible. They imagine exchanging words to be something like an exchange of money. Put a dollar bill into a change machine and four quarters come out. The quarters "equal" the dollar, in some real way: that of their function in the world. Despite their physical differences, the quarters and the dollar are, in this most basic sense, equivalent and interchangeable.

Language is different than money in this respect. Any two different linguistic representations always have at least slightly different functions. Therefore, anything that one translates is invariably changed. Take, as a first example, English *newspaper* and Japanese (*shinbun*). Though they typically refer to the same thing, they are not used in exactly the same way. For instance, the English word can be used in metonymies that are not available in Japanese. Therefore, *the newspaper was sold* might refer to a single copy of a newspaper, or to the company that creates newspapers, while the Japanese (*shinbun ga ureta*) can only refer to a single newspaper, and (*shinbunsha*) must be used to refer to the company.

One way to think about language is as a blueprint for thought (Tomlin, et al. 1997: 64). The speaker has a thought, which is then encoded in language in order to serve as a blueprint allowing the hearer to construct "the same" thought based on the plans detailed in the blueprint. So, in translation, one takes a word or sentence or poem or novel, and tries to create the same or similar blueprints in another language.

Assuming that the blueprints are necessarily different, as I have briefly argued, the basic question I will ask here is "Just how different are the blueprints?" and the answer I arrive at will be "Strikingly different, in many ways that most people would never even consider". I will attempt to address this question by undertaking a contrastive analysis of the translational equivalents English *through* and Japanese *tooru*, *nukeru*, and *toorinukeru*, and showing the vast difference in the meanings expressed by these terms. I will show that the blueprints invoked by these words have different components and emphases, which means that the thoughts constructed based on these blueprints differ greatly. Such a large meaning difference arising from the translation of a single word gives us a basis from which we can extrapolate, leading to the conclusion that translation changes larger texts in profound ways.

My question can be considered in terms of events (e.g. Bohnemeyer and Pederson 2010). The initial linguistic encoding of an event can be said to preserve some characteristics and qualities of the event by forcing or permitting speakers to make various choices, and to discourage and complicate the expression of other characteristics and qualities of the event by not providing an appropriate and ready-made form (e.g. morphogrammatical pattern or lexeme). For instance, speakers of many languages are forced to repeatedly choose between perfective and imperfective encodings of an event, and some languages require speakers to encode their source of knowledge about events they discuss (e.g. the evidential systems in languages such as Turkish and Japanese). Seen in this light, the question I will ask here can be rephrased in two parts, as (a) and (b) below.

a) To what extent does a translation preserve or relinquish the choices made when the event was originally encoded?

b) To what extent does a translation force the translator to make new choices?

Part (a) asks the question of whether (or to what extent) a translation is faithful to

the original linguistic encoding. Part (b) is particularly interesting in light of the fact that the translator may have no way to know based on the original linguistic encoding alone which choices most accurately depict the original event, and no firsthand knowledge of the event. I find this interesting for many reasons including this one; while the linguistic representation of events is always incomplete, if translation renders it necessarily random or inaccurate or as well, the relationship between the original event and the translated version of the utterance becomes more distant. This would provide evidence (as has previously been argued in many places) that a translation is really a re-creation based on the translator's imagination – in other words, it would show that a large portion of the "meaning" of any translation (from a single word to a novel) was put there by the translator.   In fact, I will argue that this is the case, based on my argument that *tooru, nukeru*, and *toorinukeru* are expressing very different information than that expressed by *through*.

I will begin with a brief description of *through* in section 2, followed by a description of the three Japanese verbs in section 3. Section 4 will be devoted to discussion of the terms' semantic divergence before the general discussion and conclusion in section 5.

II. A brief description of English *through*

In a previous analysis (Benom 2007), the senses of English *through* were distinguished, using data derived from the British National Corpus. Due to thorny difficulties in studying polysemy, including the basic question of how the linguist can ascertain that the different senses posited are different to speakers, my analysis made use of 'primary senses', by which I refer to senses differentiable both syntactically and semantically. Due to space limitations, the reader is referred to Benom (2007) for the syntactic and semantic evidence distinguishing these primary senses, which are shown below:

Name of primary sense	Paraphrase	Example
Through1 (central sense)	enter, cross, exit	*go through the tunnel twice*
NB ('no boundaries')	move within	*walk through the rain for hours*
EB ('end boundary')	exit, finished	*I'm through with you!*
ALL	everywhere within	*all through the house, it was quiet*

Below, in Figure 1, representations of the geometric specifications of each sense are presented, along with a paraphrase and example.

Figure 1 – Representations of the four primary senses of *through*

Through1

'enter, cross, exit'
go through the tunnel twice

ThroughEB ("EB")

'exit, finished'
I'm through with you!

ThroughNB ("NB")

'move within'
walk through the rain for hours

ThroughALL ("ALL")

'everywhere within'
all through the house, it was quiet
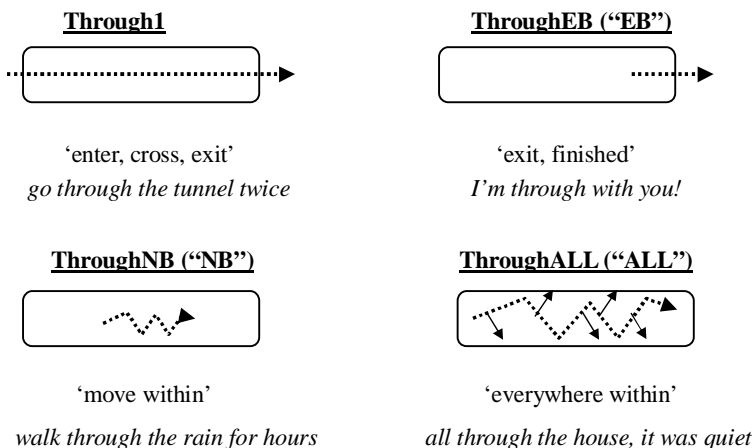
NB and EB are each claimed to be related to Through1, the 'central' sense, through metonymy, and ALL is motivated by appealing to the semantics of Through1 with the addition of summary scanning (Langacker 1991). A more iconic representation showing the geometry of all primary senses is given below.

Figure 2 – Alternate representation of the geometry of *through*
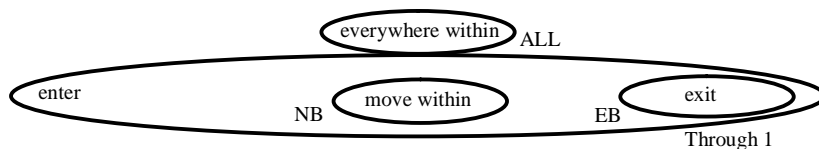
III. A brief description of *tooru*, *nukeru*, and *toorinukeru*

Here, I will describe three translational equivalents of *through* in Japanese (*tooru*, *nukeru*, and *toorinukeru*). This analysis is based on data from two corpora (Aozora Bunko and JPWaC) and elicitation undertaken with seven consultants.

The most common translation of *through* in English-Japanese dictionaries is probably ***toorinukeru***, a compound verb made of the verbs ***tooru***, having meanings 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, be left out, be gone, be missing, get rid of (e.g. a bad habit), go through (e.g. an alley), recover (e.g. from fatigue)". Because various uses of *through* may be translated with any of these three verbs, I will examine all of them below.

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. *Toorinukeru* is typically translated as 'go through'; we will see below some situations in which this translation is appropriate, and others for which it is less so.

4.1 *Tooru*

When I asked my speakers to translate the English "The ball went through the window', I was commonly given a sentence like that in (1) below, lacking *tooru*:

(1)

    booru ga   mado   kara   de–ta

    ball   SUB window from exit–PAST

    lit. 'The ball exited from the window.'

But sometimes *through* is translated with *tooru*, as in (2):

(2)

    *tonneru wo   ichi nichi ni   kai   **tooru***

    tunnel   OBJ one day   two times tooru

    '(I) go through the tunnel twice a day.'

This works for uses of *through* without motion as well:

(3)

    *ito   ga wa no naka wo **toot–te–ru***

    string SUB ring GEN center OBJ tooru–NF-PRES

    'The string is through (the center of) the ring.'

But in some uses of *tooru*, there are no boundaries crossed:

(4)

    koko wa   ippoo   tsuukoo jyanai   kara hidari no   hoo wo

    here TOP   one.way traffic   NEG.COP so   left   GEN side OBJ

    toot-te   *kudasai*

    tooru–NF   please

   'This is not a one–way area, so please *tooru* (e.g. drive, swim) (on) the left.'

In fact, the data in (5) could follow (2):

(5)   …

　　…***tooru*** *to* 　　*it-te* 　*mo hanbun de* 　*hiki-kaesun dakedo*

　　　　tooru QUOT say-NF also half 　 LOC pull-return but

　　'But when I say *tooru*, I'm talking about turning back halfway.'

　　　Tooru was seen above to refer exclusively to motion within the Ground in (4), and (2) could either be referring to entering and moving within the Ground, or to entering, moving within, and finally exiting the Ground.　　And because crossing the boundaries of the Ground isn't relevant to *tooru*, my consultants were willing to use it in various imagined situations in which the Figure never enters the Ground, but moves within and exits (e.g. someone 'teleported' into a tunnel who then leaves).

　　　Tooru works as a translational equivalent for *through* in some contexts, and in other contexts it fails, due to the lack of any specification for the crossing of boundaries.

4.2 *Nukeru*

Nukeru typically describes a Figure leaving a spatial relationship with a Ground. A common use of *nukeru* could involve a Figure entering or moving within the Ground, but more fundamentally involves exiting:

(6)

　　*kuguri-**nukeru***

　　bend.low–nukeru

　　'to come out or go through while bending; to escape (esp. from the law)'

　　　The series of geometric relationships to which *nukeru* applies is far broader than that covered by both *through* and *tooru*. There are two types of spatial scenes that may be described with *nukeru*, but not *tooru* or *through* (see Bowerman and Pederson 1992 for a description of the IN/ON continuum, to which these spatial relationships belong).

First, *Nukeru* can be used when a Figure impaled on a Ground comes out:

(7)

> *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:

(8)

> *ribon ga boo kara **nuke**–ta*
> ribbon SUB stick from nukeru–PAST
> 'The ribbon came off the stick' (where it had been tied)

Additionally, there is a requirement that the Figure fit the Ground tightly before the *nukeru* event.   Thus, example (8) becomes unacceptable if the ribbon is loosely and haphazardly wrapped around the stick, rather then tied tightly, before coming off.

One usage-type refers to something that is missing, as in (9).

(9)

> ***nuke**-ta   otoko*
> nukeru-PAST man
> 'a stupid man' (Lit. a man (with something) missing)

Finally, there is a usage-type of *nukeru* that refers to a Path going all the way to the final boundary of the Ground and past, as seen in (10).

(10)

  ato no futari wo nuki-mashi-ta (Aozora)

  after GEN two.people OBJ nukeru-POL-PAST

  '(I) passed the other two people.'

It can be seen by examining the data in (6-10) above that *nukeru*, like ThroughEB, is fundamentally about exiting (or, as in (9), the situation of something having exited, or being missing).

4.3 *Toorinukeru*

Of the three lexemes, this is the closest translation for Through1. Unlike Through1, however, it requires motion. A prototypical example is given below:

(11)

  *kare ga tonneru no naka wo **toorinuke–ta***

  3sg SUB tunnel GEN center OBJ toorinukeru–PAST

  'He passed/went through the tunnel.'

Unlike what we saw with *tooru* above in (2) and (5), the sentence in (11) must mean that the Figure went all the way through without turning back. All of my consultants rejected my attempts to use *toorinukeru* in various scenarios in which the Figure does not enter and exit the Ground from opposite sides, and no such examples were found in the corpora.

  My consultants were happy to accept the following:

(12)

  *pisutoru no tama ga mado garasu wo **toorinuke–ta***

  pistol GEN ball SUB window glass OBJ toorinukeru–PAST

  'The bullet went through the (closed) window.'

However, there are other, nearly identical situations for which *toorinukeru* may not be used:

(13)   ?

     *?booru ga   mado   garasu wo   **toorinuke–ta***

   ball   SUB window glass OBJ toorinukeru–PAST

     (trying to say) 'The ball went through the (closed) window.'

This is because the 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 (13).   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 (13).

If, instead of a windowpane, they are given the context of a ball going through a huge block of tofu, which keeps its shape, they readily accept the use of *toorinukeru*. A battering ball that destroys a wall entirely cannot be said to *toorinukeru* the wall. However, once again, if the wall retains its shape for the most part, *toorinukeru* becomes acceptable.

At this point, we can compare the basic geometry expressed by the three verbs to that expressed by *through*, which was seen in Figure 2 above. Figure 3 below represents the fundamental geometry of tooru, nukeru, and toorinukeru using the same specifications as Figure 2. For clarity of presentation, optional geometric specifications are not represented.

Figure 3 – Representation of the essential geometry of *tooru, nukeru,* and *toorinukeru*
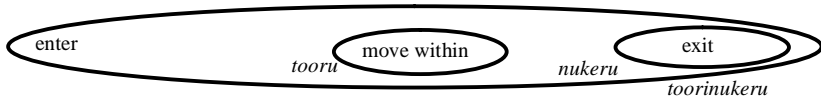
By combining Figures 2 and 3, we arrive at Figure 4, presented below.

Figure 4 – Representation of the geometry of the translational equivalents
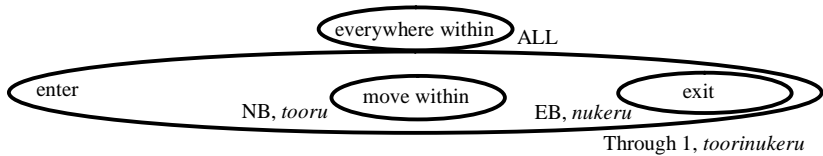
It can be seen that the geometry expressed by the terms is identical, other than the lack of a node expressing "everywhere within" in the Japanese verbs' representation. These results make the three Japanese verbs look like a nearly perfect translation for the various senses of *through*. However, we will see below that the differences between the words are at least as great as their similarities.

IV. Differences between the terms

The differences between the terms can be divided into two types: (a) geometric differences, or differences of the spatial geometry each word defines, and (b) non-geometric differences. I will begin by discussion four geometric differences in 4.1 before enumerating four non-geometric differences between the terms in 4.2.

4.1. Geometric differences between the terms

Four geometric factors that are lost in translation are listed below.

Geometric Factor 1: Optional geometry *Tooru* and *nukeru* define the geometry of 'move within' and 'exit' respectively, just like ThroughNB and

ThroughEB, but unlike the senses of *through,* each permits other geometric possibilities. This supports the claim that they are expressing very different information than that expressed by *through*.

Geometric Factor 2: **The shape of the Ground.** For both *nukeru* and *toorinukeru*, the shape of Ground has to be maintained in order to apply the lexeme (see Benom 2007; this was only shown for *toorinukeru* here – see examples 12 and 13). While studies of lexical semantic geometry typically refer to the spatial relationship(s) holding between Figure and Ground, the requirement that the language user can continue to easily conceptualize the spatial relationship between Figure and Ground even after the event is completed can be considered one facet of the geometric specification of these lexemes.

Geometric Factor 3: **Tightness of fit**. Tightness of fit between Figure and Ground is essential to the meaning of both *nukeru* and *toorinukeru* (see Benom 2007; this was only shown for *nukeru* here). What's more, *through* is used relatively often with a Figure that fits tightly in the Ground, but it doesn't require tightness of fit, in yet another case of data loss based on translation. This means that the terms are expressing related, but different, concepts.

Geometric Factor 4: **Range of spatial relationships permitted**. There is an important difference in what it means for the Figure to be IN the Ground for *through*, *tooru*, and *toorinukeru*, on the one hand, and for *nukeru* on the other hand (as seen in examples 7 and 8 above). Such a difference can be relevant in a translation.

4.2. Non-geometric differences between the terms

Here, four additional non-geometric differences between the terms will be described.

Non-geometric Factor 1: **Usage-types.** There are usage-types of *through* and the three Japanese verbs that would necessarily be treated in depth in a fuller analysis. For the purposes of this analysis, maximally entrenched *primary senses* –word meanings differentiable both syntactically and semantically – have been used, based on the adoption of an empirical approach to polysemy and a desire for both

replicability and confidence that the word senses in the analysis are treated differently by speakers.   Usage-types that are less entrenched are not represented here. One instance is the MISSING usage-type of *nukeru*, as seen in (10) above. The primary sense of Through1 includes the VIA usage-type, as in *I got the tickets through a friend*, and the EXPERIENCE and PERFORM usage-types (as in *I've been through a lot in my life* and *Violins, go through the first movement again*, respectively - see Benom 2007 for a fuller analysis).   The translator needs to take these and other usage-types into account, as some, including MISSING, EXPERIENCE, and PERFORM, can not be translated using the lexemes studied here.

     Non-geometric Factor 2: **Metaphor and metonymy.** Some of the metaphorical and metonymical extensions in which the items participate vary. *Tooru* can mean "to pass a test", but *through* cannot be used this way, for example, as seen in the example below.

(14)   *shiken ni **tooru**   no   ga   muzukashii to   kii-ta*

       test   IO tooru NMZ SUB difficult   quote hear–PAST

       '(I) heard that it's hard to pass (*through) the test.'

On the other hand, *through* frequently participates in metaphors such as SEEING IS TOUCHING (alternatively analyzed as the metonymy of a person's attention for a person; see Lakoff and Johnson 1999), but the Japanese verbs cannot be used in this way, as seen below.

(15)   (   )

      (toori-)nuketa / toot-ta   kedo machigae wa   mistukara-na-katta

      (toori-) nukeru / tooru-PAST but   error   TOP find-NEG-PAST

      (Trying to say) "I've been through this list twice already, and I still can't find the error"

A reasonable Japanese translation for the English sentence seen in (15) is given below.

(16)

     zenbu / saisho kara saigo made ni   kai   mo   yon-da kedo…
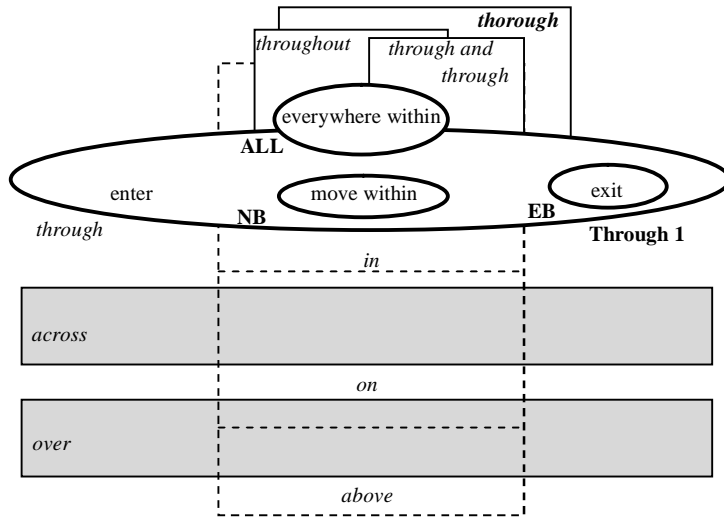
     all /   beginning from end to   two times also read-PAST but…

     (Lit.) "I read it all / read from beginning to end twice but…"

As another example, ThroughEB is used almost exclusively metaphorically, referring to exiting from an abstract relationship, but not a concrete physical Ground, whereas *nukeru* can be used to describe exiting both concrete and abstract relationships.

      Non-geometric Factor 3: **Lexical alternatives.** Another issue is that of the lexeme's interconnectedness with other forms, called *lexical alternatives* (Douglas, Novik, and Tomlin 1994; named *lexical competition* in MacWhinney 1987). The function of a form cannot be understood without an understanding of the role it plays in the system(s) in which it participates. As an example of the level of complexity that would result from taking the lexical alternatives of even one lexeme into account, Figure 7 presents a representation of the geometry of *through* with the additional representation of several lexical alternatives. Note that Figure 7 is strictly concerned with the basic geometry of the lexemes.

Figure 5– Schematic representation of the relationships of the primary senses of *through*, including several lexical alternatives.

thorough

throughout   *through and*
                       through

everywhere within

ALL

enter   move within   exit

NB   **EB**

through   **Through 1**

in

across

on

over

above

Notes on Figure 5:

-Primary senses of *through* are represented as **ovals**.

-Related lexical items are represented as **rectangles**. The 'basic' spatial relations of the IN/ON continuum in English (*in, on*, and *above*) have been represented with **dashed rectangles**.

-Text in ovals characterizes basic semantics of primary senses of *through*.

-Regarding the text in parentheses: motion is optionally (but relatively often) found with uses of Through1. NB requires motion.

-*Through, across*, and *over*, being complex prepositions, are represented by longer horizontal rectangles, iconically invoking a Path (which is present in prototypical instances of all three).

-*Through* and *across* are based on *in* and *on*, respectively. *Over*, however, is related to *above* as well as *on*, suggesting a more distant relationship with *through*.

-The relative size of the objects in Figure 6 was determined based on the size needed for text, the focus of this study, and aesthetics, and is not meant to represent anything else.

The system of which *through* forms one part is based on the commonly Path-less prepositions *in, on,* and *above*, which are defined based in large part on support, containment, and superiority, as well as in contrast to the (prototypically) Path-invoking prepositions *across* and *over*. It is not clear how this can be compared in any meaningful way with the three Japanese verbs, for which the closest lexical alternatives are their respective transitive counterparts – *toosu* for *tooru, nukasu* for *nukeru, and toorinukasu* for *toorinukeru*, as well as other verbs of motion invoking a Path, such as *toorisugiru* ('move past, pass by').

Non-geometric Factor 4: **Force dynamics.** There are many aspects to the meaning of a spatial term, including both geometric and extra-geometric aspects (e.g. Coventry and Garrod 2004). One extra-geometric factor that has been shown to play a role in the meaning of *through* is that of force dynamics (Talmy 2000). Elsewhere (Benom 2007, submitted), I have discussed the results of a corpus study of *through* revealing that *through* is used disproportionately often with scenes including some resistance as the Figure moves in relation to the Ground. However, resistance is not present with every use of *through*. Therefore, I have described *through* as suggesting, but not implying, the force dynamic property of resistance, referring to the strength of association of the form and the force dynamic function.

For clarification purposes, tightness of fit is a geometric specification, unlike resistance, which is a force dynamic one. While they are closely linked, they are distinct facets of meaning. Preliminary results of a study in progress suggest that *toorinukeru* is not associated with resistance in the way that *through* is (Benom in preparation).

V. General discussion and conclusion

At this point, it is time to answer the questions originally posed, repeated below, based on the study discussed here.

a) To what extent does a translation preserve or relinquish the choices made when the event was originally encoded?

b) To what extent does a translation force the translator to make new choices?

Based on the fundamental difference in meaning between *through* and *tooru, nukeru,* and *toorinukeru*, we can say that (a) such a translation would relinquish many of the choices the original speaker made when creating the linguistic blueprint, and that (b) such a translation can involve making several significant new choices.   In the best case, a translation of *toorinukeru* for a use of Through1 involving motion (or vice-versa), the geometry of the terms matches well, but several extra-geometric factors potentially differ. In other cases, such as the commonly-encountered translation of *tooru*, which is silent with respect to the crossing of boundaries, for Through1, the geometry expressed by the terms is distinctly different. Similarly, when *nukeru* is translated with *through* there is always a danger that the geometry may not match. Even if the geometry does match at the beginning of the event, if the Ground is altered during the event so that the containment relationship is no longer easily cognizable, Japanese resists the use of *nukeru* and *toorinukeru*. The same type of situation holds if the Figure doesn't fit the Ground tightly, though in English it is still possible to use *through* in such situations.

        In any case, certain metaphors and metonymies are not possible to translate using these terms, certain uses of the terms (such as the MISSING use of *nukeru* seen in (9) above) don't translate well or at all, and the force dynamics of the terms appears to differ.

        Finally, because each of the terms derives its meaning in part from the system of alternatives available in its language, even a translation for which the geometric and non-geometric facets of meaning match well may be saying something different. The system of lexical alternatives for *through* shown in Figure 5 does not match that in Japanese, for example. However, even in larger contexts, in which sentences, rather than simply words, are being translated, the type of

information typically expressed in each language is relevant, and may differ. For instance, in a case such as that seen in (11) above, the English sentence is chosen over alternatives that describe the manner of motion (such as c*rawl through, run through,* and *fly through*), whereas the Japanese is chosen against a background of alternatives that involve differing path descriptions (*tooru, toorinukeru, toorisugiru, deru,* etc. – see Slobin 2002, Talmy 2000 for description and analysis of Path and Manner in language, and Ohara 2000 for evidence that Japanese focuses on the expression of Path while the resources of English are primarily devoted to expressing Manner).

The representation of the geometry of THROUGH presented in Figure 4 painted a picture of *through* and the verbs *tooru, nukeru,* and *toorinukeru* that made them look extremely similar. Without explicit warning not to do so, one could easily take away from this representation the impression that the three Japanese verbs form a system that, like the various senses of English *through*, covers the geometric components of a Figure entering, moving within, and exiting a Ground. However, there was no obvious way to encode the fact that *nukeru* can apply to a broader range of spatial relationships than any of the other lexemes in the study, for example, or that *through* suggests the force dynamic configuration of resistance, and it was not clear how to compare the lexical alternatives or various usage-types of each form. Possibly most serious in its implications was the fact that four facets of the geometric specifications of the terms were also distinct. Based on the discrepancies noted in section 4, the differences between the forms seem at least as great as their similarities.

In addition to the geometric and non-geometric factors distinguishing the forms that were discussed in this paper, there are other ways that the functions of forms can differ in important ways which call into question the comparability of the forms. For example, just how comparable are forms when the most natural way to express a situation in their respective languages does not utilize the translational equivalents, as we saw in example (1)? English has the option of making use of a "God's-eye" perspective by using the form *through*, whereas Japanese is most

commonly forced to choose whether to express the perspective of someone inside (as in the example) or that of someone outside (though this was not shown). This is not simply a matter of frequency of occurrence, but of the preferred or default conceptualization differing in the two languages.   In such cases, while the semantics of the forms may overlap, they are not completely comparable.

By translating *through* using *tooru, nukeru,* or *toorinukeru* (or vice-versa), the translator is often unable to preserve all of the semantics of the original, and additionally adds the semantic distinctions of the resulting form. When we consider that this difference in meaning is the result of translating a single word, it becomes clear that the translation of larger portions of text are more like an artist's re-creation and interpretation of an original painting than they are like a photocopy.   Therefore, translation as it is commonly thought of is impossible, and what we have instead is translation as re-creation and interpretation. Translation is an essential part of bridging the gap between disparate languages and cultures, but the reality of what it is should be understood in order for it to be effective.

Notes

Two ways of saying something within the same language differ in their function as well. For example, even very close synonyms such as English *fatherly* and *paternal* differ in their social function (the latter being used in more formal contexts).

In Figure 1, the Ground is represented by a rectangle, the Path by arrows with dotted lines, and the Figure's scans used to build up a mental representation by arrows with solid lines. I use the terms Figure and Ground as in Talmy (2000).

The Aozora Bunko ("Blue Sky Text Collection") is primarily a literary corpus consisting of a private digital library of over 6000 previously published texts that are no longer (or simply are not) copyrighted in Japan. JPWaC (Japanese Web as Corpus) is a collection of data derived semi-automatically from the Web, and includes over 400 million words. JPWaC was

prepared by Tomaž Erjavec using a list of URLs provided by Serge Sharoff.

My examination will be necessarily brief, due to space considerations. For more extensive analysis of these verbs, the reader is referred to Benom (2007), Kageyama (1980), Morita (1989), and Sumi (2000, 2001). Due to the morphophonological rules of modern Japanese, the combination of *tooru* and *nukeru* is realized as [*toori–nukeru*]. In addition to the forms of the verbs cited, I also investigated the corresponding transitive forms (i.e. *toosu* for *tooru*, *nuku* for *nukeru*), as well as nominalizations, and other related forms (*nuke, nuki* etc.).

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