Causative-inchoative alternation of ergative verbs in English and Japanese: observations from news corpora

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1. Introduction

It has long been said that Japanese is a situation-focus language favouring *intransitive* expressions, while English is a person-focus language favouring *transitive* expressions (Ikegami 1981; Hinds 1986). This typological difference is used to account for major argument realisation differences found in the two languages.

(1) a. 暑さで食べ物が<u>腐って</u>しまった。

     Atsusa-de tabemono -ga <u>kusatte(vi.)</u>   shimat-ta.

     Heat-INST food-NOM   spoil(vi)   EMPH-PAST

     (Lit. 'The food spoiled from the hot weather.')

  b. The hot weather <u>spoiled(vt.)</u> the food.

(2) a. 風で傘が<u>壊れた</u>んだ。

     Kaze-de   kasa-ga   <u>koware(vi.)</u>-ta-nda.

     Wind-INST umbrella-NOM break(vi.)-PAST-MOD

     (Lit. 'The umbrella broke from the wind.')

  b. The wind <u>broke(vt.)</u> my umbrella.

The Japanese expressions above are intransitive sentences, while the English expressions are transitive sentences. (1a) and (2a) cannot be paraphrased into transitive sentences, even though morphological transitive counterparts exist in Japanese:

(3) ?暑さが食べ物を<u>腐らして(vt.)</u>しまった。

  ?Atsusa-ga tabemono-o <u>kusarashite(vt.)</u> shimat-ta.

  Heat-NOM food-ACC   spoil(vt.)   EMPH-PAST

  (Lit. 'The hot weather spoiled the food.')

(4) *風が傘を<u>壊した(vt.)</u>んだ。

   *Kaze-ga   kasa-o   <u>kowashi(vt.)</u>-ta-nda.

   Wind-NOM   wind-ACC break(vt.)-PAST-MOD

   (Lit. 'The wind broke the umbrella.')

    Japanese does not readily tolerate inanimate agents as subjects, preferring instead to express realise the above arguments in an intransitive frame. English, the other hand, prefers the transitive expressions in (1b) and (2b). Their intransitive counterparts are acceptable, but tend to sound like explanations, not neutral descriptions of events (The food <u>spoiled</u> because of the hot weather./ My umbrella <u>broke</u> because of the wind.)

    Based on an examination of the above and related phenomena, Ikegami (1981) concludes that English is a language that 'gives prominence to the *agent* in its expressions (Ikegami 1981:285, translation mine)' and Japanese is a language that 'tries to hide the *agent* in its expressions (Ikegami 1981:285, translation mine)'. Giving prominence to the agent means giving it a place in the surface syntactic structure, thus ensuring that many English expressions are found with transitive verbs taking at least two arguments, accommodating the agent and patient (or theme). In Japanese, on the other hand, hiding the agent means not giving it a place in the surface syntactic structure, resulting in many expressions using intransitive verbs taking only one argument with a patient (or theme) role. The agent is often not expressed at all:

(5) a. この千円札、<u>くずれます(vi.)</u>か。

    Kono sen-en   satsu, <u>kuzuremasu(vi.)</u>   ka?

    This 1000-yen note   <u>break(vi.)</u>   INTER

    (Lit. 'Does this 1000 yen note break?')

  b. Could you <u>break(vt.)</u> this 1000 yen note for me?

    The Japanese expression above is intransitive, while the English is transitive. A transitive paraphrase for the Japanese is possible, but an intransitive paraphrase for the English is not:

(6) a. この千円札を<u>くずして(vt.)</u>ください。

    Kono sen-en   satsu-o   <u>kuzushite(vt.)</u>   kudasai.

    This 1000-yen note-ACC break(vt.)   please

  b. *Does this 1000 yen note break(vi.) for me?

    However, not all expressions reflect the assumed Japanese preference for intransitives. Sometimes Japanese examples pattern in the same way as the English:

(7) a. スパゲッティをお湯に入れて(vt.)、８分間ゆでて(vt.)ください。

     Supagetti-o   oyu-ni   <u>irete(vt.)</u>,   hachifunkan   <u>yudete(vt.)</u>   kudasai.

     Spaghetti-ACC hot water-DAT put in(vt.)   eight minutes   boil(vt.)   please

  b. <u>Put(vt.)</u> the spaghetti in the boiling water and <u>cook(vt.)</u> it for eight minutes.

An intransitive sentence would be impossible, even in Japanese:

(8)   *スパゲッティがお湯に入って(vi.)、８分間ゆだって(vi.)ください。

    *Supagetti-ga   oyu-ni   <u>haitte(vi.)</u>, hachifunkan   <u>yudatte(vi.)</u> kudasai.

    Spaghetti-NOM hot water-DAT go in(vi.) eight minutes   boil(vi.)   please

    (Lit. 'Spaghetti, go in the hot water and boil for eight minutes.')

The above can be accounted by the fact that the sentences are imperatives (commands), thus assuming the presence of an agent (the second person) undergoing an action. When used in an imperative sentence, *haitte* (the gerund form of *hairu*(vi.) 'go in'), whilst still an intransitive verb, requires its argument to be an agent. Since *supagetti* cannot be an agent with volition, this sentence is unacceptable. The transitive form of the verb must be used instead, with accompanying case adjustment to accusative case on the *supagetti* argument. The agent is then not linguistically overt, but is assumed to be the addressee. Furthermore, *yudatte* (gerund form of *yudaru*(vi.)) must express a **resultative** state (i.e. the state of being fully boiled), a semantic requirement of certain Japanese intransitives. The above factors reveal the complexity of argument realisation; the phenomenon is not as simple as stating that Japanese prefers intransitives and English prefers transitives. In the next example, English patterns in the same way as Japanese:

(9) a. このお店は10時に開（あ）きます(vi.)。

     Kono   omise-wa juuji-ni   <u>akimasu(vi.)</u>.

     This   shop-TOP 10 o'clock-DAT open(vi.)

   b. This shop <u>opens(vi.)</u> at 10 o'clock.

The English transitive counterpart would be *They <u>open(vt.)</u> this shop at 10 o'clock*. However, this would only be used if one wanted to emphasise the agent *they* and their actions, as in (10). Without the need for emphasis, the most common argument realisation is intransitive, as in (9b).

(10) They <u>open(vt.)</u> this shop at 10 o'clock, because the owners can't get here before then.

Ikegami's observations have taken on *a priori* status in discussions of typological differences between English and Japanese. Whilst native speakers of both languages testify the claims to be generally true by intuition, the question of empirical proof has yet to be answered. Ikegami's claim

implies that an examination of the number of expressions in English and Japanese would reveal more transitive expressions in English than in Japanese. Giving prominence to the agent most of the time should result in more transitive expressions overall, and hiding the agent should result in more intransitive expressions overall. The problem is, how do we design a research programme that can *quantitatively* substantiate (or refute) this? The next section deals with research design for such a programme.

2. Research design
2.1 Research questions
In order to find quantitative evidence for the claims made by Ikegami (1981), the following research questions have been devised; the answers should be either affirmative or negative (or somewhere in between), with quantitative percentages:

(11) a. **Given a choice,** when expressing **the same meaning**, do English users have a tendency to use transitive expressions? Do Japanese users have a tendency to use intransitive expressions?

b. **Given a choice,** when using ergative verbs (verbs that have the same morphological form in their transitive and intransitive variants), do English users have a tendency to use **the transitive variant more than the intransitive variant?** Do Japanese users have a tendency to use **the intransitive variant more than the transitive variant?**

The nature of (11a) lends itself to research using bilingual corpora, in which Japanese and English data appear with (at least ostensibly) the same meaning. Problems of using bilingual corpora are two-fold: most available bilingual corpora consist of data originating in English and translated into Japanese. An ideal translation would give us idiomatic equivalence, or the most natural way of saying the same thing in a different language. In practice, however, a translation is always affected by the source language. In this case, the skewed effect of translated Japanese is difficult to avoid. Also, bilingual corpora may not have enough incidences of certain words to form firm conclusions about usage. For these reasons, bilingual corpora will not be the main focus in this paper, and problems associated with these will be left to future research.

The answer to (11b) is the main focus of this paper. Through a preliminary examination of monolingual **news corpora** in both languages, we hope to reach certain conclusions about the synchronic states of both languages.

2.2 Research subjects: ergative verbs
In this paper we look at the incidence of **ergative verbs** in news corpora. Ergative verbs are verbs that can operate as transitives or intransitives without morphological change. In Japanese,

they stand in contrast to **paired verbs**, （*yuutsui dooshi* 有対動詞）　which undergo morphological change in order operate as either transitives or intransitives:

(12) a. Paired verbs:　　溶かす *tokasu* 'melt(vt.)' / 溶ける *tokeru* 'melt(vi.)'
　　　　　　　　　　　育てる *sodateru* 'grow(vt.)' / 育つ *sodatsu* 'grow(vi.)'
　　 b. Ergative verbs: 開く *hiraku* 'open(vt.)' / 開く *hiraku* 'open(vi.)'
　　　　　　　　　　　閉じる *tojiru* 'close(vt.)' / 閉じる *tojiru* 'close(vi.)'

All the above verbs undergo **causative-inchoative alternation**, where the object of the transitive sentence becomes the subject of the intransitive sentence without change in the propositional meaning. However, with ergative verbs, the morphological form of the verb does not change:

(13) a. 太郎が　　　扉を　　　　開いた(vt.)。　[causative use of a transitive verb]
　　　 Taro-ga　　　tobira-o　　hiraita(vt.).
　　　 Taro-NOM door-ACC　opened(vt.)
　　　 'Taro opened the door.'
　　 b. 扉が　　　　　開いた(vi)。　　　　　[inchoative use of an intransitive verb]
　　　 Tobira-ga　　hiraita(vi.).
　　　 Door-NOM　　opened(vi.)
　　　 'The door opened.'

(14) a. John opened(vt.) the door.　　　　　　[causative use of a transitive verb]
　　 b. The door opened(vi.).　　　　　　[inchoative use of an intransitive verb]

Compared with **paired verbs**, there are not many **ergative verbs** in the native Japanese lexicon (*wago*). 開く *hiraku* 'open', 閉じる *tojiru* 'close' and 増す *masu* 'increase' are among the few in common usage. However, ergative verbs are far more numerous in verbs of Sino-Japanese origin (*kango*). Examples include 開始する *kaishi-suru* 'commence' and 終了する *shuuryoo-suru* 'conclude'. This study includes both native and Sino-Japanese verbs.

(15) a. 主催者が　　　　　大会を　　　　　　終了する(vt.)。 [causative use of a transitive verb]
　　　 Shusaisha-ga　　　taikai-o　　　　shuuryoo-suru(vt.).
　　　 Organisers-NOM　conference-ACC　conclude(vt.)
　　　 'The organisers will conclude the conference.'
　　 b. 大会が　　　　　終了する(vi.)。　　　　　　[inchoative use of an intransitive verb]
　　　 Taikai-ga　　　shuuryoo-suru(vi.).
　　　 Conference-NOM　conclude(vi.)
　　　 'The conference is concluding.'

English has very few paired verbs; those that exist are remnants of Old English morphology, e.g. *raise*(vt.)/*rise*(vi.), *seat*(vt.)/*sit*(vi.). Most verbs in English are ergative, possessing the same morphological form for transitives and intransitives.

This study looks at the incidence of transitive and intransitive variants of ergative verbs. Ergative verbs provide a good starting point for investigating alternation in the two languages. The reasons are as follows: Firstly, since both languages possess these verbs, we can be reasonably sure that we are comparing similar entities. Secondly, because ergative verbs have the same form regardless of whether they are transitive or intransitive, their selection by the speaker is not hindered by morphological hindrances such as the effort needed to form more complicated forms. In Japanese paired verbs, sometimes one form is obviously shorter (morphologically simpler or more basic) than the other, a fact that can affect selection in actual usage. The following paired verbs are presented with the morphologically simpler form first. Note that sometimes the intransitive is simpler than the transitive (16a, b), but the opposite can also occur (16c, d).

(16) a. 向く *muku*(vi.) 'face'/ 向ける *mukeru*(vt.) 'cause to face'
　　 b. 済む *sumu*(vi.) 'end(vi.)'/ 済ます *sumasu*(vt.) 'end(vt.)'
　　 c. 破る *yaburu*(vt.) 'tear(vt.)'/ 破れる *yabureru*(vi.) 'tear(vi.)'
　　 d. 溶く *toku*(vt.) 'dissolve(vt.)'/ 溶ける *tokeru*(vi.) 'dissolve(vi.)'

(English glosses from Jacobsen 1991:258-269)

By limiting our investigation to ergative verbs, we also eliminate English verbs that cannot be used to answer our research question in (11b). In the following sentences, the English verb *build* does not have an intransitive counterpart.

(17)　 a. *Comment given when visiting a station for the first time after a long absence:*
　　　　 あ、駅前にビルがたくさん建ったね。　　　　 [inchoative use of an intransitive verb]
　　　　 A, ekimae-ni　　　　　　 biru-ga　　　　　 takusan <u>tatta(vi.)</u>　 ne.
　　　　 Oh front of the station-DAT　 buildings-NOM　 many　 built(vi.)　 PART
　　　　 (Lit. 'Oh, a lot of buildings have built(vi.) in front of the station!')
　　 b. *A lot of buildings have <u>built(vt)</u> in front of the station!
　　　　　　　　　　　　　　　　　　　　　　　　　　　 [inchoative use of a transitive verb]
　　 c. They've <u>built(vt.)</u> a lot of buildings in front of the station!
　　　　　　　　　　　　　　　　　　　　　　　　　 [causative use of a transitive verb]
　　 d. A lot of buildings have been <u>built(vt.)</u> in front of the station!
　　　　　　　　　　　　　　　　　　　　　　　　　　 [passive use of a transitive verb]

The intransitive Japanese verb above, 建った *tatta*, has no English equivalent. *Build* cannot be an intransitive verb; the gloss (built(vi.)) is an approximation here. (17b) shows that inchoative use of transitive *build* is not possible, whilst (17c, d) show that causative and passive uses are.

(17) can conceivably be used to demonstrate that English prefers transitive expressions. The lack of an intransitive *build* does say something about English: its preference for transitive items in its lexicon (although this also needs to be proven by solid data; one would need to look at the number of transitive items, intransitive items and ergative items as percentages of the whole lexicon). However, this fact is not pertinent to our current research question in (11b), which begins with '**Given a choice**…..' In the case of *build*, there is no choice available. The non-existence of *build*(vi.) does not tell us whether an English user would use a hypothetical *build*(vi.) if it were available, or how often this would be used. The user is necessarily limited by *build*'s word-internal limitation (i.e. no intransitive exists). Ergative verbs, however, give users a choice of transitive or intransitive variants. Examining what users do with this allows us to make meaningful statements about tendencies in language use unhindered by other factors.

This study examines the following ergative verbs in Japanese and English. In the following table, verbs on the left have similar meanings to verbs on the right. According to major dictionaries, all the verbs have transitive and intransitive variants.

(18) Table 1: Ergative verbs under examination

Japanese	English
開（ひら）く *hiraku*	*open*
閉じる *tojiru*	*close*
増す *masu*	*increase*
増加する *zooka-suru*	Same as above
減少する *genshoo-suru*	*decrease*
開始する *kaishi-suru*	*commence*
終了する *shuuryoo-suru*	*conclude*
分離する *bunri-suru*	*separate*
拡大する *kakudai-suru*	*expand*

2.3 Research methodology

News corpora are chosen in this study because of their ready availability and because of the way they reflect general usage of written language aimed at a wide audience. Since news is continually generated by numerous sources, there is a high incidence of almost any lexical item produced over a short time (the incidence of a word like *decrease* over a year would probably be more than its incidence in literature corpora written over decades). Because of this high incidence, news corpora can be examined by random sampling.

News articles are sourced from Yahoo!® English and Japanese sites. For each of the verbs in (18), one hundred sentences containing the words are selected at random from news articles. In other words, for each verb one hundred usage samples are collected, resulting in a total of 1,700 samples. The usage samples are then classified into transitive verbs or intransitive verbs.

The sentence samples collected are subject to the following limitations:

(19) a. All inflections of the verbs are examined. For example, search used terms for *decrease* are: *decrease OR decreases OR decreasing OR decreased.*

   b. Sino-Japanese verbs not accompanied by the inflecting light verb *suru* are not included, as Sino-Japanese verbs with no verbal inflection are often seen as nouns.

   For example, in the following sentence *shuuryoo* lacks the verbal inflection *suru* and is not included.

   e.g. けさ政府が調査を<u>終了</u>。

Kesa	seifu-ga	choosa-o	<u>shuuryoo</u>.
This morning	government-NOM	investigation-ACC	conclude

   'This morning the government concludes/concluded the investigation.'

   c. Especially in English, when it is not clear whether a word is a verb or an adjective, the sentence is not included in the sample data:

   e.g. *The <u>door</u> was closed when I arrived.*

   d. Ambiguous examples were not included in the 100 usage samples for each verb. For example, when a verb is used as a modifier (such as past-participles in English and past forms with ambiguous case marking in Japanese), it is difficult to determine whether it is transitive or intransitive. Such sentences are not included in the 100 usage samples for each verb.

   e.g. *<u>**Increased**</u> (vt.? vi?)monitoring of the nuclear plants would irritate the government.*

   e.g. 試験の<u>終わった</u>(vt.? vi?)生徒は順次に退室していい。

Shiken-no	owatta[1](vt.? vi?)	seito-wa	junjini	taishitsu-shite ii.
Examination-GEN	finished	students-TOP	one-by-one	leave room-do okay

   'Students who have finished(vt.) the exams may leave the room one by one.' OR

   'Students whose exams have finished(vi.) may leave the room one by one.'

   e. Passive examples are classified as transitive verbs and marked as such.

   While a passive construction is often analogous to an intransitive expression in terms of meaning, the fact that passive construction is used when an intransitive expression is theoretically available means **the verb is used as a transitive**:

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[1] *Owaru* has a transitive morphological counterpart: *oeru*. However, *owaru* can also be used as a transitive verb, e.g. *Shiki-o owaru.* 'Conlude the ceremony.' *Owaru* can therefore be ambiguous.

e.g. passive 予選リーグが開始<u>され</u>た(vt.)。

> Yosenriigu-ga   kaishi-<u>sare</u>-ta.
> Preliminary rounds-NOM   begin-<u>PASS</u>-PAST
> 'Lit. The preliminary rounds of play have been started (vt.).'

f. Causative examples in Japanese are similar in meaning to transitive expressions, but the fact that verbs are used in a causative way when a straightforward transitive should suffice indicates that they are in fact **intransitives**. They are classified as such in the sample data.

e.g. causative 定員を増加<u>させ</u>た(vi.)。

> Teiin-o   zooka-<u>sase</u>-ta.
> Number of members-ACC   increase-CAUS-PAST
> 'Lit. (They) caused the number of members to increase (vi.).'

g. The news source and date (month/year) are indicated at the end of each usage sample.

Below is an example of the data collected for the verb *separate*. 100 usage examples were collected, but some of the intermediate examples have been abbreviated. The same sorting methods were also used for Japanese examples.

Vt. examples:

1. When he walks on the park, he's able to <u>separate</u> the two parts of his life. (The Age Oct 2005)
2. Observers said the change reflects efforts by Singapore authorities to <u>separate</u> the oversight and management functions in family-controlled businesses and predicted the changes could, in the future, be extended to all Singapore-listed companies. (Dow Jones News Oct 2005)
3. At first, it was a bit harder to <u>separate</u> the work from the personal life than it is with other people. (The Age Oct 2005)
4. Just one vote <u>separated</u> the top five players, with Gemmill polling six votes in the final two matches to join the talented Lions midfielder on 19 in a thrilling count at Barooga Sports Club last night. (The Border Mail Oct 2005)
5. The big question facing the company is whether it is willing to <u>separate</u> itself from its CRM focus and stake its future on becoming a broader platform vendor. (ARNnet Oct 2005)

……………………………(Usage samples 6 to 59 not shown)………………..…………………….

60. The service for <u>separating</u> couples is not meant to be a divorce blessing but rather a public expression of grief, regret, personal re-examination, affirmation and forgiveness, involving the partners and any children in an intimate ceremony conducted by a minister at home or in church. (Sydney Morning Herald Oct 2005)
61. passive "I struggled to come to terms with it — the immediate fact of being <u>separated</u> from my children and going through a divorce I didn't want to," Thorpe said. (The Age Oct 2005)
62. passive Association deputy chairman John Curry said regulatory and ownership functions need to be clearly <u>separated</u> in light of the "fiasco". (The Herald Sun Oct 2005)

……………………………(Usage samples 63 to 83 not shown: all passives)………………………..

84. passive In May 2004, Nashville's rookie of the year sold 227,000 units of her first album "Here for the Party" during its first week, <u>separated</u> from Usher's chart-topper by less than 2,000 units. (Reuters Oct 2005)

85.　passive At one end of the machinery, clear ethanol collected in a cistern, while what remained of the wine was separated into water and an inky concentrate that can be used to colour food.

Vi. examples:

86.　The pair <u>separated</u> in February 2002. (The Australian Oct 2005)

87.　Cindy Gambino and Mr Farquharson separated about a year ago but were "on good terms". They lived in Winchelsea and Mr Farquharson saw the children regularly.

………………..………(Usage samples 88 to 98 not shown)………………………………………

99.　Centres should not assume that clients with relationship difficulties or going through separation will inevitably <u>separate</u>. (The Sun-Herald Oct 2005)

100.　A statement issued by their representatives almost immediately said they had not <u>separated</u> and "rumours to the contrary are simply not true."(The Age Oct 2005)

Ambiguous (probably Vt, but could be Vi): A privatised Telstra would operate as two different entities, with its retailing <u>separated</u> from the wholesale and network divisions (The Age Oct 2005)
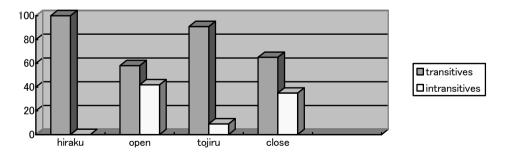

3. Results

3.1 Overall results

(20) Table 1: Results for *hiraku, open, tojiru, close*

Verb	Transitives (out of 100 usage samples)	Intransitives (out of 100 usage samples)
開く*(hiraku)*	100 (61 of which are passive uses)	0
open	58	42
閉じる*(tojiru)*	91	9
close	65	35

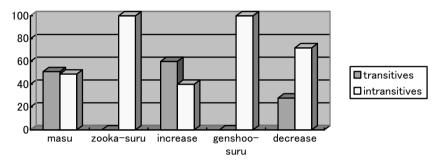(21) Graph 1: Results for *hiraku, open, tojiru, close*

Contrary to expectations of intransitive dominance in Japanese, most samples of *hiraku* and *tojiru* were transitive in the news corpus. With *hiraku*, only transitives were found in the 100

samples. *Tojiru* was also dominated by transitives. The English words *open* and *close* alternated quite freely, with slightly more samples of transitives.

(22) Table 2: Results for *masu, zooka-suru, increase, genshoo-suru, decrease*

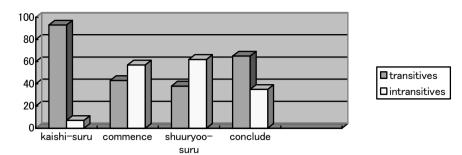| Verb	Transitives(out of 100 usage samples)	Intransitives(out of 100 usage samples)
増す(*masu*)	51	49
増加する(*zooka-suru*)	0	100
increase	60	40
減少する(*genshoo-suru*)	0	100
decrease	28 (6 of which are passive uses)	72

(23) Graph 2: Results for *masu, zooka-suru, increase, genshoo-suru, decrease*

Verbs in this group express quantitative change. The native Japanese (*wago*) verb *masu* showed equal distribution between transitives and intransitives. Amongst the Sino-Japanese (*kango*) verbs *zooka-suru* and *genshoo-suru*, however, no transitives were found. This is despite the fact that most dictionaries allow for both transitive and intransitive uses. *Increase* and *decrease* both alternate, but *decrease* breaks from the English pattern observed so far: it has more intransitives than transitives.

(24) Table 3: Results for *kashi-suru, commence, shuuryoo-suru, conclude*

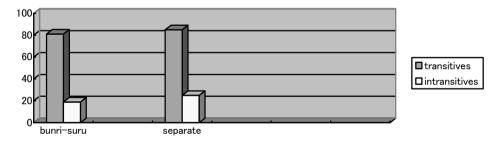| Verb	Transitives (out of 100 usage samples)	Intransitives (out of 100 usage samples)
開始する (*kashi-suru*)	93	7
commence	43	57
終了する (*shuuryoo-suru*)	38	61
conclude	65 (14 of which are passive uses)	35

(25) Graph 3: Results for *kashi-suru, commence, shuuryoo-suru, conclude*

The Japanese *kaishi-suru* is dominated by transitives. In contrast, *shuuryoo-suru* has more intransitive samples than transitive samples. *Commence* and *conclude* alternate as most English ergatives do, but there are slightly more transitives than intransitives with *conclude* (*conclude* in the sense of 'concluding a treaty' was not included in this survey).

(26) Table 4: Results for *bunri-suru* and *separate*

Verb	Transitives (out of 100 usage samples)	Intransitives (out of 100 usage samples)
分離する(bunri-suru)	81 (17 of which are passive uses)	19
separate	85 (15 of which are passive uses)	15

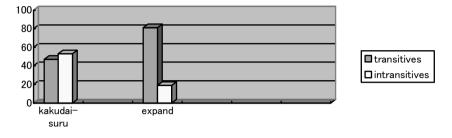(27) Graph 4: Results for *bunri-suru* and *separate*

Both *bunri-suru* and *separate* involve at least two, and sometimes three participants ('x separates y from z' or 'y separates from z'). This makes them more likely to be realised as transitives. We see this trend in both languages and a remarkable resemblance between the English and Japanese: both are mostly transitive in use.

(28) Table 5: Results for *kakudai-suru* and *expand*

Verb	Transitives (out of 100 usage samples)	Intransitives (out of 100 usage samples)
拡大する *(kakudai-suru)*	47	53
expand	81 (5 of which are passive uses)	19

(29) Graph 5: Results for *kakudai-suru* and *expand*

Expand shows the expected English pattern of the transitive variant in prominence. *Kakudai-suru* alternates quite freely, which is quite unusual for the Japanese verbs in this study.

3.2 Comparison between English and Japanese verbs

It was found that English ergative verbs alternate quite freely compared to their Japanese counterparts. Moreover, with the exception of *decrease* and *commence*, we find consistently that **transitives appear more often than intransitives**. This correlates well with the claim that English favours transitive expressions.

The Japanese results are more perplexing. We do not find a consistent preference for intransitive expressions. Most of the verbs, although listed as ergative in popular dictionaries, are in fact heavily biased towards either transitives or intransitives. Only *shuuryoo-suru, masu* and *kakudai-suru* show fairly even distribution between transitives and intransitives. This result could be due to a number of factors, one of which could be that since the majority of Japanese verbs are either transitive or intransitive depending on their morphological shape, most native speakers do not readily tolerate alternation without change in morphological shape. Another possible reason is the nature of news reporting, where established patterns of usage are prominent. *Hiraku*, for example, appears only as a transitive verb in the news corpora, but a brief search on bilingual (i.e. translation) literature corpora revealed more intransitives. In the Japanese translation of the novel *The Time Machine* by H.G. Wells, for example, all instances of *hiraku* are intransitives. The following English and Japanese data of *The Time Machine* are taken from *Project Gutenberg*[2] and the *Project Sugita Genpaku* corpus[3] （プロジェクト杉田玄白） respectively. Both are literature corpora freely available on the Internet.

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[2] www.gutenberg.org
[3] www.genpaku.org

(30) a. その説明の真っ最中に、廊下側のドアがゆっくり無音で<u>開いた</u>。

    b. He was in the midst of his exposition when the door from the corridor <u>opened</u> slowly and without noise.

(31) a. 「やあこんばんわ。やっとおいでですか！」そしてドアがもっと大きく<u>開いて</u>、一同の前に時間旅行者が立っていた。

    b. 'At last!' And the door <u>opened</u> wider, and the Time Traveller stood before us.

(32) a. 取っ手も鍵穴もありませんでしたが、もしこのパネルが思ったように扉であるなら、中から<u>開く</u>のでしょう。

    b. There were no handles or keyholes, but possibly the panels, if they were doors, as I supposed, <u>opened</u> from within.

(33) a. 奥のドアが<u>開いて</u>、彼女は静かに研究室を、背中を先にして横切り、前に入ってきたドアの背後に消えたのでした。

    b. The door at the lower end <u>opened</u>, and she glided quietly up the laboratory, back foremost, and disappeared behind the door by which she had previously entered.

We conclude that based on the research question in (11b), the English results do show a preference for transitive expressions, but this is nowhere near as prominent as Ikegami's claims would lead us to believe. The Japanese results are much more complex. All one can say at this stage is that most ergatives do not alternate freely, but show a preference for either the transitive or intransitive variant. We have only examined seventeen verbs in this study. It is clear that many more would need to be investigated in order to make meaningful generalisations about English and Japanese.

3.4 Individual verbs

Both the English *increase* and *decrease* alternate, but *increase* prefers the transitive variant, while *decrease* leans towards the intransitive variant. The meaning of these verbs may be a major factor in variant selection.

Hopper and Thompson (1980), as part of their *transitivity hypothesis*, gives ten parameters which determine the likelihood an expression would be realised as a transitive or an intransitive sentence. If a phenomenon is perceived as high according to a number of parameters, it is more likely to be realised as a transitive. A and O are understood to be the first and second participants in a clause.

(34) Table 6: The ten parameters governing transitivity (Hopper and Thompson 1980:252)

	High	Low
A. Participants	2 or more participants, A and O.	1 participant
B. Kinesis	action	non-action
C. Aspect	telic	atelic
D. Punctuality	punctual	non-punctual
E. Volitionality	volitional	non-volitional
F. Affirmation	affirmative	negative
G. Mode	realis	irrealis
H. Agency	A high in potency	A low in potency
I. Affectedness of O	O totally affected	O not affected
J. Individuation of O	O highly individuated	O non-individuated

According to this table, transitivity is not an absolute category, but more of a continuum. For example, if a phenomenon has two participants (high in Parameter A), is volitional (high in Parameter E), and O is highly affected (high in Parameter I), then the phenomenon is more likely to be realised as a transitive expression across different languages.

Increase usually refers to phenomena that are volitional (high in Parameter E), beneficial/ affirmative (high in Parameter F) and require hard work (high in Parameter H). This makes *increase* expressions more likely to be transitive. *Decrease* expressions, on the other hand, often describe phenomena with opposite characteristics: they are usually non-volitional (many natural phenomena atrophy or decrease if left unattended), negative and have little potency. Thus we find that although in English alternation is available, *increase* appears more as a transitive verb and *decrease* appears more as an intransitive verb. However, the Japanese *zooka-suru* and *genshoo-suru* do not seem to conform to this tendency. As mentioned before, the transitivity of Japanese verbs tend to be heavy biased towards one of the two possibilities, allowing for less influence from the semantics of the verbs. We do not have an adequate explanation for why *commence* has more intransitives than *conclude*. To answer that question, we will probably need to look at the difference between these verbs and related ergatives such as *start*, *begin*, *end* and *finish*.

List of abbreviations used in glosses

NOM	nominative	CAUS	causative
ACC	accusative	DEIC	deictic verb
DAT	dative	EMPH	emphatic
GEN	genitive	INTER	interrogative particle
INST	instrumental	MOD	modal particle
TOP	topic marker	PASS	passive
		PAST	past tense suffix
		Lit.	literally
		vt.	transitive verb
		vi.	intransitive verb

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(日本語の要約)

日英語の能格動詞の自他：ニュースコーパスからの考察

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　日本語は「なる」言語で、自動詞的な表現を好み、英語は「する」言語で、他動詞的な表現を好むという説は、**言語類型論**(linguistic typology)という視点から古くから言われている（池上(1981), Hinds (1986)）。次のような文がその典型例である。

(1)　　a. 暑さで食べ物が<u>腐って</u>しまった。

　　　　b. The hot weather <u>spoiled</u> the food.

(2)　　a. 風で傘が<u>壊れた</u>んだ。

　　　　b. The wind <u>broke</u> my umbrella.

　以上の日本語の表現は、対応する他動詞の表現があるにもかかわらず、自動詞表現のほうがよく使われる。（？暑さが食べ物を<u>腐らして</u>しまった。／*風が傘を<u>壊した</u>んだ。）英語にも対応する自動詞の表現はあるが、他動詞のほうが使う頻度が高い(The food <u>spoiled</u> because of the hot weather./ My umbrella <u>broke</u> because of the wind.)。英語の自動詞の表現は弁明の場面を連想させることが多い。

　池上(1981)によると、英語は「〈動作主〉を際立たせて表現しようとする言語」（池上1981:285）であり、日本語は動作主を「なるべく覆い隠して表現しようとする言語」（池上1981:285）である。〈動作主〉を際立たせる表現はつまり統語的に2つ以上の項をもつ他動詞表現になりやすい。動作主を覆い隠す表現はふつう、一つの項しかもたない自動詞表現になる。池上のこの説明は、言語類型論で言う**言語間の相違点**をうまく捉えた原理である。

　「英語には他動詞表現が多く、日本語には自動詞表現が多い」ということを裏付けるために、次のことを数値で証明したい。

(3) 自他同形の動詞（能格動詞）を見れば、その動詞の「他動詞変形(variant)」と「自動詞変形(variant)」の出現率は、英語では　**他動詞変形の出現率＞自動詞変形の出現率**、日本語では　**自動詞変形の出現率＞他動詞変形の出現率**　になっているはずである。

　ニュースの対訳のコーパスで日英語の能格動詞（自他同型の動詞）を調べた結果、英語の能格動詞は、自他の交替が比較的に自由であり、圧倒的に自動詞用法が多いということも、圧倒的に他動詞用法が多いということもないのである。ただし、decrease と commence を除けばどの動詞も他動詞用法のほうが多い。これは「英語は「する」言語」という説によくあっている。また、decrease という例外については Hopper and Thompson(1980)の transitivity hypothesis で説明できると思われる。

　日本語の能格動詞は、辞書で自他両方の用法があると記述されていても、ニュースコーパスにおいては他動詞用法しかない、あるいは自動用法しかないという意外な結果が出た。日本語母語話者の意識では、ある形態は自動詞用法、もしくは他動詞用法と結びついており、自由な交替は、形態を変えないかぎり、あまり許されないかもしれない。