The Historical Source of the Bigrade Transitivity Alternations in Japanese[1]

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1. Introduction

A well known feature of the Japanese verbal lexicon is the existence of transitivity alternations associated with differences in stem shape. Alternations between vowel (Old Japanese bigrade) and consonant (OJ quadrigrade) stems are of particular interest, because the valency of the stem is not predictable by its shape: Some transitive vowel stem verbs (such as *tate-* 'stand it up') are paired with an intransitive consonant stem (*tat-* 'stand'), but at the same time some intransitive vowel stems (such as *sake-* 'split') are paired with a transitive consonant stem (*sak-* 'split it'). In each case the vowel stem appears derived, but which stem is transitive and which is intransitive is unpredictable. As Murasugi (this volume) shows, these alternations are mastered only at a later stage of first language acquisition, but the alternations occur with mostly slight variation across Japanese languages and dialects, and they appear in the oldest attested form of Japanese, Old Japanese of the 8th century. In this paper we reconstruct a diachronic source for the stem shape-based transitivity alternation in Japanese.

Our account revives an insight that dates back at least 60 years among Japanese historical linguists, but that has gone unnoticed in the typologically informed literature on the Japanese transitivity alternations. This is that the transitivity alternations originate as an **acquisitive** pattern, involving grammaticalization of the verb 'get'. The account also contributes to a revised understanding of reconstructed post-proto Japanese; specifically, that an older layer

of verbal derivation in Japanese resulted from V1-V2 patterns where V2 was attached directly to the basic stem (root) of V1, unlike later stages of the language where verbal derivation requires a derived stem (primarily the infinitive) of V1. We call this pattern in post-proto Japanese *direct stem affixation*. We argue that the consonant stem : vowel stem alternation derives from combination of the basic stem (root) of V1 with the verb *e-* 'get'. This combination results in the subregularities that survive to this day: transitive accomplishment verbs from the combination of 'get' with intransitive achievements, and a smaller number of anticausative intransitives from the combination of 'get' with transitives. We also discuss the relationship of the 'get' derivation with other patterns of direct stem affixation at the proto-Japanese level. Combinations of Vstem1 + *ar- (probably cognate with the verb *ar-* 'exist') derive stative intransitives. Combinations of Vstem1 + *s- (possibly cognate with *sə- 'do') derive causative transitives. *-s- was used primarily to derive transitives from stative roots, but also, we argue, was subject to phonological restrictions on its use. *e - 'get' was used in part to supplete for transitivizing *-s- after consonant stems. Some of the semantic overlap between transitives derived by*-s- and *-e- results from their original suppletive relation, as discussed in 5.4.

We show that direct stem affixation related to transitivity alternations involves two distinct layers. The pattern with intransitive *ar- and transitivizing *s- is older. The *–(a)r-/-s-* alternation is already fully lexicalized by Old Japanese, and probably was well before that period. It is fully attested in all Japonic varieties, including Ryūkyūan.

The alternation involving *e- 'get' is more recent. Prior to OJ, *-e- replaced *-s- as a transitivizer. We see some evidence of the expansion of transitivizing *–e-* even in OJ, although *–e-* too has ceased to be fully productive by the OJ stage.

The relation between transitivizing and detransitivizing *-e- is complex, but we present an account compatible with the relatively limited scope of the latter pattern. Our central point

is that all functions of this morpheme are compatible with well-known grammaticalization paths for 'get'.

1.1 Old Japanese

For this paper we use data from the earliest attested stage of Japanese, Old Japanese (abbreviated OJ; in Japanese *jōdaigo* 上代語), which mainly reflects the language of the 8th century spoken in and around the then capital, Nara, in the Kansai region.[2] Texts from the OJ period also comprise material which pre-dates the 8th century, but is included in texts written or compiled in the 8th century, and also some eastern dialect material. The majority of texts from the OJ period are poetry, which is also the only written genre from the time with significant amounts of phonologically written text; needless to say, only phonographically written text can give reliable information about the actual shapes of words, and therefore about the actually attested patterns of alternation between related verbs.[3] We have accessed and searched the texts through the Oxford Corpus of Old Japanese (see http://vsarpj.orinst.ox.ac.uk/corpus/), an electronic annotated corpus of Old Japanese which comprises all poetic texts from the Old Japanese period, approximately 90,000 words.

2. Transitivity alternations in Old Japanese

A well known feature of the Japanese verbal lexicon is the existence of transitivity alternations associated with differences in stem shape. We briefly review the main alternations found in OJ. The same alternations are mostly also found in NJ, but the lexical distribution, frequency and balance differ in some important respects; we summarize the

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[2] Later periods of Japanese are as follows: Early Middle Japanese 800 – 1200 (EMJ; *chūkogo* 中古語); Late Middle Japanese 1200 – 1600 (LMJ; *chūseigo* 中世語); Modern Japanese from 1600 (NJ; *kindaigo* 近代語, *gendaigo* 現代語). See further Frellesvig 2010.

[3] The main poetic texts are: *Kojiki kayō* (古事記歌謡, abbreviated KK; 712), *Nihon shoki kayō* (日本書紀歌謡; 720), *Fudoki kayō* (風土記歌謡; 730s), *Bussukoseki-ka* (仏足石歌; after 753), *Man'yōshū* (万葉集, MYS; after 759); *Shoku nihongi kayō* (続日本紀歌謡; 797).

distribution of the different patterns in section 2.1 below. As in NJ, some of these alternations involve derivational morphology with positively defined transitivity value, in particular transitive -s- and intransitive -r-, sometimes in alternation with simple stems, sometimes alternating with each other, e.g. (1).

(1)   Simple   -s- Transitive   -r- Intransitive

        tir-   *tiras-*
        'scatter (i)'   'scatter (t)'

                               watas-   *watar-*
                               'make go across'   'go across'

                               nas-   *nar-*
                               'make'   'become'

A pattern of particular interest involves alternations between a simple quadrigrade verb and a derived bigrade verb.[4] In these cases the transitivity of the members of each derivational pair is not strictly predictable from the shape of the stems, see (2).

(2)   Quadrigrade   Bigrade

        Intransitive   Transitive

        tat-   *tate-*

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[4] Quadrigrade (*yodan*) and bigrade (*nidan*) refer to the two major conjugations of OJ. See Frellesvig 2010 for a description of these conjugations and OJ verbal morphology more generally. Quadrigrade and bigrade verbs are the ancestors of NJ consonant and vowel stem verbs respectively.

'rise, set out'   'raise'

Transitive   Intransitive

yak-   *yake-*

'burn'   'burn'

However, of these two alternations, the one exemplified in (4)-(5), between an intransitive

quadrigrade verb and a transitive bigrade verb, is the main pattern, fairly well attested for

OJ.[5]

(4) *tat-* 'rise, set out'

能許 乃　　宇良　奈美　　　多多奴　　　日　者

noko　no　ura　nami　　tata-nu　　pi　pa

Noko GEN　bay　wave　　rise-NEG　　day TOP

'a day when the waves are not rising in the Noko Bay' (MYS 15.3670)

(5) *tate-* 'raise (trans.)'

世　　人　能　　　　多都流 許等

yo <u>no</u> pito *no*　　　*taturu　koto*

world GEN people GEN　　raise　word

'what people say' (MYS 18.4106)

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[5] When citing textual examples from OJ we include original script. Our transcription is phonemic and follows the Frellesvig & Whitman system (see Frellesvig and Whitman 2008). Text which is phonographically written is transcribed in *italics* (e.g. '*noko*' in (4)), whereas logographically written text is transcribed in plain type (e.g. 'pi' in (4)).

The second pattern of alternation is between a transitive quadrigrade verb and an intransitive bigrade verb, exemplified in (6)-(7). However, although their number increases in following periods of the language, there are in fact only a few examples of this pattern in OJ.

(6) *yak-* 'burn (trans.)'

加良怒	袁	志本爾	夜岐
karanwo	*wo*	*sipo ni*	*yaki*
karano(boat) ACC		salt into	burn

'burn the *Karano* boat to make salt' (KK 74)

(7) *yake-* 'burn (intr.)'

夜気牟	志婆加岐
yake-mu	*sibakaki*
burn-CONJ	brushwood.fence

'the brushwood fence which will burn' (KK 109)

In addition to these two morphologically simple alternation patterns, other, more frequent, alternating patterns include bigrade verbs alternating with verbs that themselves involve derivational transitivity material, for example transitive bigrade verbs alternating with intransitive *-r-* derivatives, (8), or intransitive bigrade verbs alternating with transitive *-s-*, (9).

(8)   Bigrade transitives   *–r-* intransitives

        kasane- 'pile up'   *kasanar-* 'increase'

        tome- 'stop'   *tomar-* 'stop'

(9)   Bigrade intransitives   *–s-* transitives

        ide- 'emerge'   *idas-* 'take, put out'

        kure- grow dark'   *kuras-* 'spend (time)'

There is also a binary transitivity alternation pattern involving intransitive *-r-* alternating with transitive *-s-*, with no bigrade verb involved.

(10)   *–r-* intransitives   *–s-* transitives

        amar- 'remain'   *amas-* 'leave over'

Finally, in addition to these simple, binary alternations, there are some examples of a fuller set of alternating verbs, (11), although these are very few.

(11)   Simple quadrigrade   *kap-*   'mix (intr.), buy, change (intr.)'

        Bigrade   *kape-*   'change (tr.)'

        -r-   *kapar-* 'change (intr.), succeed'

        -s-   *kapas-* 'switch (tr.)'

2.1 Lexical distribution of transitivity patterns.

The volume of text from the Old Japanese period is not great and generalizations based on numbers must often be treated with some caution. However, as mentioned above, the distribution of the different patterns of derivation and alternation is in some respects discernibly unequal in the OJ lexicon. Based on the poetic texts in the Oxford Corpus of Old Japanese, the figures for the main binary (two-member) patterns in Old Japanese are as

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follows.[6] The first number for each pattern is the number of alternating pairs where both

members are phonographically attested; the number in brackets is the additional number of

pairs where only one member is phonographically attested, but attestation of the other reflects

reading tradition of logographically written text.[7]

a.[8]   Intransitive …CVC- =>   Transitive …CVCe-   23 (9)

e.g.   *tat-* 'rise, set out'   *tate-* 'raise'

b.   Transitive …CVC   =>   Intransitive … CVCe-   5 (2)

 e.g.   *sak-* 'split it'   *sake-* 'split'

c.   …CVC   =>   …CVCVs-   5 (2)

e.g.   *ter-* 'shine (v.i.)'   *teras-* 'light it up (v.tr.)'

d.   …CVCe   ~   …CVCVr-   6 (5)

e.g.   *age-* 'raise'   *agar-* 'rise'

e.   …CVCe   ~   …CVCVs-   7 (1)

e.g.   *ide-* 'go out'   *idas-* 'put out'

f.   …CVCr-   ~   …CVCVs-   8 (2)

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[6] Incidentally, there are no well-attested OJ examples of the type …CVC => …CVCVr-, where *-(a)r-* derives an intransitive verb from a transitive consonant base verb. Rather, derivations in *-(a)r-* seem first and foremost to be stative and not primarily related to transitivity.
[7] Kuginuki (1996: 247) gives 50 OJ examples of the intransitive quadrigrade : transitive bigrade in pattern in (4-5) (his pattern I.1) and 10 examples of the transitive quadrigrade : intransitive pattern in (6-7) (his I.2). The literature includes several lists of OJ transitivity alternation patterns, including Kida (1988), but such lists usually uncritically cite verbs as attested in OJ, regardless of whether they are in fact phonographically attested in OJ or not (e.g., Narrog (this volume)).
[8] This pattern includes causative derivations from transitive verbs, e.g. *mot-* 'hold' => *mote-* 'make hold'.

e.g.   *kudar-* 'go down'   *kudas-* 'take down'

3. Basic facts about the bigrade conjugation class

Before discussing the origin of the bigrade conjugation class, and in particular the transitivity alternations involving bigrade verbs, we outline basic facts about the bigrade classes in OJ (see for details further Frellesvig 2008, 2010:96ff, and Whitman 2008). There are two distinct bigrade conjugation classes, upper bigrade (in Japanese *kami nidan* 上二段), whose stems end in *-(w)i-*, and lower bigrade (*shimo nidan* 下二段) with stems ending in *-e-*. The two subclasses are very different in distribution and with regard to transitivity alternations.

First, the lexical distribution of the three main OJ verb conjugations classes is as shown in (12). As shown, the lower bigrade class is lexically far more frequent than the upper bigrade class.

(12)   Quadrigrade (stems ending in consonants):   c. 75% of OJ verbs

        Lower bigrade (stems ending in *-e-*):   c. 20% of OJ verbs

        Upper bigrade (stems ending in *-(w)i-*):   c. 30 verbs

Second, not all bigrade verbs take part in transitivity alternations. Only (but far from all) lower bigrade verbs take part in transitivity alternations with simple quadrigrade verbs, whereas upper bigrade verbs do not. Finally, it must be mentioned that the bigrade conjugation is a fairly young conjugation type in the language which emerged only fairly shortly before the OJ period (see Frellesvig 2008 for details).

4. Previous accounts of the origin of the bigrade conjugation

A number of accounts of the origin of the bigrade conjugation class(es) have been proposed. The main previous accounts which we will mention here are by Ohno (1953; section 4.1) and Unger (1977, 4.2). See Frellesvig (2008) for a more detailed overview than the one presented here.

4.1 Ohno 1953

In Ohno's (1953) seminal study on the origin of verb inflection in Japanese he proposed that the difference between bigrade and quadrigrade conjugation reflects differences in root shape, such that quadrigrade verbs reflect closed (consonant final, *CVC-) roots, whereas bigrade verbs reflect open (vowel final, *CV- and *CVCV-) roots. Ohno's account has been influential,[9] but it gives no account of the transitivity alternations which the bigrade verbs take part in.

4.2 Unger 1977

The first significant alternative to Ohno's account was proposed by Unger in his Yale University dissertation (available as Unger 1977/1993). According to Unger all pJ verb roots were open (of the shape *CV- or *CVCV-). On this proposal, OJ quadrigrade verbs represent a reanalysis of *CVCV- roots as CVC-, whereas bigrade verbs reflect CV- and CVCV- roots augmented with a derivational morpheme whose function was to switch or flip the transitivity of the root. Unger reconstructs this morpheme, affectionately known as the 'transitivity flipper', as *-gi, and proposes to account for the OJ shape of bigrade verbs by various sound changes (consonant loss and vowel contraction): *CVCV-gi > *CVCVi > CVCV-, thereby also accounting for the transitivity alternations which bigrade verbs take part in, e.g.

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[9] Not least in disseminating within the scholarly community in Japan the synchronic analysis of verb stems, also in NJ, as being consonant or vowel final, an analysis which cannot be expressed in the traditional *katsuyōkei* system.

(13)   *tata 'rise' + –gi- =>   *tatagi- 'raise' >   *tatai- >   *tate-*

    *yaka 'burn (tr.)' + –gi- =>   *yakagi- 'burn (intr.)' >   *yakai- >   *yake-*

The proposal that bigrade vebs incorporate and lexicalize additional morphological material has become widely accepted, but both the hypothesis that all pJ roots were open as well as the proposed identity and function of the additional derivational material have since been rejected. We follow here the view that pJ roots could be both open and closed (Unger 2000, Whitman 2008 for details). More central to this paper is the observation that the 'transitivity flipper' hypothesis does not work as an account of the origin of the bigrade conjugation. Several facts tell us this: First, upper bigrade verbs do not take part in transitivity alternations with simple quadrigrade verbs, and only a minority of lower bigrade verbs do so, making clear that transitivity flipping is not an essential part of the bigrade conjugation. Second, some auxiliaries which belong to the bigrade conjugation are morphologizations of derivational suffixes with the same valency, e.g. the passive auxiliary –re- which diachronically derives from the intransitivizing derivational suffix –r-; or the causative auxiliary –se- which comes from the transitivizing derivational morpheme –s-, again showing that there is no bi-unique relation between bigrade conjugation and transitivity flipping.[10]

5. The GET hypothesis

We turn now to a proposal articulated by Whitman (2008), that the transitivity alternating bigrade verbs originate in the suffixation of the verb *e-* 'get' to the basic stem (or root) of

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[10]Further difficulties with the *gi "transitivity flipper" hypothesis are discussed in Whitman 2008. An additional problem raised for hypothesis by the facts discussed in this paper is that it has no account for bigrade –e- stems such as those in (24), which are derived from noun, not verb stems. The acquisitive hypothesis accounts for these straightforwardly.

quadrigrade verbs,[11] as in (14). It should be noted that the idea that bigrade verbs originate from *e- 'get' has a long history. Both Takeda (1953) and Yoshida (1973) make this suggestion, Yoshida making the point that both the form and meaning of *e- 'get' fit, without elaborating further.

(14)   *tat-* 'rise' + *e-* 'get' =>   *tate-* 'raise'

       yak- 'burn (tr.)' + *e-* 'get' =>   *yake-* 'burn (intr.)'

5.1 The *Get* Acqusitive) Hypothesis: Form

First of all, *e-* 'get' and other lower Bigrade verbs conjugate identically. More significantly, *e-* 'get' is identical to the ending of all lower bigrade verbs. In this sense, *e-* 'get' **is** the lower bigrade conjugation, see (15).

(15) | | 'get' | 'raise' | 'burn' |
|---|---|---|---|
| Basic stem (語幹) | **e-** | tat**e-** | yak**e-** |
| Infinitive (連用形) | **e** | tat**e** | yak**e** |
| Conclusive (終止形) | **u** | tat**u** | yak**u** |
| Adnominal (連体形) | **uru** | tat**uru** | yak**uru** |
| Exclamatory (已然形) | **ure** | tat**ure** | yak**ure** |
| Imperative (命令形) | **eyo** | tat**eyo** | yak**eyo** |

5.1.1 Direct stem affixation

On the direct stem affixation hypothesis, *e-* 'get' attached directly to the basic stem (root) of

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[11] Frellesvig (2008) and Whitman (2008) present different accounts of the origin of the bigrade conjugation as such, but both incorporate Whitman's proposal of the origin of the transitivity alternating bigrade verbs.

another verb. This is different from most later patterns of compounding or affixation to a verb stem, where a derived stem of V1 in a V1-V2 compound generally was used. There are, however, other examples in Japanese of synchronic direct stem affixation, including (a) the affixation of the OJ stative auxiliary -*yeri* to consonant stem verbs: *sak-* 'come into bloom' + -*yeri* => *sakyeri* 'be in bloom';[12] or (b) in pre-OJ, affixation of the negative auxiliary *-anu: *sak- 'come into bloom' + *-anu => *sakanu 'doesn't bloom' (Ohno 1953).[13] Our hypothesis here is that V+*e-* is a further example of direct stem affixation. We show in 5.3 that V+*e* instantiates a well-established pattern in OJ: incorporation of a secondary predicate into a main verb.

5.2 The *Get* Hypothesis: Function

OJ *e-* functioned as a transitive lexical verb 'get, acquire', and as a potential auxiliary verb in both pre- and postverbal position. The latter two exemplify a widely attested modal development from acquisitives (see van der Auwera eta 2009), but here we are interested in the first function.

Our hypothesis requires a clarification of the meaning and structure associated with acquisitive verbs such as *get*. The syntax/semantics literature analyzes *get* as an aspectual variant of *have* (Gronemeyer 1999, Richards 2001, Harley 2004, McIntyre 2005). For the sake of explicitness, we adapt the view of Richards and Harley, that *get* decomposes into an aspectual predicate BECOME and *have*:

(16)   [$_{AspP}$ BECOME [$_{vP}$ Naomi has a new house]]

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[12] As is well known, the OJ Stative auxiliary –*yeri* diachronically derives from contraction and resegmentation of a construction involving the ancestor of the OJ Infinitive followed by the existential verb *ari*, e.g., *saki ari 'be in bloom' > *sakyeri, but synchronically in OJ the morphological structure was clearly *sak-yeri*, i.e., an example of synchronic direct stem affixation.

[13] Negative forms like *sakanu* were later, still in pre-OJ, resegmented and in OJ had the structure *saka-nu*; see Frellesvig 2008:184f for details.

'Naomi gets a new house.'

Using this basic approach, we represent the three basic meanings of *get* distinguished by Gronemeyer (1999):

(17)   a.   Agentive 'obtain'

$_{AspP}$[BECOME $_{vP}$[NP$_{AGENT}$ v $_{VP}$[HAVE NP$_{THEME}$]]]

b.   Locative 'acquire'

$_{AspP}$[BECOME $_{vP}$[v $_{VP}$[NP$_{GOAL}$ $_{V'}$[HAVE NP$_{THEME}$]]]]

c.   Secondary predication '*get* NP XP'

$_{AspP}$[BECOME $_{vP}$[NP$_{AGENT/GOAL}$ v $_{VP}$[NP$_{THEME}$ [HAVE XP]]]]

(17a) is the case of agentive *get* "Naomi got a dog." (b) is the case of nonagentive "Naomi got a cold." Both of these patterns are attested in OJ, as shown by examples (18) and (19) below. Pattern (c) is the case of *get* NP plus a secondary predicate (XP), *Kei gets Naomi out of the house/drunk* and intransitive *Naomi gets drunk/out of the house*. As we show in section 6, this pattern is the crosslinguistic source of diathetic aquisitives (valency altering combinations with *get* and similar verbs of acquisition). Acquisitives combine with secondary predicates to derive patterns like transitive *get NP out of the house/drunk* and intransitive *NP gets drunk/out of the house*. The OJ lexical verb *e-* attests the secondary predication pattern in (c) as well, see (20). Thus, as an independent lexical verb OJ *e-* 'get' had all three of the basic patterns in (17).

(18)　　須理夫久路　伊麻波　　　衣天之可

　　　　suri-bukurwo ima pa　　　 e-tesika

　　　　suri-bag　　　 now TOP　　　get-OPT

　　　　'Would that (I) had gotten a *suri* bag!' (MYS 18.4133)

(18) is agentive transitive *get*: the *pro* subject actively wants to get the bag.

(19)　　山人　　　　　　乃　　　　和礼爾　　　　　衣志米之

　　　　yamabito　　　　 *no*　　　 *ware ni*　　　　 *e sime-si*

　　　　mountain.PERSON　GEN　　　 I　　DAT　　　　get-CAUS-PAST

　　　　夜麻都刀　　　　　曾

　　　　yamadutwo　　　　 *so*

　　　　mountain.souvenir　FOC

　　　　'This is the mountain souvenir which the mountain dweller made me get (gave me)'

　　　　(MYS 20.4293)

(19) is non-agentive transitive *get*: *ware* 'I' is a recipient/goal, who acquires a souvenir

through the agency of the mountain dweller.

(20)　　可里乎　　　都可比尓　　　　衣弖之可母

　　　　kari wo　　　 *tukapi ni*　　　　 *e-tesika mo*

　　　　goose　ACC　 messenger be.INF　　get-OPT even

　　　　'Would that I had gotten the wild geese as messengers!' (MYS 15.3676)

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(20) is agentive transitive *get* with a secondary predicate, *tukapi ni* 'as messenger'. The secondary predicate is formed from *tukapi* 'messenger' and the infinitive of the defective copula *ni* 'to be'. Note that the speaker/subject in this example does not actually want to get the geese; s/he wants to *get them to be messengers*. The sentence renders perfectly as an English *get* causative. The pattern in OJ is analytic, formed from a nominal predicate and the infinitive of the copula, but the example shows that *e-* as an independent verb continued to have the transitive secondary predication pattern of (17c) in OJ. This is exactly the pattern we want for transitivizing *e-*.

5.3 Incorporated secondary predicates in OJ

OJ had a second strategy in addition to the infinitive of the copula for licensing secondary predicates: incorporation into the lexical verb. For example, the noun *yoko* 'side' is incorporated in the verbs *yokosarap-* 'go sideways' and *yokotape-* 'put on its side'.[14] The first verb is derived from the verb *sar-* 'go" plus the activity verb derivative *–ap-*, incorporating *yoko* 'side'.[15] Similar examples are *sakanobor-* 'go against the current' from *nobor-* 'climb' incorporating *saka* 'backward', and *sakapagi-* 'flay inside out', from *pag-* 'flay' incorporating *saka*.[16] All of these verbs involve the pattern NP$_{THEME}$ XP V, where XP is the secondary predicate that incorporates into the verb.

A similar pattern of incorporation can be found with secondary predicates like *kata* 'one of a pair, alone,' as in *katasik-* 'lay out alone', from *sik-* 'lay out' incorporating *kata*:

(21)　其呂母蘇弖　加多思吉弖

　　　koromoswode　kata+siki-te

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[14] Only the first of these verbs is attested phonographically in OJ.

[15] For the activity verb derivative *–ap-*, see Frellesvig 2010: 52. The basic verb *sar-* 'go, depart' does not appear with *–ap-*, presumably because it is difficult to generate an activity reading for 'go'. 'Go sideways', on the other hand, is a robust activity verb.

[16] Only the first of these verbs is attested phonographically in OJ.

robe   alone lay.out-GER

'laying out (my) robe alone' (MYS 15.3625)

Here *kata* 'alone' is predicated of the theme obejct *koromoswode* robe.

Finally, we can find examples of uninflected adjectives as incorporated secondary predicates. Examples include *takasik-* 'administer high and grand', from *sik-* 'spread out, rule' incorporating *taka* 'high', and *takasir-* 'build, establish high and grand', from *sir-* 'know, rule' and *taka*:[17]

(22) 此　山　乃　弥　高思良珠　水激　　瀧 之 宮子

kono yama　*no*　iya taka+*sira-su*　midu tagitu　　taki *no* miya*kwo*

this mountain GEN very tall+build-RESP water flow.fast waterfall GEN palace

'the palace in these mountains, which (the emperor) built very tall, with water running in its waterfalls' (MYS1.36)

In (22) it is the palace which is tall, just as in (21) it is the robe that is by itself. In all of the above cases, the incorporated item is predicated of the innermost argument.

Given that the lexical verb *e-* 'get' occurs in the transitive secondary predicate pattern of (20), we should not be surprised to find that it also occurs in the incorporated secondary predicate pattern. As we pointed out at the end of section 4, the bigrade formative *-e-* is not restricted to attaching to lexical verbs. Even among verb pairs involving a transitivity alternation one of whose members is formed with, *–e-*, the stem cannot always be traced back to a verb stem. This is particularly true of pairs built on intransitive *–(a)r* and transitive *–e-*, as in (8). Let us look at some additional examples of this type:

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[17] Only the second of these verbs is attested partly phonographically in OJ.

(23)   Bigrade transitives   –r- intransitives   Related stem

       mage- 'curve'   *magar-* 'curve'   *maga* 'curved, curve'

       wope- 'end'   *wopar-* 'end'   *wo* 'tail'

       ate- 'touch'   *atar-*[18] 'touch'   *ata* 'span between thumb and

                                                   middle finger'

There is no evidence for verb stems *mag-* 'curve', *wop-* 'end', or *at-* 'touch', and if such verb stems existed, it is not clear what they would mean, since the intransitive state sense is expressed by the *-r-* intransitives. Given that *-(a)r- was the standard device for deriving stative verbs from noninflecting stems, it makes more sense to posit a noninflecting stem as the source for the pairs in (8) and (23). On this view, the source for transitive *mage-* and intransitive *magar-* is as in (24), where noninflecting stems are incorporated secondary predicates:

(24)   Stem   Bigrade intransitive   –r- intransitive

       maga 'curve'   *maga+e-* 'get a curve, get curved'   *maga+r-* 'have a curve'

       wop 'tail, end'   *wop+e-* 'get an end, get ended'   *wop+ar* 'have an end'

       ata 'touch'   *ata+e-* 'get a touch'   *ata-r* 'have a touch'

5.4 The *Get* Hypothesis: A diachronic scenario

We have shown that *–e-* 'get' derived some transitivizing bigrade verbs by incorporating noninflecting stems as secondary predicates. The underlying pattern is the transitive secondary predicate pattern in (17c), synchronically attested by the OJ analytic or

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[18] *Atar-* 'add' is not phonographically attested in OJ.

nonincorporated structure in (20). It is but a short step from incorporating noninflecting stems to incorporating uninflected verb stems, the core of the GET hypothesis in (14). It is difficult to tell which derivation came first, but the typological evidence on diathetic acquisitives discussed in section (6) suggests that the pattern incorporating noninflecting (nonverbal) stems came first.

One of the biggest challenges for diachronic and synchronic analyses of the Japanese transitivity alternations is specifying the factors distinguishing transitivizing *–e–* and transitivizing *–s–* (see Jacobsen 1988, 1992 for a treatment of this opposition in NJ). From a diachronic standpoint, the difference between these two strategies is that (a) *–s–* is older (b) *–s–* is phonologically more restricted.

The *–s–* pattern appears to have been the standard way of deriving transitive verbs from uninflected adjective stems.

(25)   Uninflected adjective stem   *–s–* transitive

        kura 'darkred'   *kuras–* 'make darkredden'

        opo 'big'   *opos–* 'raise, bring up'

        ara 'rough, barren'   *aras–* 'lay waste to'

Examples where bigrade *–e–* derives a transitive from an adjectival root, in contrast, are nonexistent.[19]

However transitivizing *–s–* appears to have been phonologically restricted. It attaches to vowel stems, such as the uninflected adjectives in (25). Since OJ disallows consonant clusters, attachment to consonant stems would have required some phonological adjustment. There is evidence that *–s–* also derived transitives from simple *r*-stems, with deletion of final /r/. This

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[19] Transitive *mage–* 'curve, bend' : *maga* 'curve(d), bent' is the only clear, potential example. But as pointed out in 5.3, *maga* was a noun, with the meaning 'curve, bend'.

is provided by examples like *yos-* 'bring near'. It is unlikely that the corresponding

intransitive *yor-* 'approach' is derived, as there is no stem *yo-* in this meaning. Similar

examples are *kas-* 'lend' : *kar-* 'borrow' and *tas-* 'add'[20] : *tar-* 'suffice, be full'.

If this idea is correct, *-s-* derived transitives in at least the two patterns in (26) in pre-OJ:

(26)   Transitivization by –s- (Pre-OJ)

      a. (CVC)V- + -s- > (CVC)Vs   *kura* 'dark' + *-s-* > *kuras-* 'make dark'

      b. (CVC)Vr- + -s- > (CVC)Vs   *yor-* 'approach' + *-s-* > *yos-* 'bring near'

The derivational option in (26b) explains the (admittedly small) number of sets in OJ

involving a consonant stem, an *–r–* intransitive, and an *–s–* transitive, such as those built on

kap- 'mix, buy, change' in (11). The root verb *kap-* is quintessentially labile, with transitive

and intransitive meanings. *Kapar-* (intr.) is derived by affixation of intransitivizing *–ar-,

which gives the meanings 'change, change places with, succeed (chronologically)'.[21]

Transitive *kapas-* is derived from *kapar-* by the process in (26b), deleting stem-final *r before

*-s. This example shows the relationship between pre-OJ intransitivizing *-ar- and

transitivizing *-s. The original stem *kap- is labile. Intransitivizing *-ar derives the

intransitive meaning 'change, switch (intr.)'. Transitivizing *-s derives 'switch (tr.)' from the

latter; were *kapas-* derived directly from *kap-*, we might expect it to mean 'make buy' or

'make mix'.

Transitive *kape-* 'change (tr.)', on the other hand, directly incorporates the stem *kap- into

*-e- 'get'. Its meaning is composed from the meaning 'change' of the original stem. This

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[20] *Tas-* 'add' is not attested in OJ.
[21] Examples such as this, with a clear original CVC- root, provide good evidence that the original shape of the intransitivizing suffix was *–ar-*, identical to the stem shape of *ar-* 'exist, be'. In such cases the shape of the suffix is invariably *–ar*. An even more compelling case is provided by examples like *tomar-* 'stop (intr.)'. The stem is a violation of the strong version of Arisaka's law, suggesting that there was originally a morphological boundary between *tom-* and *–ar*.

example gives us a glimpse of the original division of labor between *–s- and *–e-: the restriction of *–s- to vowel and –r- stems had the result that it transitivized primarily statives, particularly uninflected adjectives. Transitivizing –e-, on the other hand, was subject to no restriction. It therefore suppleted for *-s as a transitivizer after consonant stems. As predicted by its origin as an acquisitive, its function was valency increasing, not merely transitivizing. Thus we find ditransitive formations in –e- such as *pame-* 'throw into' from *pam-* 'eat' + -e-, and *aduke-* 'entrust to' from *aduk-* 'take into one's care' + -e-.

There is a diachronic link between the original suppletive relation between *-s and *-e Matsumoto's (2000) argument that the distribution of transitivizing -s versus -e in Modern Japanese is phonologically, rather than semantically determined. Matsumoto observes for modern Japanese that "-e can be suffixed only to intransitive stems which end in a consonant. The affix -as is more productive… it can be placed both on vowel-final stems … and on consonant-final verbs" (2000: 181). The restriction of transitivizing –e to consonant stems is a direct reflex of the original suppletive pattern, where *e- served as a transitivizer where *-s could not attach, after consonant stems. The freer distribution of transitivizing –as in the modern language is a post-OJ development. As Matsumoto (2000: 181) notes, Jacobsen (1992; 264-265) lists 38 ModJ transitives in –as corresponding to intransitive consonant stems. However only 5 of these have phonogrammatic attestations in OJ. In some cases ModJ transitivizing –as has spread at the expense of OJ transitivizing –e, such as *nakas-* 'make cry' : OJ *nake* 'make cry' and *naras-* 'make ring' : OJ *nare-* 'make ring'.

The fact that –e- could attach freely to consonant stems accounts for one of the distinctive properties that bigrade transitives display at the OJ stage. Bigrade transitives function as transitivity reinforcers in alternation with transitive consonant stem verbs:

(26)   Consonant stem transitive   –e- (Bigrade) transitive

kak- 'hang, attach (tr.)'   *kake-* 'hang, attach'

mak- 'depute'   *make-* 'depute'

sak- 'expel, send away'   *sake-* 'expel, send away'

nam- 'line up (tr./intr.)'   *name-* 'line up (tr.)'

In the case of the first verb, the bigrade transitive has completely replaced the consonant stem transitive in NJ. Examples such as this suggest that –e- had become a salient marker of transitivity by the OJ stage. Transitivizing –e- also functioned to reduce the lability of verbs such as *kap-* and *nam-* 'line up'. The transitive ('buy') and intransitive ('mix, change') meanings of *kap-* are certainly related to an original meaning 'change', unspecified for transitivity, but with the development of bigrade *kape-*, the transitive meaning of *kap-* specializes to 'buy'.

   The final question to be clarified under the GET hypotheis is the genesis of the quadrigrade transitive : bigrade intransitive pattern in (6-7). The typological evidence we consider in section 6 suggests that diathetic acquisitives first produce the transitive (causative) pattern from the transitive secondary predicate source in (17c). The intransitive pattern arises as a result of suppressing the goal argument in the transitive pattern.

   The Japanese historical and diachronic evidence is consistent with this scenario. As we saw, the intransitive bigrade : transitive quadrigrade pattern is rare in OJ (cf. section 2.1). Comparative Ryūkyūan evidence indicates that this pattern may not be reconstructible to proto-Japanese. For example, while transitive *yak-* 'burn (tr.)' and *tak-* 'burn/cook (tr.)' have corresponding verbs in Yonaguni (Ikema 2003) and prewar Yaeyama (Miyara 1930), their bigrade intransitive counterparts appear to be unattested.

Pairs such as *kure-* 'grow dark' and *kuras-* 'spend (time)' suggest a scenario for the development of the intransitivizing function. These verbs coexist with the adjectival root *kura-* 'dark'. Similar examples are:

(27)   Adjective root   Bigrade intransitive   –*s*- Transitive

 kura 'bright'   *kure-* 'grow dark'   *kuras-* 'pass the day, make dark'

 ara 'rough, barren'   *are-* 'become rough'   *aras-* 'lay waste'

Despite the difference in transitivity, the meaning of the bigrade and –*s*- transitive is quite close:

(28)   晝羽裳   浦不樂   晩之

 piru *pa mo*   urasabwi   kura*si*

 day TOP also   sadly   darken

 '(I) spend the day sadly' (MYS 2.210)

(29)   日能   久礼由氣婆   家乎之曽   於毛布

 pi *no*   *kure yukeba*   ipye *wo si zo*   *omopu*

 day GEN   darken go.when   home ACC EMPH FOC   think

 'When the day ends I think of nothing but my home.' (MYS 17.3895)

In transitive (28) the experiencer is realized as a *pro* subject; in intransitive (29) the experiencer is suppressed and the theme is realized as subject. The bigrade intransitivizing pattern in (6-7), which as we noted above is rare in OJ and appears not be reconstructable to proto-Japanese-Ryūkyūan, may be the result of analogy with suppressed experiencer

intransitives like (29). This idea is supported by the fact that OJ examples of intransitiving bigrades such as *yake-* 'be burned' often appear as psychological predicates, parallel to (29) [22].

(30) 所焼   吾   下情

      yakuru   wa ga   sita.gokoro

      burn.ADN   1P GEN   under.heart

      The bottom of my heart burns.' (MYS 1.5)

Summarizing, bigrade transitives are the product of the incorporation of a secondary predicate into the verb *e- 'get'. The first instance of this type are likely to have involved noninflecting secondary predicates, as in (24). Combination of the lexical verb with secondary predicate XP to derive a causative with the meaning 'get NP to XP' survives into OJ (20). The secondary predicate + *-e-* pattern is extended to uninflected verb stems, the main pattern attested in OJ. Suppression of the nonagentive experiencer/goal in secondary predicate + *-e-* results in bigrade intransitives such as (30).

6. Typology

A survey and review of the treatment of the Japanese transitivity alternations in the typological literature is provided by Narrog (this volume, 2007a, 2007b). Narrog makes the important point that the two most influential studies in this line of research, Haspelmath (1990) and Nichols et al (2004), reach opposite conclusions about whether Japanese is a "primarily transitivizing" or "primarily detransitivizing" language. These conflicting results

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[22] This attestation is not phonographic.

highlight the risks inherent in "whole language typology" classifications without detailed analyses of the language in question. From the standpoint of such an attempt as applied to Japanese, classification of Japanese as primarly "transitivizing" or "detransitivizing" obscures two facts: (i) two of the widely cited formations, intransitive *–(a)r* and transitive *–s*, for the most part derive verbs from noninflecting stems, not other verbs (ii) the third formation, in *–e-*, has both transitiving and intransitivizing outcomes because this is a typical development of 'get', the lexical verb from which it is derived.

Our typological focus here is on the crosslinguistic behavior of acquisitives, formations based on verbs of acquisition such as 'get'. Taking *e-* 'get' as the source for the bigrade transitivity alternations fits the general pattern of **acquisitive** derivations (van der Auwera et al 2009). These divide into two basic types, modal derivations (such as the potential function of *e-* in OJ) and diathetic derivations. The later involve a change in valency, either transitivizing or detransitivizing. Below we give just a few broadly distributed examples.

(31)   Diathetic Aquisitive Derivations

    a. Estonian *saama* 'get' causative (Tragel and Habicht 2012: 1385)

        Sa-i-n   saapa-d   pori-st   puhta-ks.

        Get-PST-1SG boot-PL   mud-ELA   clean-TRAN

         'I got the boots clean of mud.'

    b. Southern Min *chhoa7* causative < 'haul' 拽 (Chen 2008)

        只   景   拽   人   憔悴

        Chi2 keng2 chhoa7 lang5   chiau5-chui7.

        this scene   pull   people emaciated

        'This scene makes people emaciated.'

c. Seychelles Creole *Ganny* passive < Fr. *gagner* 'win' (Haspelmath 1990, Michaelis & Rosalie ND)

Bidze 2005 ti   ganny approve menm zour.

budget 2005 PST   PASS approve same day

'The budget for 2005 was approved the same day.'

(example cited from Michaelis & Rosalie)

d. German *kriegen* 'get' (McIntyre 2005)

Transitive (causative)

Er *kriegt* das Problem *gelöst*.

'He gets the problem solved.'

Intransitive (passive)

Er *kriegt geholfen*.

'He gets helped.'

Diathetic acquisitive derivations are particularly common in the languages of Western and Northern Europe (see the papers in van der Auwera et al 2012). The best documented case is in fact English, where diathetic derivations involving *get* developed over a very short time, from the 14th to the 17th century.

A detailed description of the development of the English diathetic acquisitive pattern is given by Gronemeyer (1999). *Get* first appears in combination with secondary predicate adverbs and PPs in the 14th century:

(32) a. that a man coveyte to geten alle thise thynges togidre

'that a man wants to get all these things together'

(Chaucer, *Boethius* 11425 (c.1380), cited from Gronemeyer 1999: 24)

b. For with that orison sche getyth to God ful many soules þat were in oure power fast

beforn.

'For with that prayer she gets to God many souls that were firmly in our power.'

(Reynes, *The Commonplace Book of Robert Reynes of Acle* (1470-1500), cited from

Gronemeyer 1999: 24)

Causative *get* + infinitive is the next extension. It emerges in the 16th century:

(33)   and I wyll see yf that I can gete another to be bownd with me

'and I will see if I can get another to be bound with me'

(Mowntayne, *The Autobiography of Thomas Mowtayne* (1553), cited from

Gronemeyer 1999: 24)

According to Gronemeyer (1999: 23), *get* in all usages is primarily agentive (87% of tokens) in 1350-1420. In the contemporary English corpus she examines, *get* is primarily not agentive (58% recipient or ambiguous vs 42% agentive). The rise of nonagentive *get* coincides with the emergence of nonagentive diathetic patterns. Gronemeyer characterizes the English diathetic development as from lexical *get* to "movement" -> causative -> permissive. A separate development, exploiting nonagentive *get*, leads from the "movement" function to inchoative -> passive. Modal *get* develops from lexical *get* to stative possession -> obligation.

For a broadly similar description focusing on the emergence of passive get, *see* Fleisher (2006).

This overall picture coincides with the scenario we have sketched for pre-OJ. *e- combines first with nonverbal (uninflected) secondary predicates. The first verbal diathetic derivation is causativizing. The detransitivizing pattern emerges later, and remains a minority pattern throughout the history of Japanese. It seems likely that morphological factors both limit and lead to the characteristic bivalence of the Japanese bigrade transitivity alternations. While English and other Western and Northern European languages develop detransitivizing constructions by combining *get* with a passive particle, Japanese has only the *e- + root combination. The acquisitive pattern built on nonfinite root + *-e- is comparable to *get* + infinitive in English and other languages, and has the same causative function. We suggested a more restricted source for detransitivizing –*e*- in section (5), from roots allowing a nonagentive (experiencer) external arguments, which were eventually suppressed.

7. Conclusions

This paper has focused on the transitivity alternations involving the lower bigrade conjugation in premodern Japanese, with stem final –*e*-. We argued for the hypothesis that this is a diathetic acquisitive pattern built on the lexical verb –*e*- 'get'. We showed how lexical –*e*- occurs with secondary predicates that might give rise to such a pattern in Old Japanese. We demonstrated that pre-OJ had a process of secondary predicate incorporation, a species of direct stem affixation, that could produce the secondary predicate + *e- combination. We pointed to specific cases of upper bigrade transitives that appear to involve such a source. We discussed the differentiation between causativizing *-e- and transitivizing *–s, and suggested that it was partly phonologically conditioned. We presented a scenario for how the original verb stem + *e- causative pattern might have been extended to intransitives

in limited cases. Finally, we briefly compared the development of the Japanese pattern to diathetic acquisitives in other languages.

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