

# 国立国語研究所学術情報リポジトリ

## Projections of Subordinate Clauses in Old Japanese: Corpus-based Groundwork on Inflectional Types

|       |   |
|-------|---|
| メタデータ | 言語: eng<br>出版者:<br>公開日: 2015-10-30<br>キーワード (Ja):<br>キーワード (En):<br>作成者: ホーン, スティーブン・ライト, HORN, Stephen Wright<br>メールアドレス:<br>所属: |
| URL   | <a href="https://doi.org/10.15084/00000525">https://doi.org/10.15084/00000525</a>   |

## Projections of Subordinate Clauses in Old Japanese: Corpus-based Groundwork on Inflectional Types

Stephen Wright HORN

University of Oxford / Project Collaborator, NINJAL [–2013.10]

### Abstract

Using the Oxford Corpus of Old Japanese (OCOJ), direct subordination of clauses in Old Japanese (OJ) is analysed according to the inflection of both the subordinate clause and the superordinate clause. This study identifies various grammatical patterns as groundwork for the study of projections of clause types in OJ, and for the purpose of improving the mark-up of the OCOJ.\*

**Key words:** Old Japanese, subordinate clauses, inflection, projection

### 1. Inflection and combinatory possibilities for various constituent types

The combinatory possibilities for Old Japanese (OJ) clauses of various inflections have been explored by Yamada (1954), and more recently by Wrona (2008), Vovin (2009) and Frellesvig (2010). Using the poetic texts of the Oxford Corpus of Old Japanese (OCOJ, of approximately 90,000 words), it is possible to confirm some of the findings of these studies, provide basic statistics for comparisons of clause types (as defined by inflection), identify some asymmetries and unexpected patterns, and thus provide some groundwork for more detailed studies of the projections of subordinate clauses in OJ. The results of this study also suggest several useful corrections to the syntactic mark-up of the OCOJ. The data used is from the earliest attested form of Japanese from the 6<sup>th</sup> to the 8<sup>th</sup> century CE. Table 1 below presents the texts, their dates of production, and the abbreviations by which they are referred to hereafter. Subsequent references to ‘the corpus’ will refer to this data set.

This study begins with some general remarks on the significance of subordination and final

Table 1 Source texts

|                    |        |  |                      |     |
|--------------------|--------|--|----------------------|-----|
| Kojiki kayō        | 古事記歌謡  | ‘Songs of the Record of Ancient Matters’ | compiled in 712      | KK  |
| Nihon shoki kayō   | 日本書紀歌謡 | ‘Songs of the Chronicles of Japan’       | compiled in 720      | NSK |
| Fudoki kayō        | 風土記歌謡  | ‘Songs of the Records of Wind and Earth’ | compiled in the 730s | FK  |
| Bussokuseki-ka     | 仏足石歌   | ‘Footprints of the Buddha Songs’         | completed after 753  | BS  |
| Man’yōshū          | 万葉集    | ‘Collection of Myriad Leaves’            | compiled after 759   | MYS |
| Shoku nihongi kayō | 続日本紀歌謡 | ‘Songs of the Continued Annals of Japan’ | completed around 797 | SNK |

\* This paper is part of the NINJAL ‘Study of the History of the Japanese Language Using Statistics and Machine-Learning’ collaborative research project (project leader: Toshinobu Ogiso).

inflection with regard to clause internal projections in OJ. This is followed by an examination the phenomenon of direct clause subordination (i.e., local subordination not involving topicalization, conjunctive particles, complementation, nominalization, or relativization) across both subordinate and superordinate clauses categorized by the inflections of their respective heading predicates.

### 1.1 Inflection and internal clause structure

That the question of subordination has consequences for the internal organization of clauses can be demonstrated, for example, by reference to core case marking. It is well-known that genitive case marking (by particles *ga* and *no*) of subject noun phrases (NPs) and accusative case marking (by particle *wo*) of object NPs in OJ is to some extent dependent on whether the clause in question is a main clause or not. That is, core case marking is not attested in root contexts, barring some exceptions. The possibility of appearing as a root clause depends in part on the inflection (see Table 2 below in Section 1.2 for a full list of OJ inflections) of the predicate heading that clause. If we look at clauses in which the last inflecting element is in the Conclusive form, we find 175 root Conclusive clauses containing accusative case marked NPs out of 3076 root Conclusive clauses in total, for a ratio of 0.057 or slightly less than 6%. Unfortunately, the OCOJ cannot at present give us the total number of unmarked object NPs in root Conclusive clauses. Nevertheless, 5.7% is not an insignificant number. Given the possibility of argument sharing between subordinate and superordinate clauses, we might expect fewer overt object NPs in subordinate clauses than in root clauses, and accordingly a smaller ratio of accusative case marked object NPs in subordinate clauses. Alternatively assuming that embedding alone is not a factor in the probability of the appearance of object NPs in clauses in general, we might expect no change in the ratio of embedded Conclusive clauses containing accusative case marked object NPs to the total number of embedded Conclusive clauses. But in fact what we find is that 84 out of 955 embedded Conclusive clauses contain accusative case marked object NPs, for a ratio of 0.088 or slightly less than 9%. Restricting the context to complementation in quotations (which among Conclusive embeddings is presumably most similar to Conclusive clauses in root contexts), we find 59 out of 626 embedded Conclusive clauses contain accusative case marked object NPs, for a ratio of 0.0942 or somewhat more than 9%. Against predictions, subordination of Conclusive clauses increases the likelihood of core case marking on NPs therein.

The above analysis included the assumption that for complex verbal syntagms including verb extensions *besi* (necessitive), *masizi* (negative potential), *nari* (hearsay, evidential), *ramu* (present conjectural), and *rasi* (presumptive), the inflection governing the case marking ability of the predicate is that of the extension rather than that of the preceding finite form (which is regularly Conclusive with the exception of *r*-irregular verbs, which are Adnominal preceding *besi*, *ramu*, *rasi*, and Upper Monograde (UM) verbs, which are Adnominal preceding *nari*). It has been noted (Yanagida and Whitman 2009; Miyagawa 2012; *inter alia*) that Adnominal clauses in general allow core case marking, in contrast to clauses ending with Conclusive, Imperative, Negative Conjectural, and Optative inflections. We find 35 instances of root clauses ended by Adnominal extensions and among them 4 contain genitive case marked subject NPs, e.g., in (1)<sup>1</sup>.

<sup>1</sup> Phonemic transcription in the OCOJ is according to Frellesvig 2010. OJ *pa-gyō* corresponds to *kana ha-gyō*; furthermore, *kō-ruī* in *e-dan* is *-ye*, *kō-ruī* in *o-dan* is *-wo*, and *otu-ruī* in *i-dan* is *-wi*.

- (1) a. 奈何壯鹿之 和備鳴為成  
*nado sika no wabwinaki su naru*  
 ‘why is it that the deer is heard to cry mournfully’ (MYS.10.2154)
- b. 寧樂乃京師尔 年之 歷去倍吉  
*nara no miyakwo ni tosi no penu beki*  
 ‘The year shall have to transpire in Nara, the capital!’ (MYS.6.1044)

By comparison, of the 246 root clauses ending with Conclusive extensions (as there are no extensions in the normally root Imperative, Negative Conjectural, Optative, or Prohibitive inflections) we find only 1 that contains a genitive case marked subject NP:

- (2) 見放武 八萬雄 情無 雲乃 隱障倍之也  
*misakemu yama wo kokoro naku kumo no kakusapu besi ya*  
 ‘Ought the clouds to heartlessly keep hiding the mountains that I would see past?’  
 (MYS.1.17)

The respective ratios are as follows: 11.4% of clauses ending with Adnominal extensions contain genitive case marked subject NPs, compared to only 0.4% among all clauses ending with Conclusive extensions. Although we find only statistical tendencies rather than categorical distributions, it appears that it is the clause-final inflection which determines the case marking possibilities for predicates. In the analysis that follows, it is assumed that the clause-final inflection is also the determinant factor with regard to the possibility of ‘direct subordination’ (defined below in Section 1.2).

Much research has focussed on the relation between final inflection and either 1) the internal structure of the projected clause, or 2) the organization of the verbal syntagm, following the general line of enquiry suggested by Minami (1974) and discussed by Takubo (1987), Masuoka (1997), Bekki (2007), *inter alia*, for Modern Japanese (NJ). With regard to the internal structure of the projected clause in OJ, work on positions for overt argument NPs and their core case marking has already been touched upon above. With regard to the organization of the verbal syntagm, variation in the sets of inflections attested for verbal suffixes and extensions (arranged in the iconic order of Voice > Aspect > Negation > Tense/Modality > Epistemicity/Evidentiality) have been described by Vovin (2009) and Frellesvig (2010), *inter alia*. A good example of the interaction between inflection and these categories can be seen in the way that OJ verbal extensions (which mostly express Epistemicity and/or Evidentiality) are only attested in inflections that specify basic grammatical relations (Adnominal, Conclusive, Exclamatory (sentence-final), Infinitive) and never attested in inflections specifying performative speech act type, logical relation, or aspect. Corpus work pursuing these lines of enquiry promises to be extremely fruitful, but the present study is limited to the relation between final inflections of subordinate clauses and the inflections of their respective superordinate clauses.

## 1.2 Inflection and subordination

The remainder of this study focuses on direct subordination of clauses, that is, where a non-nominalized clause has a local (and typically adverbial) relation to the predicate heading a superordinate clause. Subordination involving conjunctive particles is excluded from this study. Nominalization and relativization involve the formation of NPs, and as such do not satisfy the

description of direct subordination. Most forms of complementation (e.g., quotative complements of verbs of transmission/reception, NP complements of nominal predicates, clausal complements of so-called ‘light verb’ *se-*) are also excluded in the first search pass. Clauses marked by topic particles are also ruled out, owing to the parsing practice of the OCOJ which treats them as adjuncts to the clauses they relate to.

The inflections of OJ (mostly following Frellesvig 2010) are provided in Table 2 with examples of the forms for the verb *se-* ‘do’ (unattested forms preceded by ‘\*’), and the abbreviations of the inflection names:

Table 2 Inflection types

|    | INFLECTION           | EX. FORM                    | ABBREVIATION |
|----|----------------------|-----------------------------|--------------|
| 1  | Adnominal            | <i>suru</i>                 | ADN          |
| 2  | Concessive           | <i>suredo</i>               | CSS          |
| 3  | Conclusive           | <i>su</i>                   | CLS          |
| 4  | Conditional          | <i>seba</i>                 | CDL          |
| 5  | Continuative         | <i>situtu</i>               | CTT          |
| 6  | Exclamatory          | <i>sure</i>                 | EXC          |
| 7  | Gerund               | <i>site</i>                 | GER          |
| 8  | Imperative           | <i>seyo</i>                 | IMP          |
| 9  | Infinitive           | <i>si</i>                   | INF          |
| 10 | Negative conjectural | <i>sezi</i>                 | NGC          |
| 11 | Nominal              | <i>suraku</i>               | NML          |
| 12 | Optative             | <i>sena, *sene, *senamu</i> | OPT          |
| 13 | Prohibitive          | <i>na-si-so(ne)</i>         | PHB          |
| 14 | Provisional          | <i>sureba</i>               | PRV          |

The inflection type of a clause is determined by the inflection of the final inflecting element in the clause. Using advanced search functions on the constituent structures marked up in the OCOJ, attestations of subordination for clauses of each inflection type were counted according to the inflection type of the superordinate clause. The results of this initial search pass are in set out in Table 3. Table 3 shows 14 columns labelled in **bold font**, each representing a context defined by a *superordinate* clause of a given inflection type (indicated by the abbreviation of the name of the inflection). Table 3 shows 14 rows labelled in **bold font**, each representing a particular type of *subordinate* clause as defined by the inflection of the predicate that heads it. Thus, for example, reading down from the first column of abbreviations, we see in column 1 row 1 that there appear to be 2 Adnominal clauses directly embedded in Adnominal clauses, but in column 1 row 2 there are 87 Concessive clauses directly embedded in Adnominal clauses, and so on.

Table 3 Subordination by clause type (initial analysis)

|                       | ADN  | CSS      | CLS      | CDL      | CTT      | EXC      | GER       | IMP      | INF        | NGC      | NML      | OPT      | PHB      | PRV  | DSs  |
|-----------------------|------|----------|----------|----------|----------|----------|-----------|----------|------------|----------|----------|----------|----------|------|------|
| <b>Adnominal</b>      | 2    | 0        | 10       | 0        | 0        | 10       | 0         | 0        | 26         | 0        | 0        | 0        | 0        | 0    | 48   |
| <b>Concessive</b>     | 87   | <b>0</b> | 139      | 0        | 0        | 10       | 6         | 0        | 21         | 1        | 13       | 2        | 0        | 15   | 294  |
| <b>Conclusive</b>     | 3    | 0        | <b>2</b> | 0        | 0        | 0        | 0         | 3        | 39         | 0        | 0        | 0        | 0        | 0    | 47   |
| <b>Conditional</b>    | 77   | 1        | 243      | <b>0</b> | 3        | 50       | 8         | 19       | 40         | 14       | 3        | 18       | 1        | 0    | 477  |
| <b>Continuative</b>   | 98   | 14       | 115      | 3        | <b>1</b> | 16       | 4         | 8        | 8          | 0        | 11       | 8        | 2        | 8    | 296  |
| <b>Exclamatory</b>    | 50   | 1        | 26       | 0        | 0        | <b>8</b> | 2         | 0        | 0          | 0        | 1        | 0        | 0        | 1    | 89   |
| <b>Gerund</b>         | 597  | 48       | 685      | 63       | 10       | 74       | <b>39</b> | 33       | 89         | 1        | 28       | 31       | 8        | 93   | 1799 |
| <b>Imperative</b>     | 0    | 0        | 0        | 0        | 0        | 0        | 0         | <b>0</b> | 0          | 0        | 0        | 0        | 0        | 0    | 0    |
| <b>Infinitive</b>     | 1194 | 84       | 1284     | 89       | 69       | 124      | 212       | 70       | <b>237</b> | 7        | 44       | 28       | 31       | 178  | 3651 |
| <b>NegConjectural</b> | 0    | 0        | 0        | 0        | 0        | 0        | 0         | 0        | 0          | <b>0</b> | 0        | 0        | 0        | 0    | 0    |
| <b>Nominal</b>        | 15   | 3        | 1        | 0        | 0        | 2        | 1         | 0        | 13         | 0        | <b>2</b> | 0        | 0        | 1    | 38   |
| <b>Optative</b>       | 0    | 0        | 0        | 0        | 0        | 0        | 0         | 0        | 0          | 0        | 0        | <b>0</b> | 0        | 0    | 0    |
| <b>Prohibitive</b>    | 0    | 0        | 0        | 0        | 0        | 0        | 0         | 0        | 0          | 0        | 0        | 0        | <b>0</b> | 0    | 0    |
| <b>Provisional</b>    | 199  | 7        | 337      | 2        | 10       | 28       | 17        | 4        | 66         | 1        | 14       | 2        | 0        | 5    | 692  |
| DSs in SUP-CLs        | 2322 | 158      | 2842     | 157      | 93       | 322      | 289       | 137      | 539        | 24       | 116      | 89       | 42       | 301  |      |
| TOTAL CLs             | 7357 | 573      | 5072     | 672      | 617      | 617      | 2218      | 319      | 4919       | 145      | 571      | 151      | 124      | 1052 |      |

The order of inflection types for both columns left-to-right and rows top-to-bottom is arranged to be the same in Table 3, so that recursivity obtains in cells along the diagonal from the upper left-hand corner to the lower right hand corner (numbers in **bold italic font**). Thus the cell in column 2 row 2 gives the number of attestations of Concessive clauses directly embedded in Concessive clauses: 0. There is nothing unusual about the modification of modifiers (e.g. ‘They almost willingly agreed’). And there is probably no reason against recursion for some types of logical relation (e.g., ‘flight cancellation due to low booking due to high fares’). But the inflectional types that show this recursion productively are few and the general phenomenon is worth examining in detail. This is carried out in Section 4.

To continue the overview of Table 3, a scan across each row immediately reveals that there appear to be only 2 clause types that embed under every type of superordinate clause: Gerund and Infinitive clauses. By contrast, there appear to be 4 clause types that are never directly embedded under any of the 14 types of superordinate clause, respectively headed by predicates in the Imperative, the Negative Conjectural, the Optative, and the Prohibitive. 3 other types of clause by inflection initially appear to be embedded only rarely and under very specific circumstances: Adnominal, Conclusive, and Nominal clauses. Closer examination will show that most instances of what have been initially identified as direct embeddings of Adnominal, Conclusive, and Nominal clauses are more properly to be considered instances of either complementation or nominalization. This analysis is carried out in Section 3.

Finally there are a few lacunae and a few asymmetries that are interesting. First, note that there are no attestations of a Conditional clause subordinate to a Provisional Clause, and only 2 attestations of Provisional clauses subordinate to Conditional clauses. And there are a high number of Exclamatory clauses embedded in Adnominal clauses as compared to those embedded in Conclusive clauses.

The cells in the bottom two rows and the rightmost column express the following sums. Each cell in the row second from the bottom (DSs in SUP-CLs) supplies the sum of the numbers of attestations for all of the various clause types that are Directly Subordinated under a particular superordinate clause type. For example, 2322 clauses of various types are found embedded in Adnominal clauses. Each cell in the bottom row (TOTAL CLs) indicates the total number of

clauses of a given type. Thus there are 7357 Adnominal clauses in the corpus. Each cell in the rightmost column (DSs) gives the number of Directly Subordinated clauses of a given clause type that are found directly embedded, across all types of superordinate clauses. Thus there are 48 instances in which Adnominal clauses appear to be directly embedded in some type of superordinate clause (which number is to be adjusted upon closer examination).

For regularly embedded clause types such as the Concessive, Conditional, Continuative, Gerund, Infinitive, and Provisional clause types, it might be expected that the total number of subordinate clauses should equal the total number of clauses, so the discrepancy between the total number of clauses in the corpus for a given clause type (e.g., for the Concessive, 573) and the number of directly embedded clauses of that type (for the Concessive, 294) requires some explanation: In many cases, non-finite clauses appear in non-local environments, due to such things as 1) appearing to the left of a topicalized element; 2) being topic-marked themselves; 3) being associated with a ‘dedicated’ topicalized element (that is, a topic that relates only to the clause which it immediately precedes); 4) being right-dislocated. As direct subordination is defined as a type of local subordination, there is no direct relation between the last column (DSs) and the last row (TOTAL CLs). Thus a comparison between the second-to-last row and the last row only indirectly suggests the tendency for a given clause type to contain direct subordinations. This will be taken up briefly in Section 2.

The remaining sections examine the points mentioned above in more detail. Before continuing it should be noted that the data in Table 3 are based on the OCOJ version of December 2013, but the results are not reproducible by simple manipulations of the corpus. Rather, they are the product of raw search results subject to further interpretations and corrections by this researcher after close examination (the documentation of the methodology available upon request). While the results in Table 3 give a fairly accurate picture of OJ as it is analyzed in the OCOJ, further considerations suggest that revisions are called for, and the results of the revisions are presented in Table 5, Section 5. Of course, refinements to the search methods employed here, and in the mark-up of the OCOJ itself, are to be expected and welcomed.

## 2. Overview of combinatory possibilities

As noted above, there are 6 clause types that are regularly subordinating: Concessive, Conditional, Continuative, Gerund, Infinitive, and Provisional. For each clause type save the Continuative, over half of the total number of clauses in the corpus are instances of direct embedding. The Continuative is frequently found right-dislocated; that is, in a non-local position. Note also that for none of these clause types is the ratio between subordinate clauses contained and the total number of clauses less than 0.3. Roughly, the tendency to contain subordinate clauses is inversely proportional to the tendency to be subordinated. Gerund and Infinitive clauses appear in directly subordinated positions in the highest proportions and contain the smallest proportion of subordinate clauses. Conversely, the Optative clause type has the highest incidence of containment of subordinate clauses, but never subordinates directly. However, as noted above, a direct comparison using the present data is impossible due to the interference of processes such as topicalization and right-dislocation, and moreover, the pattern is not pervasive, as can be seen in the discussion that immediately follows. Note also that the two clause types with the highest incidence of subordination (Gerund and Infinitive clauses) also appear to exhibit recursivity to a high degree. This will be taken up in Section 4.

As noted above, there are 4 types of clause by inflection that never directly embed under any of the 14 types of superordinate clause: the Imperative, the Negative Conjectural, the Optative, and the Prohibitive. Clauses of these types are usually only found either in root contexts, embedded in quotational clauses, or, in the case of the Negative Conjectural, marked by conjunctive particles. The Imperative, the Optative, and the Prohibitive express specific performative speech act types. This is arguably the reason why their inflected forms appear only in utterance-final positions (hence only in either root or complement contexts). The Negative Conjectural appears to be indicative of a particular state of affairs, insofar as it appears in subordinate clauses with adversative (*viz. tomo*) and purposive (*viz. to*) conjunctive particles. Despite never being directly subordinating themselves, neither the Negative Conjectural nor the Prohibitive show a high incidence of containment of subordinate clauses.

### 3. Reconciling unexpected distributions

In this section I examine clause types that show unexpected and/or more complex distributions across superordinate clause types in Table 3 (namely, Adnominal, Conclusive, Exclamatory, and Nominal clauses).

#### 3.1 Adnominal clauses

Adnominal clauses are expected to appear in relative clauses, as nominalizations (either bare or marked with case or conjunctive or restrictive particles), and in clause final position (either in *kakari musubi* or *rentaidome* usages). Accordingly any direct subordinations are anomalous in some sense. In the initial search pass there are 2 Adnominal clauses that appear to be embedded in Adnominal clauses, but on closer inspection we find that they are immediately followed by the Adnominally inflected adjectival form *gotoki* ('similar'):

- (3) a. 足桧木乃 山左倍光 咲花乃 散去如寸 吾王香聞  
*asipikwi no yama sape pikari saku pana no tirinuru gotoki wa go opokimi kamo*  
 'How my lord is like the scattering away of the blooming flowers even unto (making the) mountain glow!' (MYS.3.477)
- b. 水上 如數書 吾命 妹 相 受日鶴鴨  
*midu no upe ni kazu kaku gotoki wa ga inoti imo ni apamu to ukepituru kamo*  
 'I pledge my life—which is like writing numbers in water (i.e., transient)—to meeting my beloved.' (MYS.11.2433)

Semantically the Adnominal clauses in (3a, b) have a function similar to that of NPs in nominal predicates, with *gotoki* acting as a semblative copula. However, the phonological form of *gotoki* suggests that the preceding Adnominal clause is actually incorporated into it. There are 10 instances of Adnominal clauses appearing with Conclusive *gotosi*. In all 12 instances discussed so far, the Adnominal clause is bare. Of the 26 Adnominal clauses appearing with Infinitive *gotoku*, 13 are optionally marked with *ga*. This *ga* is either a genitive particle or a sort of complementizer that appears in a special kind of relativization (Frellesvig and Whitman 2011), with *koto* 'fact' as a head, forming a complex NP from which an adjective is subsequently derived. Incidentally, adnominal predicates preceding the bare stem *goto* are also optionally marked with *ga*, making this *ga*-marking particular only to adverbial phrases. Note that nominally headed phrases immediately preceding *goto-* are followed by *no*. Whether the Adnominal clauses are complements of



copular elements, incorporated with a noun *koto* ‘fact’, or a relative clauses modifying *koto* ‘fact’, it seems clear that they are not direct subordinations. These 38 clauses are rejected as false positives.

The remaining Adnominal clauses that the first search pass identified all co-occur with adjectives in the Exclamatory inflection, as in (4a). All of these Adnominal clauses are marked with genitive particle *ga* and are clearly subject arguments of the adjectives that they follow. As support for this analysis, we see NPs with noun heads that appear in the same sort of contexts are regularly marked with genitive particle *no* and are clearly subject arguments as in (4b). The 10 clauses of this type are rejected as false positives. We revise our results to reflect that there are no directly subordinating Adnominal clauses in Section 5.

- (4) a. 安麻能我波 許具 布奈妣等乎 見流我 等母之佐  
*ama no gapa kogu punabito wo miru ga tomosisa*  
 ‘How envy-inducing is it to watch the boatman rowing across the Milky Way!’  
 (MYS.15.3658)
- b. 盈盛有 秋香乃 吉者  
*mitisakaritaru aki no ka no yosa*  
 ‘How good is the fragrance of autumn being at its fullest and overflowing!’  
 (MYS.10.2233)

### 3.2 Conclusive clauses

The Conclusive inflection in OJ is unspecified for any grammatical category save that of end-of-sentence. It appears in root and quotative complement contexts, and is occasionally followed by sentence—final particles or right—dislocated elements. It is not expected in directly subordinated clauses.

Notwithstanding, we find 3 forms that appear in the mark-up as Conclusive clauses embedded in Adnominal clauses. They are all reduplicated forms that function as adverbs (similar to NJ *mirumiru* ‘perceptibly’, for example). Most forms of this sort appear marked with emphatic topic particle *mo*, and as such were not identified as direct embeddings in the first search pass: *koyarukoyari mo* (KK.89), *yasuyasu mo* (MYS.16.3854), *yukuyuku mo* (MYS.13.3309), *tateritateri mo* (KK.89). There is no evidence that any of these elements project a clause structure, so they are better analyzed as de-verbal adverbs.

- (5) a. 紫草乎 草跡別々 伏鹿  
*murasaki wo kusa to wakuwaku pusu sika*  
 ‘like the deer that lies down cleaving the purple gromwell as though it were grass’  
 (MYS.12.3099)
- b. 可久須酒會 宿莫奈那里爾思  
*kaku susu so nenana narinisi*  
 ‘we ended up not sleeping together somehow’ (MYS.14.3487)
- c. 安騰 須酒香 可奈之家兒呂乎 於毛比須吾左牟  
*ado susu ka kanasikye kworo wo omopisugwosamu*  
 ‘How could I somehow pass over in my thoughts this dear girl?’ (MYS.14.3564)

There are at least 2 instances that initially appear to be Conclusive forms subordinated under

Conclusive clauses. In (6a) *megusi* ‘precious’ might be an example of a *siku*-adjective stem being used adverbially. We see 3 examples of this sort in Imperative clauses (discussed below). Some commentaries treat *kokorogusi* ‘perturbing’ and *megusi* ‘precious’ in (6b) as nominalizations (oddly in the conclusive form) that are conjoined by particle *mo*. An alternative is to parse both forms as Conclusive predicates heading indicative clauses. As indirect support for this, there are 11 instances of the form [Conclusive clause + complementizer *to* + topic particle *pa* + *nasi ni*] in the corpus, but this is not persuasive. With regard to *megusi* in (6a) and *kokorogusi* in (6b), one solution is to analyze each form as an adjective stem compounded with a following adjective, thereby eliminating them as tokens of direct subordination. Incidentally, the string *megusi mo nasi ni* in (6b) appears to be a Conclusive clause subject of a following Conclusive predicate, but the presence of an emphatic topic particle *mo* renders the first constituent non-local by the mark-up practices of the corpus.

- (6) a. 妻子美礼婆 米具斯宇都久志  
*myekwo mireba megusi utukusi*  
 ‘When I look at my wife and children, they are vulnerable dear.’ (MYS.5.800)
- b. 相見婆 登許波都波奈爾 情具之 眼具之毛 奈之爾  
*apimireba tokopatupana ni kokorogusi megusi mo nasi ni*  
 ‘when we look at one another, like an ever-fresh flower, without ever being anxious vulnerable.’ (MYS.17.3978)

There are 3 instances of *simasi* ‘for a while’ that initially appear to be Conclusive forms subordinated under Imperative clauses, as in (7). These are best analyzed as Adjectival stems of *siku*-adjectives in an adverbial usage, analogous to OJ *ku*-adjective *paya* ‘quickly’. For *siku*-adjectives the stem form and the Conclusive inflection are homophonous, which leads to confusion. Incidentally, the form *simasi* appears in topicalized constituents together with clauses of inflections other than the Imperative.

- (7) 保登等芸須 安比太 之麻思 於家  
*pototogisu apida simasi okye*  
 ‘Cuckoo, leave an interval for a while!’ (MYS.15.3785)

Of the 39 Conclusive clauses initially identified as being embedded in Infinitive clauses, 34 are of the form ‘...*nasi ni*’ where *nasi* is the Conclusive form of the adjective *na*- ‘non-existent’ and *ni* is the infinitive form of the copula. In effect, the Conclusive clause occupies the position of a NP in a nominal predicate, immediately preceding the copula. However, the process by which a Conclusive adjective combines with an infinitive copula does not appear to be productive in OJ. While there are also appear to be rare instances of negative clauses (of a form ambiguous between Conclusive and Infinitive inflections) combining with infinitive copulas (e.g., *i mo nezuni ware pa so kwopuru* ‘I yearn without even sleeping’ (MYS.9.1787)), the form *nasi ni* appears to be grammaticalized at this point, and no longer an instance of direct subordination of Conclusive clauses.

- (8) 都区波尼爾 伊保利弓 都麻 奈志爾 和我 尼牟 欲呂波  
*tukupane ni iporite tuma nasi ni wa ga nemu yworo pa*  
 波夜母 阿氣奴賀母也  
*paya mo akenu kamo*

‘Making camp on the peak of Tsukuba Mountain, this night when I try to sleep with my wife absent, won’t it quickly dawn?’ (FK.3)

The remaining 5 examples of Conclusive clauses embedded in Infinitive clauses are *makura kotoba* in contexts where they don’t directly associate with NPs: 4 are of the form *tama kagiru* and 1 is of the form *puseya taku*. It is not clear that items of this sort have any sort of grammatical function so I disregard them. We revise our results to reflect that there are no directly subordinating Conclusive clauses in Section 5.

In passing it should be noted that there are many examples of unambiguously Conclusive clauses functioning adnominally (e.g., *topodoposi kwosi no kuni* ‘the far-off country of Kosi’ (KK.2)) and there remains some controversy over the distinction between Adnominal and Conclusive inflection types in OJ, and their functions.

### 3.3 Exclamatory clauses

Exclamatory clauses are interesting for two reasons: 1) a high incidence in Adnominal clauses, 2) a high incidence of recursive subordination. Of the 50 Exclamatory clauses directly subordinated in Adnominal clauses, 44 include focus particles triggering *kakari musubi* agreement with the predicate in the superordinate clause.

- (9) 誰障鳴                      玉梓                      路見遺                      公不來座  
*ta ga sapure ka mo      tamapoko no      miti miwasurete      kimi ga kimasanu*  
 ‘Because who blocks it must it be that, not recognizing the road, my lord does not come?’  
 (MYS.11.2380)

This is persuasive evidence that the Exclamatory inflection is a subordinating inflection as well as a finite inflection. The preponderance of Exclamatory clauses in Adnominal clauses as compared to, for example, Conclusive clauses remains to be explained, but it is possible that many Exclamatory clauses appearing without focus particles and preceding non-Adnominal clauses have been analyzed in the corpus as root clauses rather than as subordinate clauses. There are at least 3 such cases in the corpus in its present form. On the other hand, Exclamatory clauses are among the 3 clause types with the highest proportionate incidence of containment of subordinate clauses, suggesting that they are basically finite in nature, and that misparsing is not the explanation. There is no space to explore the question further in the present study.

### 3.4 Nominal clauses

The Nominal inflection expresses (typically generic) events, states, or facts. As it is regularly involved in the formation of noun phrases, direct subordination is not expected. Notwithstanding, we find 15 instances that initially appear to be Nominal clauses subordinated under Adnominal clauses. 3 of these are quotation-framing devices appearing in the well-attested scheme [Nominal verb<sub>1</sub> of transmission + [quotative complement clause] + verb<sub>1</sub> of transmission] as in (10). Considering the resumptive NP *pito* in (10), it is clear that these represent clauses in apposition rather than instances of subordination. An analysis of coordinate sentences is more appropriate.

- (10) 里人之              吾丹告樂              汝戀              愛妻者 (...)              會登  
*satwobito no      ware ni tuguraku      na ga kwopuru      utukusi duma pa (...)      apiki to*

人曾告鶴

*pito zo tugeturu*

‘What the village people told me: “That the wife you long for (...) met them” is what the people said.’ (MYS.13.3303a)

As for all other Nominal clauses that were initially identified as directly subordinated, they are headed by predicates with conjectural verbal auxiliary *-mu* ‘will, might’ in its Nominal form *-maku*, and all co-occur with the predicates *posi-* ‘desirable’ or *pori se-* ‘desire’. There are 3 instances of Nominal clauses appearing with Adnominal *pori suru* and 9 Nominal clauses appearing with Adnominal *posiki*. Only in superordinate Adnominal clauses, do we see instances of the genitive case marked form *-maku no*, and all are followed by the adjective *posiki* (4 instances). Considering that Adnominal clauses are contexts allowing genitive marking of subject NPs, we might conclude that these clauses are nominalized subjects of *posi-* ‘desirable’, whereas the Nominal clauses appearing with *pori se-* ‘desire’ are possibly objects. The distribution of Nominal clauses according to inflection of the superordinate clause is set out in Table 4.

Table 4 Nominal clause arguments of desiderative predicates

| INFLECTION | FORM                                  | No. |
|------------|---------------------------------------|-----|
| ADN        | <i>posiki</i> (9), <i>pori su</i> (3) | 12  |
| CSS        | <i>posikyedo(mo)</i>                  | 3   |
| CLS        | <i>pori su</i>                        | 1   |
| CDL        | ---                                   | 0   |
| CTT        | ---                                   | 0   |
| EXC        | <i>pori sure</i>                      | 2   |
| GER        | <i>pori site</i>                      | 1   |
| IMP        | ---                                   | 0   |
| INF        | <i>pori</i>                           | 13  |
| NGC        | ---                                   | 0   |
| NML        | <i>posikyeku</i> , <i>porisiku</i>    | 2   |
| OPT        | ---                                   | 0   |
| PHB        | ---                                   | 0   |
| PRV        | <i>pori sureba</i>                    | 1   |

This exhausts the inventory of 38 instances that initially appeared to be Nominal clauses directly subordinated under other clause types. They are all false positives. We revise our results to reflect that there are no directly subordinating Nominal clauses in Section 5.

### 3.5 Conditional and Provisional clauses

Conditional and Provisional clauses are plentiful and subordinate quite freely, which makes their distributions respective to each other a bit of a mystery. There are no attestations of a Conditional clause subordinate to a Provisional Clause, but no semantic principle preventing this combina-

tion (c.f., ‘Because I will bruise if you hit me, don’t hit me.’). There are only 2 attestations of Provisional clauses subordinate to Conditional clauses, but again no semantic principle preventing this combination (c.f., ‘If you feel ill because you’ve eaten too much, stop eating.’). There is no obvious explanation for the apparent incompatibility of these two clause types, but there might be an explanation for the asymmetry between the two situations: In both instances where the Provisional is embedded in the Conditional (MYS.17.4006, MYS.9.1785), the Conditional is in turn embedded in a clause headed by a predicate with the conjectural verbal auxiliary *-mu* ‘will, might’. Vovin (2009: 733, f.59, p.c. J. Wrona) observes that in such contexts the Conditional is interpreted temporally, that is, with the same interpretation as the Provisional. Given that the only instances of subordination between these two clause types are in contexts where the normal semantics of the Conditional are overridden, if there is an incompatibility between these two then, it might be due to some kind of clash at the level of semantics.

#### 4. Recursivity

Given the revisions already recommended from the considerations in Section 3, the inflections for which recursivity is attested are the Continuative (1 instance), the Exclamatory (8 instances), the Gerund (39 instances), the Infinitive (237 instances), and the Provisional (5 instances). Evidence supporting the analyses by which the data was produced is evaluated in the following sections. As noted earlier, there is nothing unusual about the modification of modifiers and there is no reason against recursion at least for some types of logical relation. But finding unambiguous grounds for determining a subordinate relation is complicated. For regularly subordinating Gerund, Infinitive, and Provisional clauses, the sequence of  $V_1.INFL_1 > V_2.INFL_1$  where the second predicate heads a subordinate clause is the invariable pattern. These three clause types can express the relations of rationale, grounds, cause, or most generally, realization (i.e., temporal location, with temporal sequence implied iconically), all logically transitive relations such that  $R(P_1, P_2)$  and  $R(P_2, P_3)$  implies  $R(P_1, P_3)$ . But transitivity implies that for clauses expressing these relations, immediate parataxis (adjacency) and hypotaxis (subordination) are semantically equivalent. It is not even clear whether the logical transitivity of the particular relation expressed is involved in licensing the sequence  $V_1.INFL_1 > V_2.INFL_1$ . For example, while OJ Concessive clauses and other adversatives do not express a transitive relation (c.f., ‘he went hungry despite her offering food despite her being poor’) and do not exhibit recursivity, OJ Conditional clauses *do* express a transitive relation and nevertheless do not exhibit recursivity.

On the assumption that adjacent clauses of the same inflection type are in some sense coordinated, backwards pronominalization would be impossible. By extension one syntactic context which would indicate subordination unambiguously would be the pattern  $V_1.INFL_1 > NP_1 > V_2.INFL_1$  where  $V_1.INFL_1$  both contains an empty category co-referent with  $NP_1$  in  $V_2.INFL_1$  and also is construable as modifying  $V_2.INFL_1$ . However, there are no instances of this pattern among the clauses identified as recursively subordinating. Thus for Gerund, Infinitive, and Provisional clause pairs with the members appearing in series, neither semantic relations between inflections nor Binding relations between argument positions give us any evidence for the adjuncthood of the first member.

The question of whether  $V_1.INFL_1$  scopes under  $V_2.INFL_1$  is also accessible to examination by corpus to a certain extent, depending on the presence of operators and the reliability of the interpretation for the item in question. Unfortunately, investigation at this more sophisticated

level has to be left to another occasion.

#### 4.1 Continuative clauses

There is 1 instance of a Continuative clause marked up as recursively embedded in the corpus: an Eastern Old Japanese poem from Shimōsa in (11) but there is no predicate following the second verb. If there actually is an elided verb *ar-* serving to form a periphrastic stative *-tutu ar-*, then this could only be a true case of recursive subordination if that final inflecting form were itself Continuative *-tutu aritutu*, an unattested pattern. Additionally, there is no reason not to analyze this as a sentence fragment containing two adjacent Continuative clauses, both modifying an elided finite predicate that shares the same subject as those two clauses. In light of the fact that simultaneity or co-extension (a relation frequently expressed by the Continuative) is a logically transitive relation, it is difficult to decide on the structural relation between these clauses. Nevertheless, (insofar as these clauses are not interpreted adversatively, which is a possible implication of the Continuative) there is nothing in principle ruling out recursivity.

- (11) 和加加都乃 以都母等夜奈枳 以都母以都母 於母加古比須須 奈理麻之都都母  
*wa ka katu no itumoto yanagi itu mo itu mo omo ka kwopisusu narimasitutu mo*  
 ‘Like the five willow trees at my gate, always and always, while my mother is yearning,  
 while (she) (is) doing chores ...’ (MYS.20.4386)

A possibility that this example throws into relief is that the Continuative may be an inflection that, like the Exclamatory, can be both either root or subordinating. Such an analysis is not without its problems, but it would explain the fairly frequent utterance final position of Continuative clauses, a phenomenon which at present is marked up in the OCOJ as right-dislocation.

#### 4.2 Exclamatory clauses

There are 8 instances of Exclamatory clause pairs marked up as recursive embedding, and the phenomenon in these cases can be easily explained as the consequence of *kakari musubi* agreement in conjunction with the Exclamatory inflection’s dual nature as both embedding and finite inflection. In the corpus there are no Exclamatory clauses both subordinate to Exclamatory clauses and not marked by focus particle *koso*, and neither are there any subordinate Exclamatory clauses marked by focus particle *koso* that don’t have superordinate clauses in the Exclamatory inflection. In fact, there are at least 3 Exclamatory clauses marked by focus particle *koso* and separated from an agreeing predicate by topic phrases, which (along with a variety of other phenomena) suggests that the OCOJ practice of putting elements to the left of low topics into topic positions is not always appropriate. It should be noted that focus particle *koso* does not necessarily force agreement on the predicate of the clause that it is attached to: There are at least 25 Conditional clauses, 13 *mi-gohoo* Infinitive clauses, 1 Infinitive copular clause, 1 Provisional clause, and 2 Gerund clauses marked by *koso*, compared to the 33 clauses (both subordinate and root) that are marked with *koso* and have Exclamatory predicates. But the fact that Exclamatory clauses *can* be marked by *koso* and that constituents marked with *koso* regularly are in *kakari musubi* agreement with the predicate heading their superordinate clauses accounts for the recursivity we see in the subordination of Exclamatory clauses. The semantics of such subordinate clauses is either realis conditional or realis concessive (similar to that of Provisional and Concessive clauses, respectively), which is different from the Exclamatory in root contexts (this

usually expressing focus within assertion).

- (12) 戀乍毛 後將相跡 思許增 己命乎 長 欲為礼  
*kwopwitutu mo noti mo apamu to omope koso ono ga inoti wo nagaku pori sure*  
 ‘Though I yearn, it is because I hope to meet (you) again in the future that I pray my life be long.’ (MYS.12.2868)

### 4.3 Gerund clauses

Recursive subordination in Gerunds seems to be possible, but unambiguous cases are not to be found. In (13) a parsing of the two Gerund clauses as being in a paratactic relation (*heiretu kankei*) is just as plausible, syntactically and semantically, as a hypotactic parsing where the first Gerund clause is embedded in the second. The references of both their empty subjects are dependent on that of the subject in the superordinate clause, and both clauses can directly modify the predicate of the root clause. In fact this argument sharing is a feature of the majority of OJ clauses containing Gerund clause sequences. A full statistical study of Gerund clauses in general is wanted.

- (13) 此枕 吾等 念而 枕手 左宿座  
*ko no makura ware to omopite makite sanemase*  
 ‘Thinking of this pillow as being me, putting it under you, sleep!’ (MYS.11.2629)

In (14) the scope of the topic extends to the final predication and the topic provides antecedents for the subjects in both Gerund clauses, but there is no motivation for parsing one of those as subordinate to the other.

- (14) 我胷者 破而 摧而 鋒心無  
*wa ga mune pa warete kudakete twogokoro mo nasi*  
 ‘My breast splitting and crumbling, there is no level-headedness.’ (MYS.12.2894)

We must look for a situation where a preceding Gerund clause can only modify the immediately following Gerund predicate, and not the root predicate. The most likely candidates would be OJ grammaticalized event-level adverbial expressions in Gerund form such as *masite* ‘exceeding’ or *tugite* ‘continuing’, but these never appear modifying Gerund predicates. A Gerund clause headed by *motite* ‘using’ frequently carries an instrumental semantic role with respect to a following predicate, but again these never appear modifying Gerund predicates. In fact, there are no examples in the OCOJ of a preceding Gerund clause that can only modify the immediately following Gerund predicate and not the predicate heading the clause superordinate to that. Out of the 39 Gerund clauses identified in the initial search pass as being embedded in Gerund clauses, the example that is closest to being unambiguously recursive is in (15) but only if we assume that the topic particle on the second Gerund clause marks a topic adjunct.

- (15) 氣並而 見弓毛 和我歸 志賀尔安良七國  
*ke narabete mite mo wa ga yuku siga ni aranaku ni*  
 ‘It’s not as though this is a Siga which I can travel, even looking at, lining up days.’ (MYS.3.263)

In NJ there are many examples of unambiguous recursive embedding of Gerund clauses, although the most obvious employ grammaticalized adverbial expressions in Gerund form (*Ippen*

*matigaete tukutte, yarinaosita* ‘Making (it) mistaking (by mistake) once, I did it over again’; *Otte itte, tikoku sita* ‘Going following (afterwards), I was late’; *Aete tamesite, daiseikoo sita* ‘Trying (it) daring (daring to try it), I made a big success’. But there are no unambiguous cases in OJ. The basic meaning expressed by the Gerund (realization, or temporal location (with sequence implied iconically)) is a transitive relation, but I can find no principled reason to favour embedding over linear order in deciding the syntactic relation of a sequence of Gerund clauses in OJ.

#### 4.4 Infinitive clauses

In OJ there are many Infinitive clauses that are properly analyzed as arguments of predicates heading superordinate clauses. Included among these are Infinitive purpose-of motion-clauses (e.g., *asuka no kapa ni misogi si ni yuku* ‘go to Asuka River to purify (myself)’ (MYS.4.626a)), Infinitive resultative clauses for *nar-* (e.g., *makoto mo pisa ni narinikyeru kamo* ‘truly it has become distant in the past’ (MYS.10.2280)) and *se-* (e.g., *tutwo ni semasi wo* ‘I would have made (it) into a souvenir, but...’ (MYS.7.1136)), and ‘small clause’ Infinitive complements of verbs of transmission (e.g., *tapirakeku ipapite* ‘pray that (it) be peaceful’ (MYS.17.3957)). These are excluded from consideration as directly subordinating Infinitive clauses here.

In the initial search pass 237 Infinitive clauses were identified as being directly subordinate to Infinitive clauses. In contrast to Gerund clauses, unambiguously recursive instances are readily identifiable, most of them involving either Infinitive adjectives (ending in both *-ku* and *-mi*, e.g., *itaku kaze puki* ‘the wind violently blowing’ (MYS.10.2338)) or Infinitive copular expressions such as the resultative clause *ko ni* ‘thickly’ in (16). Altogether there are 123 instances of this type of recursion.

- (16) 麻用賀岐 許途 加岐多禮 阿波志斯袁美那  
*maywogaki ko ni kakitare apasisi womina*  
 ‘the woman who met (me) with her eyebrows painted thickly’ (KK.42)

It appears that most of the verbal Infinitive clauses are similar in character to the Gerund clause sequences described above. One example where both Infinitive clauses can modify the following predicate is in (17).

- (17) 大夫之 得物矢 手挿 立向 射流 圓方波  
*masurawo no satuya tapasami tatimukapi iru matokata pa*  
 ‘The target the great men shoot pinching hunting arrows, facing (it)’ (MYS.11.2667)

But there is also one unambiguously recursive example in (18). This is identifiable by the semantic role of the subordinate clause headed by *mot-* ‘use’ as denoting instrument only in relation to a following Infinitive verb. Several other examples such as *wakibasami moti* ‘armpitpinching holding’ (MYS.2.210) are possible verb-verb compounds and as such are not unambiguous examples.

- (18) 眞袖 持 床 打拂 君 待跡 居之間  
*masuwode moti toko utiparapi kimi matu to worisi apida*  
 ‘the interval when I sat (thinking) to wait for you, having swept the sleeping mat using my sleeve’ (MYS.11.2667)

Consecutive Infinitive clauses that clearly do not embed are also identifiable, for example in



(19). Here the structure is difficult to determine, but there appear to be a series of coordinated Infinitive clauses which as a group stand in apposition with the word *kaku* ‘thusly’.

- (19) 和賀淤富岐美能 斯志麻都登 阿具良爾伊麻志 斯漏多閑能 蘇弓岐蘇那布  
*wa ga opokimi no sisi matu to agura ni imasi sirwotape no swote kiswonapu*  
 多古牟良爾 阿牟加岐都岐 曾能阿牟袁 阿岐豆波夜具比 加久能碁登  
*takwomura ni amu kakituki so no amu wo akidu payagupi kaku no goto*  
 那爾淤波牟  
*na ni opamu*

‘My great lord sitting on a dais waiting for game, a horsefly latching onto his forearm clothed in white bark-cloth, a dragonfly quickly eating that horsefly, (saying) that to be like thus it will bear (it) as its name (...)(we) call the country of Yamato ‘Dragonfly Island’...’ (KK.97)

Upon close examination, then, the number of Infinitive clauses unambiguously subordinated to other Infinitive clauses is considerably less than that identified in the initial search pass but still quite high. At least one unambiguous verbal example of this phenomenon is verified in (18). An exhaustive inspection and categorization of all the 237 Infinitive clauses that were initially identified as being subordinated to other Infinitive clauses is beyond the scope of this study, but it is interesting to note that all but one of the 124 unambiguous examples identified here are non-verb predicates.

#### 4.5 Provisional clauses

There are 5 Provisional clauses initially identified as being recursively subordinated. In none of these instances is there any clear motivation for choosing subordination over parataxis. It is worth noting that the Provisional can express either temporal location (‘when’) or cause or reason (‘because’), and both are evident in (20). But sequences where both Provisional clauses have the same semantic function are also attested.

- (20) 何時可登 吾待居者 黃葉之 過行跡 玉梓之 使之云者  
*itu si ka to wa ga mati woreba momitiba no sugwite iniki to tamadusa no tukapi no ipeba*  
 螢成 髻髻聞而  
*potaru nasu ponoka ni kikite*

‘When I was awaiting (you) thinking, “When (will it be)?” because a messenger said that (you) had passed and gone like the autumn leaves, hearing it vaguely (...)’ (MYS.13.3344)

#### 5. Revisions, conclusions

Taking into account the revisions noted as needed in Sections 3 and 4, the corrected statistics for direct subordination in OJ are presented in Table 5. For the Infinitive, 124 recursive instances were confirmed from among the initially identified 237, but the question of which clause types the remaining 113 clauses are embedded in has been left open. The same treatment has been adopted for the Continuative, the Gerund, and the Provisional, for which no unambiguous recursivity was observed. Accordingly, for each of these 4 clause types, the numbers in parentheses must be left indeterminate, and the numbers of instances that are Structurally Ambiguous (SA) are recorded in the last column of Table 5.

Table 5 Subordination by clause type (revised)

|                       | ADN      | CSS      | CLS      | CDL      | CTT        | EXC      | GER        | IMP      | INF          | NGC      | NML      | OPT      | PHB      | PRV        | SA         |
|-----------------------|----------|----------|----------|----------|------------|----------|------------|----------|--------------|----------|----------|----------|----------|------------|------------|
| <b>Adnominal</b>      | <b>0</b> | 0        | 0        | 0        | 0          | 0        | 0          | 0        | 0            | 0        | 0        | 0        | 0        | 0          | 0          |
| <b>Concessive</b>     | 87       | <b>0</b> | 139      | 0        | 0          | 10       | 6          | 0        | 21           | 1        | 13       | 2        | 0        | 15         |            |
| <b>Conclusive</b>     | 0        | 0        | <b>0</b> | 0        | 0          | 0        | 0          | 0        | 0            | 0        | 0        | 0        | 0        | 0          | 0          |
| <b>Conditional</b>    | 77       | 1        | 243      | <b>0</b> | 3          | 50       | 8          | 19       | 40           | 14       | 3        | 18       | 1        | 0          |            |
| <b>Continuative</b>   | (98)     | (14)     | (115)    | (3)      | <b>(0)</b> | (16)     | (4)        | (8)      | (8)          | (0)      | (11)     | (8)      | (2)      | (8)        | <b>1</b>   |
| <b>Exclamatory</b>    | 50       | 1        | 26       | 0        | 0          | <b>8</b> | 2          | 0        | 0            | 0        | 1        | 0        | 0        | 1          |            |
| <b>Gerund</b>         | (597)    | (48)     | (685)    | (63)     | (10)       | (74)     | <b>(0)</b> | (33)     | (89)         | (1)      | (28)     | (31)     | (8)      | (93)       | <b>39</b>  |
| <b>Imperative</b>     | 0        | 0        | 0        | 0        | 0          | 0        | 0          | <b>0</b> | 0            | 0        | 0        | 0        | 0        | 0          | 0          |
| <b>Infinitive</b>     | (1194)   | (84)     | (1284)   | (89)     | (69)       | (124)    | (212)      | (70)     | <b>(124)</b> | (7)      | (44)     | (28)     | (31)     | (178)      | <b>113</b> |
| <b>NegConjectural</b> | 0        | 0        | 0        | 0        | 0          | 0        | 0          | 0        | 0            | <b>0</b> | 0        | 0        | 0        | 0          | 0          |
| <b>Nominal</b>        | 0        | 0        | 0        | 0        | 0          | 0        | 0          | 0        | 0            | 0        | <b>0</b> | 0        | 0        | 0          | 0          |
| <b>Optative</b>       | 0        | 0        | 0        | 0        | 0          | 0        | 0          | 0        | 0            | 0        | 0        | <b>0</b> | 0        | 0          | 0          |
| <b>Prohibitive</b>    | 0        | 0        | 0        | 0        | 0          | 0        | 0          | 0        | 0            | 0        | 0        | 0        | <b>0</b> | 0          | 0          |
| <b>Provisional</b>    | (199)    | (7)      | (337)    | (2)      | (10)       | (28)     | (17)       | (4)      | (66)         | (1)      | (14)     | (2)      | (0)      | <b>(0)</b> | 5          |

With regard to interactions between subordinate and superordinate clause types, the following points are evident: 1) Adnominal, Conclusive, Imperative, Negative Conjectural, Nominal, Optative, and Prohibitive clauses never directly subordinate; 2) Exclamatory clauses can appear in either subordinated or root contexts, but the semantics of the inflection differ depending on which context; 3) Concessive, Conditional, Continuative, Gerund, Infinitive, and Provisional clauses regularly subordinate; 4) there is a high incidence of focus marking on Exclamatory subordinate clauses, and this marking determines the inflection of the superordinate clause; 5) Conditional clauses are not found subordinate to Provisional clauses, and the only instances of the converse situation (2 in total) occur in contexts where the semantics of the Conditional are overridden; 6) unambiguous instances of recursive subordination are only attested for Infinitive clauses, and then almost entirely for non-verb predicates, there being only 1 unambiguous instances of recursive subordination of a verb-headed Infinitive clause; 7) for  $V_1.INFL_1 > V_2.INFL_1$  sequences involving Continuative, Gerund, Infinitive, and Provisional clause types there is pervasive structural ambiguity.

In addition to clarifying patterns of subordination according to clause type as defined by inflection of the heading predicate, this study also points out the need for reanalysing the syntactic category of constituents as NPs in several recurring patterns in the OCOJ: 1) Adnominal clauses followed by genitive particle *ga* co-occurring with Adjective + *sa*; 2) Nominal clauses co-occurring with predicates *posi* and *pori se-*. The proper category for Adnominal clauses co-occurring with *goto-* is still not clear, but it is unlikely that instances such as these should be considered cases of direct subordination, so the present mark-up practice should be reconsidered. The syntactic categories of *siku*-adjective stem constituents functioning adverbially and in compounds should also be changed in the corpus, as should the word-class of the expression *nasi ni*.

The ability of the Exclamatory inflection to have a subordinating function, demonstrated in this study, should also prompt a re-evaluation of mark-up in various relevant places in the corpus. Furthermore, the re-analysis of Exclamatory clauses as subordinate rather than root in some cases (Sections 3.3. and 4.2) is not the only consequence of properly identifying agreement relations between constituents and the inflections of clauses in which these are embedded. As mentioned in Section 4.2, there are at least three instances of agreement between a constituent marked with focus particle *kosō* and a following predicate where an intervening constituent is

marked with emphatic topic marker *mo*.

- (21) 後湍山 後毛 将相常 念社 可死物乎 至今日毛 生有  
*notiseyama noti mo apamu to omope koso sinu beki monowo kyepu made mo ikyere*  
 ‘Notise Mountain. It is because I think to meet you afterwards too that, although I am  
 about to die, I live even until this day.’ (MYS.4.739)

In the OCOJ, topic-marked phrases and any co-occurring phrases to the left of these are marked up as adjoining the clause they relate to. Assuming that *kakari musubi* agreement can only hold between local elements, both the focussed clause *noti mo apamu to omope koso* ‘I think to meet you afterwards too’ and the topic phrase *kyepu made mo* ‘even until today’ in (21) should be analyzed as occupying positions within the projection of the inflecting form (i.e., as ‘low topics’). In the case of topic particle *pa* as well, the possibility of low topics should be revisited in future refinements to the OCOJ, and a reinterpretation of unambiguously low topics as being contrastive (rather than thematic) should also be considered.

This statistical examination of the phenomenon of direct subordination in OJ has served to confirm some widely known observations about the function of inflections, and has also provided some hints about how to regularize parsing in the OCOJ in useful ways. The biggest problem this study reveals is the structural ambiguity in  $V_1.INFL_1 > V_2.INFL_1$  sequences involving Continuative, Gerund, Infinitive, and Provisional clause types, but this is actually just part of the more general problem of deciding between parataxis and hypotaxis for sequences of subordinate clauses of various types. With a corpus such as the OCOJ, studies like this one using searches based on constituent relations run the risk of overlooking linear sequences, so if further statistical explorations of this general problem are to be exhaustive, they should begin with techniques that ‘flatten out’ decisions about constituency that are already marked up in the OCOJ. Specifically the data should initially be analyzed without reference to the clause boundaries of non-finite clause types. This is not to discount the value of the structural assignments of adjuncts in the OCOJ, insofar as they are informed by philological tradition and clear intuitions about meaning.

## References

- 戸次大介 (2007) 「南の従属節分類再考」『日本言語学会第134回大会予稿集』306–311. 麗澤大学.  
 Frellesvig, Bjarke (2010) *A history of the Japanese language*. Cambridge: Cambridge University Press.  
 Frellesvig, Bjarke & John Whitman (2011) Prenominal complementizers and the derivation of complex NPs in Japanese and Korean. In: William McClure (ed.) *Japanese/Korean Linguistics* 18: 73–87. Stanford: CSLI.  
 Frellesvig, Bjarke, Stephen Wright Horn, Kerri L. Russell, and Peter Sells. *The Oxford Corpus of Old Japanese*. <http://vsarpj.orinst.ox.ac.uk/corpus/ojcorpus.html>. (accessed Dec. 2013).  
 益岡隆志 (1997) 『新日本語文法選書2 複文』東京:くろしお出版.  
 南不二男 (1974) 『現代日本語の構造』東京:大修館書店.  
 Miyagawa, Shigeru (2012) *Case, argument structure and word order*. New York: Routledge.  
 田窪行則 (1987) 「統語構造と文脈情報」『日本語学』6(5): 37–48.  
 Vovin, Alexander (2009) *A descriptive and comparative grammar of Western Japanese—Part II*. Folkestone: Global Oriental.  
 Wrona, Janick (2008) *The Old Japanese complement system*. Folkestone: Global Oriental.  
 山田孝雄 (1954) 『奈良朝文法史』東京:宝文館.  
 Yanagida, Yuko and John Whitman (2009) Word order and alignment in Old Japanese. *Journal of East Asian Linguistics* 18(2): 101–144.

## 上代語の従属節の投射：活用形の基礎的コーパス研究

ホーン, スティーブン・ライト

オックスフォード大学／国立国語研究所 共同研究員 [-2013.10]

### 要旨

本論文では、オックスフォード上代語コーパス (OCOJ) を利用して、上代語の主節と従属節それぞれの述語の活用形を比較しながら、接続詞を介さず活用だけでできる、連用修飾関係（いわば、直接従属関係）を研究する。節の活用形と投射との関係を考える上での基本的データを紹介する傍ら、いくつかのパターンについて、OCOJ のマークアップを再検討する必要性をも指摘する。

**キーワード：**上代語, 従属節, 活用形, 投射