

Serial verb constructions in Japanese

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Inspired by the diachronic study of complex predicates in Japanese by [Lanz \(2009\)](#), I investigate some aspects of serial verb constructions (SVC) from Old Japanese and Classical Japanese to Modern Japanese. More specifically, I will focus on the evolution of the productivity of serial verbs and the number of verb stems involved in these constructions.

1 Stages of Japanese language

There are three main stages that are always distinguished for the Japanese language, namely Old, Classical and Modern Japanese. Some of them have subdivisions depending on the authors. They are usually delineated using the periods of Japanese political history, and I will be using these periods as chronological markers throughout this paper. The italicized names are the Japanese terms for these divisions, as reported by [Takeuchi \(1999\)](#).

1. **Old Japanese (OJ)** (*zyoodai*), 400-794 AD. Asuka and Nara periods.
2. **Classical Japanese (CJ)**, 794-1500 AD.
 - Late Old Japanese (*tyuuko*), 794-1192 AD. Heian period.
 - Middle Japanese (*tyuusei*), 1192-1603 AD. Kamakura, Muromachi, Azuchi-Momoyama periods.
3. **Modern Japanese (MJ)**, 1500 AD - present.
 - Early Modern Japanese (*kinsei*), 1603-1867 AD. Edo period.
 - Modern Japanese (*kindai/gendai*), 1867-present. Meiji, Taisho, Showa, Heisei periods.

2 Dataset

I used the Corpus of Historical Japanese (CHJ) developed by the Center for Corpus Development at the [National Institute for Japanese Language and Linguistics \(2018\)](#). For each era available, I list in Table 1 a brief summary of the sources included in this corpus. Early sources include mostly poetry such as the Man'yōshū, whereas the most recent sources are textbooks and magazines. In order to browse the corpus and to make advanced searches using for example POS tags, one needs to use the online search engine [Chunagon](#).

Era	Sources	Type
Nara	Man'yōshū (<i>Collection of Ten Thousand Leaves</i>)	Poetry
Heian	Taketori Monogatari (<i>Tale of the Bamboo Cutter</i>), Ise Monogatari, Genji Monogatari (<i>Tale of Genji</i>), and others	Kana literary works
Kamakura	Konjaku Monogatari (Honchō-bu), Uji Shūi Monogatari, Jikkinshō, Hōjōki, Tsurezuregusa	Folktales and essays
	Kaidōki, Kenrei Mon'in Ukyō no Daibu-shū, Tōkan Kikō, Izayoi Nikki, Towazugatari	Diaries and travel literature
Muromachi	Kyōgen, Kirishitan Shiriyō	Theatric works and Christian materials
Edo	Share-bon Taisei	Literary novelettes
Meiji / Taishō	Meiroku Zasshi, Kokumin no Tomo, Taiyō, Jogaku Zasshi, Jogaku Sekai, Fujin Kurabu	Magazines
	Jinjō Shōgaku Tokuhon, among others	Textbooks

Table 1: Types of sources included in the Corpus of Historical Japanese by [National Institute for Japanese Language and Linguistics \(2018\)](#).

3 Serial verb constructions in Japanese

According to [Aikhenvald \(2018\)](#), serial verb constructions (SVC) are found in more than two-thirds of the world languages. They have been defined in many ways. [Aikhenvald \(2006\)](#) proposes the following definition: a serial verb needs to involve two or more verbs, each of which could be the sole verb of a clause. There should not be any marker of coordination, subordination or any other sort of dependency. It should behave as a single predicate: for example TAM marking will be shared among the verbs of the SVC. The SVC has its own transitivity which may depend on the components verbs and the type of SVC. In addition they share at least one core argument such as syntactic subject, object or obliques. Finally it should describe a single event that may be simple or complex. Some of these properties have noted exceptions. The definitions of SVC have been multiple and are still an object of debate.

In Japanese, SVC take the form V-V with no coordinators (*-tutu*) and subordinators (*-te*) in between them. All except the last verb stem are in infinitival form and the last one can take any form but infinitive: it can be finite (if the SVC is the final verb of a main clause), attributive (modifying an NP), subordinative (final in a subordinate clause), etc. TAM marking only affects the last verb but its scope encompasses all the verb stems.

- (1) 女子は ご飯を 食べ残した。
joshi-ha gohan-wo tabe-nokoshi-ta
girl-TOP rice-ACC eat-leave-PST
The girl left rice after eating some.

We will distinguish SVC from two other common complex verbal predicates in Japanese:

- light verbs constructions, such as *N-ACC suru* (to do N)

- (2) 彼は フランス語を 勉強 した。
kare-ha furansugo-wo benkyou shita
he-TOP French-ACC study do-PST

He studied French.

- converb markers such as *-te*

- (3) 男の子は 学校に 走って 行った。
 otokonoko-ha gakkou-ni hashit-te it-ta
 boy-TOP school-DAT run-CONN go-PST
 The boy ran to school.

4 Diachrony of serial verbs in Japanese

4.1 Overview

Lanz (2009) outlines several noticeable evolutions of serial verbs in Japanese. The internal order of the verbs is not necessarily iconic in OJ as it is now in MJ. There could also be transitivity mismatches where stems had differing valencies. The last point on which we will focus here, is that SVC were more productive in OJ and CJ compared to MJ: it used to describe also simultaneous or complex narrative events. A corollary is that the number of verb stems involved in SVC could be dramatically higher. In MJ the most one could get is 2 lexical verbs followed by 1 aspectual verb.

This last claim is supported in Lanz (2009) by some examples of SVC involving 4 verb stems, but there is no quantitative estimate of this decrease in the productivity of SVC in Japanese. Thus I looked at the sequences of N verb stems in the CHJ, where N varied between 2 and 6.

4.2 Number of verb stems

Table 2 shows the relative sizes of the different eras in the CHJ dataset. It counts the number of verb stems in each era and the corresponding relative percentages between the eras. OJ (about 1%) has noticeably less statistics than CJ and MJ, which should be kept in mind.

		Old Japanese	Classical Japanese			Modern Japanese			
	Total	Nara	Heian	Kamakura	Muromachi	Edo	Meiji	Taisho	Showa
Corpus size	1414722	14207	136471	119357	40878	50982	701662	314347	36858
Relative %	100%	1%	9.6%	8.4%	2.9%	3.6%	50%	22%	2.6%

Table 2: Corpus size is defined as the number of single verb stems in the corpus.

Using these global counts one can then compute the proportion for each era of verb stems involved in a SVC with N total verb stems. Since Chunagon will also include sentences with $N + 1$ successive verbs when only N verb stems sequences are requested, some combinatorics is necessary in order to correct the raw counts from the corpus. The query was filtered to exclude auxiliary verbs (動詞・非自立可能 as opposed to 動詞・一般). The result is shown in the stacked histogram of Figure 1. There is a clear global trend decreasing over the eras, showing that overall the SVC are now less used than in OJ or CJ. As a consequence, for example SVC involving 4 or more verb stems disappear almost completely after the Muromachi era.

4.3 A look at SVC with 4+ verb stems

A number of the 4-stem occurrences in Kamakura and later periods come as verbal reduplication ($V_1 - V_2 - V_1 - V_2$). Here is an example from the Kojiki, Kamakura period:

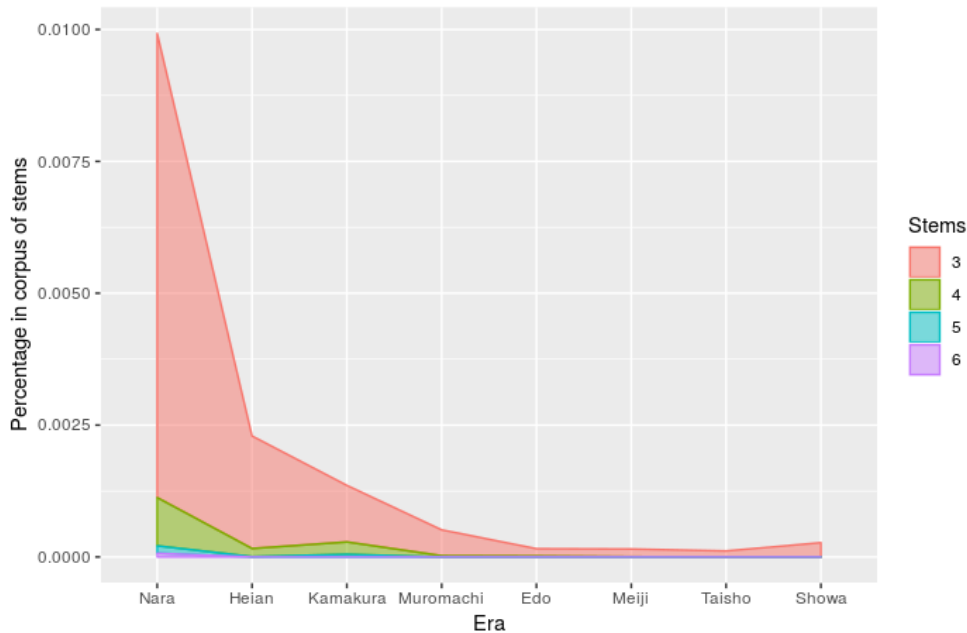


Figure 1: Proportion of verbs involved in a serial verb construction with N stems, where $N = 3, 4, 5, 6$.

- (4) 飛び上がり 飛び上がり する。
 tobi agari tobi agari suru
 fly go.up fly go.up do
 fly up and up

Note that 飛び上がる has lexicalized and is now a verb in Japanese, meaning "to spring, jump up, fly up". Another example including reduplication from Makura no Sōshi, Heian period, and that is free from the ambiguity of a lexicalized complex, is the following:

- (5) 冬の 夜など 引き さがし 引き さがし のぼり ぬるが いと わびしき
 fuyuno yonado hiki sagashi hiki sagashi nobori nuga ito wabishii
 winter-GEN night-NADO pull search pull search climb ? greatly lonely
 なり。
 nari
 become.

However not all of the 4-stems SVC involve reduplication. Some examples that do not involve reduplication follow. This one is a rare example from the Meiji era:

- (6) 今ま 恵連が 心を 喪 なひ 狂るひ 歌ふ
 now Eruren-TOP heart-ACC lose twist go.mad sing

The last example is from the Kamakura period and involves a serie of 5 verb stems:

- (7) 盗人 入り立て 心に任せて 物を取りて、 物を
 nusubito iri-tachi-te kokoroniyakasete mono-wo-tori-te, monowo
 thief enter-stand-CONN do.as.one.wishes thing-ACC-pick.up-CONN, thing-ACC

破り 打 がはめかし 踏 ㊦ち、 喧りて 出にけり。
 yaburi uchi gawamekashi fumi kohochi, nonoshiri-te idenikeri
 break hit (verb) step.on destroy, curse.at-CONN go.out-PST

4.4 Verb stems involved in SVC

Another aspect is the type of verbs that can be involved in these SVC. Aikhenvald (2018) distinguishes a hierarchy of verb types that can be used in a serial verb. If verbs from a level are found in SVC, then verbs belonging to a higher category in the hierarchy will also very likely occur in SVC. In the case of Old Japanese and Classical Japanese, a look at the corpus shows that almost all of these categories were allowed:

1. Basic motion verbs (*kuru* 'come', *iku* 'go')
2. Other active intransitive verbs ('bow down')
3. Posture verbs (*tatsu* 'stand')
4. Verbs of transfer (*kureru* 'give') or causation
5. Further transitive verbs ('shoot'), verbs of speech (*kaesu* 'reply', 'call')
6. Stative verbs (*matsu* 'wait', *kurasu* 'live')

Table 3 shows some verb stems that appeared most frequently in a sample of the 4-stems SVC. Table 4 shows more examples coming from a sample of 3-stems SVC.

Stem	Count	Meaning
上がる/上る	3	climb
入れる/入る	3	enter
出でる	4	come out
㊦れる	2	separate
寄る	3	draw near
射る	2	shoot
探す	2	look for
暮らす	5	living (manner)
泣く	2	cry
立つ/立てる	2	stand
㊦ぐ	3	succeed/add/repair
伏す	2	bow down
返す	5	reply, return
鳴く	3	cry (bird)
侍う	3	wait

Table 3: Some of the most frequent verbs in last position of 4-stems SVC

4.5 Evolution of SVC

Aikhenvald (2018) distinguishes 3 paths to explain the source of SVC:

- Clause fusion

- Verbal modification
- Concurrent grammaticalization

In the case of Japanese, the verbal modification is likely the main drive of the emergence of SVC. Regarding the number of verb stems, Aikhenvald (2018) claims that *“the emergence of serial verbs is expected to proceed from sequences of those with two components to longer sequences.”* One would then expect the number of verb stem to increase over time, not decrease.

5 Conclusion

A quantitative analysis of the Corpus of Historical Japanese confirmed one of the trends observed by Lanz (2009), namely that the number of verb stems that could be involved in a SVC in OJ and CJ decreased drastically in MJ. There are two caveats: first there is comparatively little data available for Old Japanese in this corpus. Second it is skewed towards poetry, since the only source for the Nara period is the Man'yōshū, which might be a bias in this study. I do believe that the trend would remain even after controlling for this bias. It remains unclear at this point how one could explain this evolution, and further investigations would be needed.

References

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Stem	Count	Meaning
上がる/上る	7	go up, climb
乱れる	6	be disordered
伏す	7	bow down
入る/入れる	10	enter, put in
出でる/出る	14	go out, come
㊦れる	5	separate
取る	4	take
向かう	5	face, go towards
嘆く	6	lament, regret
坐す/坐せる/坐そがる	7	sit
宣う/宣ぶ/宣わせる	5	proclaim, announce
寄せる/寄る	17	come near
引く	4	pull, play
往ぬ	5	leave
待つ	4	wait
思う/思す	19	think
惑う/惑わす	4	be puzzled
据える	4	place, install
明かす/明ける	11	expose
暮らす	12	live
㊦る	5	get cloudy
㊦く/㊦む	9	walk
泣く	10	cry
流らえる/流れる	5	flow
率う/率る	4	command
知る	5	know
立つ/立てる	18	stand
㊦ぐ	3	follow, mend
見える	5	be seen
言う	6	say
返す/返る	6	reply
追う	5	chase
㊦ぶ	5	play
降る	6	fall, pour
㊦す	5	hide, conceal
㊦ぐ	8	be noisy
鳴く/鳴らす/鳴る	13	sing, chirp

Table 4: Some of the most frequent verbs in the last position of 3-stems SVC.