Lexicalization and morphological activation as criteria for Japanese compound verbs

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The paper deals with Japanese complex predicates made of a Verbal Noun and the light verb *suru* 'to do'. It tries to shed light on the question whether they should better be classified as lexicalized units rather than syntactic constructions on the one hand, and as compounds activated morphologically rather than syntactically on the other hand. It takes into account that *suru*-predicates appear essentially in two possible forms: (a) VN-*suru* and (b) VN-*o suru* (where *-o* is an accusative marker). A set of parameters is examined, leading to the conclusion that the two constructions are similar in taking an intermediate position between compound words and syntactic structures as concerns lexicalization, while being respectively closer to compounds activated morphologically (a) and syntactically (b).*

1. Light verb constructions in Japanese

In today's Japanese, the only productive process that can yield new verbs is a construction involving the light/support verb *suru*, roughly corresponding in meaning to English *do*, which can form complex predicates containing a so-called Verbal Noun (VN).[1] This can apply in two structurally different ways, both intermediate between complex verb phrases on the one hand, and compound verbs on the other. From VNs such as *benkyoo* 'study' and *dansu* 'dance', it is possible to build verb phrases meaning 'to study' or 'to copy' as in (1):

(1)	benkyoo-o	suru	dansu-o	suru
	study-ACC	do	dance-ACC	do
	'to study'		'to dance'	

But also complex predicates where the accusative case marker is absent:

(2)	benkyoo-suru	dansu-suru
	study do	dance do
	'to study'	'to dance'

This second construction, which we will call (pre-theoretically and on practical purposes) a compound verb construction, can be

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regarded from many respects as a single compound word, and will be the object of the present analysis. The compound verb can be transitive and take a Direct Object:

(3) Midori-ga furansugo-o benkyoo-shi-ta
Midori-NOM French-ACC study do-PAST
'Midori studied French'

When used within a complex phrase like in (1), the VN is marked syntactically as the Object of *suru*, while the nominal that acts in the other construction as the Object of the compound verb is marked as an oblique:

(4) Midori-ga furansugo-no benkyoo-o shi-ta
Midori-NOM French-GEN study-ACC do-PAST
'Midori studied French ('did the study of French')'

However, some nouns can form compound verbs with *suru* while being, conversely, unable to form a syntactic phrase including the accusative marker *-o*. In other words, they are suitable for building compound verbs where they receive verbal features from the light verb *suru*, but not for becoming the direct object of *suru*. This is the case of *seikoo* 'success' as pointed out by Miyagawa (1987:36-37), and *joohatsu* 'evaporation':

(5) Taroo-ga seikoo (*-o) suru
Taroo NOM success (*ACC) do
'Tarooo will succeed'

(6) a. Mizu-ga joohatsu (*-o) shi-ta
water NOM evaporation (*ACC) do-PAST
'water evaporated'

Other VNs following the same pattern are the following:

(7)
anshin (-o) suru* 'be relieved'
antei (-o) suru* 'rest'
chuushi (-o) suru* 'cancel'
gokai (-o) suru* 'misunderstand'
hakai (-o) suru* 'destroy'
kansei (-o) suru* 'complete'
kikoku (-o) suru* 'return to one's country'
rikai (-o) suru* 'comprehend'

ryuukoo (-o) suru* 'be popular'
senkyo (-o) suru* 'occupy'
sonzai (-o) suru* 'exist, come into being'
taiho (-o) suru* 'arrest'
tanjoo (-o) suru* 'be born'
toochaku (-o) suru* 'arrive'

There has been much debate in the literature about the reasons why certain VNs do not accept the accusative marking in a phrasal construction, obligatorily selecting the compound verb. The explanations are based essentially on the semantic and syntactic features of the VNs, namely on their kind of (in)transitivity. Here we cannot enter the debate, for which we refer to the works listed in the bibliographical section at the end of this paper.[2] Still, it is useful to recall that according to certain scholars, exclusion from the phrasal construction is peculiar to inaccusative VNs; according to other formulations, Activity/Accomplishment predicates can build the VN-*o suru* constructions, while Achievement and State predicates are restricted to VN-*suru*. Other similar interpretations are proposed.

In any case, the difference between two differently 'elastic' kinds of VNs is not without consequences on the nature of the compound verbs they can form, because one may be led to consider that a compound-like structure of the type VN-*suru* is more or less lexicalized according to its being able or not to alternate with a corresponding VN-*o suru* verbal phrase.

The pattern described, with the two possible alternatives we have sketched, applies to hundreds of nouns, belonging mainly to the very wide Chinese layer of the lexicon (called *kango*, 'Chinese language', imported into Japanese through the centuries), or to the so-called *gairaigo* ('foreign language') i.e. borrowings, usually more recent, from other foreign languages, mainly English. For instance, *benkyoo* is a word of Chinese origin and *dansu* comes from English. There are also a few original Japanese nouns that can work the same way, such as for instance *kaimono* 'shopping', and some phonosymbolic expressions.[3] More examples are the following:

(8)

SINO-JAPANESE NOUNS		
annai 'guide'		to guide
benkyoo 'study'		to study
denwa 'telephone'		to phone
eigyoo 'business'		to do business
hason 'damage'		to damage
junbi 'preparation'		to prepare
keikoku 'warn'		to warn
kekkon 'marriage'		to get married
kenkyuu 'research'		to do research
ryokoo 'travel'		to travel
sanpo 'walk'		to take a walk
sentaku 'washing'	- *suru*	to do the washing
setsumei 'explanation'		to explain
shitsumon 'question'		to ask questions
shokuji 'meal'		to have a meal
shucchoo 'business trip'		to travel for business
shuppatsu 'departure'		to leave
soodan 'discussion'		to discuss
sooji 'cleaning'		to clean
toochaku 'arrival'		to arrive
yakusoku 'promise'		to promise
yoyaku 'reservation'		to reserve

(9)

FOREIGN NOUNS		
arubaito 'part-time job'		to work part-time
charenji 'challenge'		to challenge
dansu 'dance'		to dance
doraibu 'drive'		to drive
janpu 'jumping'		to jump
kuriiningu 'cleaning'		to clean
nekutai 'necktie'	- *suru*	to tie one's necktie
nokku 'knock'		to knock
ranningu 'running'		to run
saikuringu 'cycling'		to cycle
sutoraiki 'strike'		to do a strike
taipu 'type'		to type
tenisu 'tennis'		to play tennis
tesuto 'test'		to test

(10)

ORIGINAL JAPANESE NOUNS		
kaimono 'shopping'		to go shopping
mane 'imitation'	- *suru*	to imitate
yamanobori 'mountain climbing'		to climb mountains

(11)

PHONOSYMBOLIC EXPRESSIONS		
yukkuri 'slowly'		to stay long
bonyari 'absent-mindedly'		to be absent minded
niko niko 'with a smile'	- *suru*	to smile
waku waku 'with excitement'		to be excited
chin 'ding' (a mechanical noise)		to 'ding' (to microwave)
gorogoro 'purr'		to be lazy, doing nothing

Furthermore, as noted by N. Tsujimura,[4] *suru*-verbs can also be formed starting from N-V compound roots that do not exist as independent verbs:

(12)

N-V STEMS		
kane-moke 'money-make'	- *suru*	to make profit
tera-mairi 'temple-go'		to go to the temple

In fact, though in such cases it is also possible to use syntactic constructions and say *kane-o mookeru* (money-ACC make), *tera-ni mairu* (temple-to go), the use of *suru* is motivated by the fact that the compound verbs do not exist: **kane-mookeru*, **tera-mairu*.

One further element of interest in the VN(-*o*) *suru* structure is that it has intermediate status between *bona fide* phrasal constructions and *bona fide* lexical units (diachronically arising from former compounds) such as the no longer productive verbs in (13), endowed with a somewhat literary flavour, where the ending *-su* is the form of the verb *suru* which was in use in the past; and those in (14), where the ending *-jiru* arised as the result of a sandhi rule applying to *suru* itself:

(13)

ai-su 'to love'
hai-su 'to bow'
ji-su 'to resign'
kai-su 'to understand'
ka-su 'to assign'
kyoo-su 'to offer'
shoo-su 'to call'
to-su 'to wager'

(14)

kan-jiru 'feeling-do, to feel'
kin-jiru 'prohibition-do, to forbid'
shin-jiru 'faith-do, to believe'
tsuu-jiru 'passage-do, to pass, to be understood'
zon-jiru 'knowledge-do, to know'

2. Morphological or syntactic selection of the Noun?

Not all nouns can form *suru*-verbs in Japanese. In order to participate in the *suru* construction, a noun must comply with certain conditions; and such conditions are rather syntactic than morphological in nature. Namely, it must possess an argument structure. A noun like *enpitsu* 'pencil' has nothing in its morphological structure that makes it different from, say, *joohatsu* 'evaporation', from the point of view of being able to go with *suru*,[5] still, this is excluded by the grammar of Japanese: **enpitsu suru*. In fact, it is not at the morphological level that a selection applies as to which nouns will enter the construction under examination, but at the syntactic or even semantic level,[6] since projecting an argument structure is strictly connected to describing an action or a process, rather than an object, in reality. This is obviously the reason why those under examination are usually called Verbal Nouns.[7]

Moreover, as already mentioned, there are several *suru*-verbs whose N actually exists in the language as an independent word, but cannot take the direct object marker in a N-*o suru* Verb Phrase. We have listed some of them in (7). Such are also, and even more strongly, *ai-suru* 'love-do', 'to love' and *tai-suru* 'opposite-do', 'to face': **ai-o suru* and **tai-o suru* are absolutely not acceptable. All in all, it must be said that *suru*-verbs show v a r y i n g d e g r e e s of acceptability of the structure with the accusative marker.[8] According to Uehara (1998:140-142), informants who consider many VNs perfectly accep-

table in VN-*suru* predicates, assign the same VNs doubtful acceptability in the syntactic structure VN-*o suru*. These VNs are to be located somewhere between *aisuru* and completely flexible VNs as *benkyoo-(o) suru*. In other words, while **ai-o suru* is completely unacceptable and *benkyoo-o suru* is perfectly acceptable to all informants, ?*bishoo-o suru* ('smiling'), ?*kansoo-o suru* ('drying') and many others have degrees of acceptability varying through informants, situations etc.

It is clear that the systematic absence of the accusative marking on the VN is a sign of morphological formation. But the many verbs where it is not clear whether and to what extent the pattern is really unacceptable must be considered as intermediate (and perhaps moving) between two extremes: the status of compound, and perhaps even derivate verbs,[9] represented by *aisuru*, and the condition represented by those structures that fully allow both VN-*suru* and VN-*o suru*, which cannot be given a single definition. All we can say for sure is that (as already mentioned) there are syntactic-semantic factors, related to the kind of (in)transitivity displayed by each VN, determining the acceptability of the phrasal construction as an alternative to the more lexicalized compound verb. For instance, it is mainly unaccusative VNs (if we accept one interpretation) such as *seikoo* 'success', *joohatsu* 'evaporation', *rikai* 'comprehension', *sonzai* 'existence', *antei* 'stability', *tanjoo* 'birth', *ryuukoo* 'popularity', *toochaku* 'arrival' and others, that necessarily form the tight compound VN-*suru*, and cannot[10] form the phrasal construction VN-*o suru*.

3. Lexicalization and morphological compoundhood

Following the proposal by Gaeta & Ricca (2009), we will try to assess whether *suru*-verbs can be regarded as "compounds" according to both lexical and morphological criteria, and if they appear to be more tightly bound units (and consequently less syntactic in nature) when regarded from the former or the latter perspective. In other words, we will try to show to which extent the complex verbs under examination can be considered respectively as lexical units and morphological compounds,[13] i.e., on the one hand, if they can be regarded as independent and autonomous units of the lexicon (listemes) rather than as syntactic structures; on the other hand, if they are generated by activating a morphological pattern, rather than a syntactic one. Using Gaeta & Ricca's abbreviations in the same sense, we will try to show which ones among the features of *suru*-verbs can be regarded as (+lex) or (–lex), (+morph) or (–morph).

3.1. Lexical features (±lex)

Some *suru*-verbs are very common in speech and writing, certainly reaching among the highest frequencies of Japanese verbs overall. This obviously candidates them as lexical units. We will try to check if they also display other (+lex) features.

3.1.1. Unitary meaning: +lex

The verb *suru* is a typical light verb, semantically almost empty, which leaves the VN completely free to express its meaning. Thus, in verbs like *kisu-suru* 'to kiss', *shitsumon-suru* 'to ask a question' and *kekkon-suru* 'to get married', if *suru* has to be intended as having the meaning 'to do', this actually means each time something completely different, totally depending on the meaning of the VN. More correctly, it can be said that *suru* simply adds some verbal features (such as tense, mode, politeness) to the Noun, which allow it to work as a verb within the sentence. As a consequence, it is hard to deny that VN-*suru* verbs exhibit unitary meaning, which happens to match perfectly the meaning of the VN.

Interestingly, this is also true for VN-*o suru* constructions, which always exhibit the same meaning as V-*suru*. The semantic equivalence of the two constructions shown in (1) and (2) is generalized:

(15)	denwa-o	suru	=	denwa-suru
	telephone-ACC	do		telephone-do
	'to telephone'			'to telephone'

This speaks in favour of the conclusion that not only VN-*suru*, but also VN-*o suru* constructions are lexical units in Japanese, though the latter are probably closer to the feature (-morph), as we will show.

3.1.2. Compositional meaning: -lex

Both constructions systematically exhibit compositional meaning. This is not in contrast with their meaning being unitary, simply because *suru*'s semantic value is neutral, which makes the compositional meaning of a *suru*-verb coincide with the predicative version of the VN. But the meaning of *kenkyuu-(o)suru* 'to do research' and *dansu(-o)suru* 'to dance' is compositional in that it is completely transparent from the meaning of the words involved, and the fact of their being tied together doesn't effect any semantic shift. Not only there is no strong shift to a completely new meaning such as in *blackboard* or *skyscraper*, but even weaker shifts, such as habitual interpretation, are absent. *Kenkyuu-suru* and *dansu-suru*, and obviously also *kenkyuu-o suru* and *dansu-o suru*, go on meaning 'to do research' and

'to dance', without taking the meaning of 'habitually doing research/ dance, being a researcher/dancer'.

As it can be seen, this feature doesn't help to locate our constructions among full lexical items in Japanese, but, interestingly, confirms that the two constructions behave the same way.

3.1.3. Sociolinguistic remarks

A possible explanation for the striking similarity in meaning displayed by the two *suru* constructions may be sociolinguistic in nature.[13] The accusative marker *-o*, like the topic marker *-wa*, can be omitted in informal speech. This means that not only with *suru*, but with any transitive verb, *any* Japanese noun can appear as the direct object of a transitive verb without case marking:

(16) niku tabeta
meat eat-PAST
'(I) ate meat'

This is impossible in written language and in formal varieties of spoken Japanese, but quite common in informal speech. Now, the main (and the only immediately visible) difference between our two constructions is the presence/absence of the accusative marker: which means that in very many linguistic contexts in today's Japan, namely all those where *-wa* and *-o* markers are systematically omitted, VN-*suru* and VN-*o suru* constructions end up being undistinguishable. In particular, when a speaker produces a VN-*suru* verb, the addressee can also understand it as a VN-*o suru* phrase whose accusative marker *-o* has dropped and is not pronounced on diaphasic grounds; and every time a speaker produces a VN-*o suru* phrase by omitting the accusative marker, the addressee can understand it as a plain VN-*suru* verb. This whole situation may prevent the two constructions from acquiring significant distance from each other as concerns function and meaning.

3.1.4. No anaphoric islands: -lex

Separate anaphoric reference to the VN is possible in the VN-*o suru* construction:[13]

(17) kenkyuu$_1$-o shitara sore$_1$-ga hyooka sareta
research$_1$ ACC done it$_1$ NOM appreciation do-PASS-PAST
'after I had done some research$_1$, it$_1$ received appreciation'

and, more significantly, with VN-*suru*:

(18) kenkyuu$_1$-shitara, sore$_1$-ga hyooka sareta
research$_1$ done it$_1$ NOM appreciation do-PASS-PAST
'after I had research$_1$ed, it$_1$ received appreciation'

This qualifies both constructions as weakly bound (-lex), since *bona fide* compounds are usually anaphoric islands in Japanese:[15]

(19) *hai$_1$-zara-o ugokashitara, sore$_1$-ga koboreta
ash$_1$-tray ACC move-when it$_1$ NOM spilled
'when I moved the ash$_1$-tray, it$_1$ spilled'

Once again we can observe that, though varying between (+lex) and (-lex) through the different parameters, for each parameter the two constructions always display the same behaviour. In other words, either they are both (+lex), or they are both (-lex).

3.1.5. Different separability: +lex, -lex

The two constructions seem to differ only in one feature as concerns the degree to which they can be considered lexical units. As a matter of fact, while VN-*o suru* perfectly admits (as in 20) the introduction of linguistic material, VN-*suru* does not (as in 21):[16]

(20) benkyoo -o issho-kenmei shita
study-ACC with maximal energy did
'(I) studied hard'

(21) benkyoo *issho-kenmei shita
study with maximal energy did

The same linguistic material can obviously appear outside the *suru* construction in both cases:

(22) issho-kenmei benkyoo(-o) shita
with maximal energy study-(ACC) did
'(I) studied hard'

In this respect, while VN-*suru* verbs behave as autonomous items of the lexicon (+lex), VN-*o suru* constructions clearly behave the other way (-lex).

3.1.6. Summary of ±lex features

VN(-*o*) *suru* constructions seem to occupy an intermediate position between compound words and syntactic structures as concerns lexicalization. This is shown in Table 1:

Table 1: Lexicalization features			
	VN-*suru*		VN-*o suru*
frequency in the lexicon: *high*	+lex	=	+lex
unitary meaning: *yes*	+lex	=	+lex
compositional meaning: *yes*	-lex	=	-lex
anaphoric islands: *no*	-lex	=	-lex
separability: *no* / *yes*	+lex	≠	-lex

Perhaps more interestingly, from this point of view there seems to be only a slight difference between the two constructions, namely as concerns separability. From all other respects they show parallel behaviours: when one construction is lexicalized the other is lexicalized as well, and when one is not, the other is also not.

3.2. Morphological features (±morph)

The features that can characterize a construction as more or less close to the ideal compound *morphologically* are more than those that can speak for/against the status of lexical unit. We will review some of them in this section. Differently from what we have seen for lexicalization, we cannot expect for the VN-*o suru* construction to be always morphologically similar to *VN-suru*. If this is true by definition as concerns being structured by a functional word (in our case, the accusative marker *-o*, cf. § 3.2.3.), the same can be checked for a number of other parameters, which we will consider right away.

With *+morph* we mean (with Gaeta & Ricca) the fact of being activated morphologically. Still, this may cover at least two senses, namely that of being a morphologically activated *compound* and that of being a morphologically activated *derivate*. We will keep the issue in the background here,[16] except for shortly sketching a sub-aspect of it here below.

Assuming that VNs are full lexical morphemes, it can be questioned whether *suru* should be considered a lexical morpheme as well, in spite of its partial semantic emptiness and, with some risk of circularity, the frequency of its use in the V-*suru* construction. The more we recognize VN-*suru* as a frequent construction in Japanese, the more we can recognize it as forming single words; but at the same time, the more *suru* is frequent in this function, the more it can be regarded as grammaticalized and no more a lexical morpheme, with the consequence of reducing VN-*suru* to a non-compound, derivational verb. High frequency of use signals our constructions as *lexical units*,

while at the same time suggesting that *morphologically* they may lack full lexicality of the second element, which may qualify them as derivates rather than compounds.

So, speaking from a strictly morphological perspective, the problem consists of assessing to what extent *suru* can be considered a lexical root. The issue has probably no clear-cut solution, and has fed a long debate, especially as concerns the semantic/syntactic (non)emptyness of *suru*, to which I refer.[17] It must be observed, however, that in Japanese the boundary between lexical and morphological adjunction is pretty much that of an agglutinating language, verbal paradigms being systematically realized through the adjunction of 'auxiliary' verbal roots expressing past, causative, passive, potential, politeness, etc.:

(23)	*tabe-ru*	'eat-NON PAST'
	tabe-ta	'eat-PAST'
	tabe-rareru	'eat-PASS'
	tabe-saseru	'eat-CAUS'
	tabe-masu	'eat-POLITE'
(24)	*age-ru*	'raise-NON PAST'
	age-ta	'raise-PAST'
	age-rareru	'raise-PASS'
	age-saseru	'raise-CAUS'
	age-masu	'raise-POLITE'

The very difference between *suru* and all these auxiliary verbs is that, unlike them all, *suru* can also work as an independent verb. For this reason, I think we should regard it rather as a lexical than as a derivational morpheme, as a consequence considering *suru*-verbs as candidates to compoundhood rather than to the status of derivate words.

3.2.1. Constructional valency: +morph

Unlike lexical meaning, which we have shown to be compositional and denoting little unity, the kind of external syntactic relations established by *suru* constructions speak in favour of morphological unity because they can be regarded as 'constructional': in fact, they can require the presence of syntactic arguments requested neither by the VN nor by *suru* separately, but by the construction as a whole. For example, the presence of an argument marked by the dative particle *-ni* in (25) is selected by the combined presence of *shitsumon* and *suru*, although neither of them alone would select it:

(25) a. Taroo-ni shitsumon - shimashita
b. Taroo-ni shitsumon-o shimashita
Taro DAT question (ACC) do-POL-PAST
'(I) asked Taro a question'

The same holds for many other *suru*-verbs. Here follow some more examples:

(26) Taroo-ni henji - (o) shita
Taro DAT reply (ACC) do-PAST
'(I) replied to Taro'

(27) Sensei-ni soodan - (o) shimashita
professor DAT consultation (ACC) do-POL-PAST
'(I) consulted the professor'

(28) Hanako-ni shakkin-(o) shite iru
Hanako DAT debt (ACC) doing be
'I am indebted to Hanako'

(29) Taroo-wa Jiroo-to kenka - (o) shite imasu
Taro TOP Jiro-with quarrel (ACC) doing be-POL
'Taro is quarreling with Jiro'

Interestingly, this feature seems not to distinguish between VN-*suru* and VN-*o suru*.[18] Should it be regarded as a symptom of compoundhood, or not? It can be observed that syntactic complex predicates may display it as well:

(30) Kodomo-ni chokoreeto-o katta
child DAT chocolate ACC buy-PAST
'(I) bought chocolate for the child(ren)'

(31) Midori- ni shi-o yomimashita[19]
Midori DAT poem ACC read-POL-PAST
'(I) read a poem to Midori'

Still, the situation in such cases seems to be different, since what is selected by the whole predicate is an optional adjunct, not an argument. This confirms that the tendency to what we may call 'constructional syntactic valency' is stronger in *suru* constructions than in other complex predicates, and can probably be considered a (+morph) feature of compoundhood, equally shared by VN-*suru* and VN-*o suru* constructions.

3.2.2. Tone patterns: +morph, -morph

In VN-*o suru* constructions each word keeps its usual tone pattern, as it normally happens to Japanese words when used in syntax:[20]

(32) *be-n-kyo-o o su-ru* (from *be-n-kyo-o* and *su-ru*)
L- H-H- H L L- H L- H- H- H L-H

On the contrary, N-*suru* verbs behave as compound words, adopting single-word contours, characterized by the fact that there can be only one stretch of high pitch:[21]

(33) *se-i-ko-o-su-ru* (from *se-i-ko-o* and *su-ru*)
L- H-H- H-H- H L-H-H- H L-H

Pitch patterns can thus be seen as characterizing respectively VN-*o suru* constructions as morphologically non-compounds (-morph), and VN-*suru* as compounds (+morph).

3.2.3. Structuring by functional words: +morph, -morph

N-*suru* structures cannot be regarded as syntactic combinations of free words because they lack case marking of the noun, namely by the accusative particle *-o*. The only other cases where a noun can be bound to a verb without a particle in standard Japanese are *bona fide* N-V compound verbs such as *mono-yuu* 'thing-say', = 'say something' and *yume-miru* 'dream-see', = 'to dream'.

Still, this fact is less significant than in other languages, because *-o*, as well as the topic marker *-wa*, is extensively omitted also in phrasal constructions in Japanese informal speech:[22]

(34) gohan tabeta (*formal / written:* gohan-o tabeta)
meal eat-PAST meal-ACC eat-PAST
'(I) ate a meal'

(35) Taroo kimashita (*formal / written:* Taroo-wa kimashita)
Taro come-PAST Taro-TOP come-PAST
'Taro arrived'

In other words, while the written language and formal spoken Japanese keep our two constructions visibly distinct, in informal speech the difference can be completely neutralized by the generalized dropping of some particles, including the one that is relevant to our concern. In that variety of the language, a VN directly followed by *suru* doesn't tell us whether we have to do with a N-*suru* verb or with

a *N-o suru* phrase whose particle is omitted. In such cases, one may even question whether the difference between the two constructions actually exists at some deeper level, or not.

In any case, the difference is evident in those contexts where *-o* and *-wa* keep their function, thus allowing us to conclude that the presence/absence of structuring functional words clearly divides VN-*suru*, which are (+morph), from VN-*o suru*, which seem to be syntactic in nature (-morph).

This conclusion may be regarded as contrasting with that of Kageyama (2009), according to whom the presence of internal grammatical markers does not, in principle, exclude that a Japanese complex formation can be regarded as a compound word. His examples contain genitive markers or the form of the copula specialized for obtaining an adjective from a nominal root, and are still exhibiting 'all the traits of lexical words in terms of compound accent, limited productivity, and lexical conditioning':

(36) hi-no de
sun GEN rise
'sunrise'

(37) kirei-na machi-zukuri
nice COP town- making
'construction of a clean town'

To this, we can simply reply that the distinction between lexicalization and morphological compoundhood proves particularly useful here: it is clear that formations such as those in (36) and (37), as well as VN-*o suru* constructions, can be regarded as (+lex) units of the lexicon from many respects, notwithstanding the fact that they are (-morph).

3.2.4. Nature of modifiers: +morph, -morph

Only adverbs, and not adjectives, can modify *suru*-predicates (Nakajima 2008:272):

(38) Taroo-ga hageshiku/*hageshii UNDOO shi-ta
Taro-NOM hard (AVV/AGG) exercise do-PAST
'Taro exercised hard'

Needless to say, this shows that the VN-*suru* construction works as a verb, its interior remaining opaque to syntax, so that the noun cannot be modified separately. VN-*o suru* constructions behave in a different way, allowing both adjectival and adverbial modification:

(39) Taroo-ga hageshii/hageshiku UNDOO-o shi-ta
Taro-NOM hard (AGG/AVV) exercise ACC do-PAST
'Taro exercised hard'

This can be regarded as a further argument characterizing VN-*suru* verbs as (+morph) compounds, VN-*o suru* as (-morph) syntactic constructions.

3.2.5. Partial Modification: +morph, -morph

Syntactic modification (by e.g. a genitive, an adjective, a demonstrative) for one element is not allowed in Japanese compounds, and significantly proves impossible also for VN-*suru* verbs, as shown in (40-42):

(40) *nihongo-no benkyoo-suru
Japanese GEN study do
'to do-study of Japanese'

(41) *oishii shokuji-shita
good meal do-PAST
'(I) did-meal good'

(42) *sono kenkyuu-shita
that research do-PAST
'(I) did-research that'

On the contrary, separate modification of the noun regularly applies to VN-*o suru* constructions:[23]

(43) nihongo-no benkyoo-o suru
Japanese GEN study ACC do
'to do (the) study of Japanese' = 'to study Japanese'

(44) oishii shokuji-o shita
good meal ACC do-PAST
'(I) had (a) good meal'

(45) sono kenkyuu-o shita
that research ACC did
'(I) did that research'

This can be regarded as a feature clearly separating our two constructions, and characterizing VN-*suru* verbs as more compound-like (+morph), VN-*o suru* structures as more syntactic in nature (-morph).

3.2.6. Reduplication: -morph

Japanese can express repetition or continuity of an action by reduplicating the infinitive form of the predicate.[24] With simple verbs, reduplication simply applies as shown in (46) and (47):

(46) Kodomo-wa naki-naki uchi-e kaette itta
child TOP cry cry home to returning go-PAST
'The child went home, crying'

(47) hon-o yomi-yomi uchi-e kaette itta
book ACC read read home to returning go-PAST
'(I) returned home, reading a book'

Compound verbs are treated as simple words, i.e. reduplicated entirely, as in (48), while the repetition of just one element of the compound, as shown in (49-50), is not allowed:

(48) Kitsune-wa tobi-hane-tobi-hane kaette itta
fox TOP up-jump up-jump returning go-PAST
'The fox returned (home), jumping up and down'

(49) *Kitsune-wa tobi-tobi-hane kaette itta
up up-jump

(50) *Kitsune-wa tobi-hane-hane kaette itta
up-jump jump

Interestingly, VN-*o suru* behave like the syntactic predicate in (46) and (47), by repeating *shii*, the infinitive form of *suru*:

(51) dokusho-o shii-shii aruita
reading ACC do do walk-PAST
'(I) walked, reading'

Even more interestingly, also VN-*suru* verbs follow the pattern of syntactic phrases, repeating *suru* and not the whole complex verb:

(52) dokusho-shii-shii aruita
reading do do walk-PAST
'(I) walked, reading'

(53) *dokusho-shii dokusho-shii aruita
reading-do reading-do walk-PAST

As a whole, the patterns shown in reduplication by both VN-*suru* and VN-*o suru* distinguish them from true compounds. We summarize this by the label (-morph).

As an alternative, this feature may be regarded as speaking (also) against the nature of lexical units,[25] once again confirming that the two constructions have parallel behaviours in this respect.

3.2.7. Coordinate Objects: +morph, -morph

In VN-*o suru* constructions the object may be represented by two or more coordinate VNs, as in (54):

(54) ashita-wa benkyoo to undoo-o suru tsumori da
tomorrow TOP study and training ACC do intention is
'I intend to study and do training tomorrow'

The same doesn't hold for VN-*suru* verbs:[26]

(55) *ashita-wa benkyoo to undoo-suru tsumori da
tomorrow TOP study and training do intention is

Now, since N-V compounds in Japanese are basically made from no more than one noun, we can say that VN-*suru* verbs are morphologically compound verbs from this respect, while VN-*o suru* constructions are not.

3.2.8. Gapping for the Noun: ?morph, -morph

This parameter will not give us a clear response, because data tend to be contradictory. As shown by an example proposed by Kageyama (1982), in VN-*suru* structures gapping for the VN seems to be acceptable:[27]

(56) Gakkai de, Amerika-jin wa yoku hatsugen-suru ga, Nihon-jin
conference at Americans TOP often remark-do but Japanese
wa amari Ø-shi-nai
TOP seldom do-not
'At academic meetings, Americans always speak out, but the Japanese seldom do'

Kageyama recalls that *suru* is not used as a pro-verb in Japanese, leading for example to the unacceptability of utterances like (57):[28]

(57) *Taroo wa hashitta shi, Jiroo mo shita
Taro TOP ran and Jiro also did
'Taro ran and so did Jiro'

This should mean that the negative form of *suru* in (56) is lacking its Object, namely the VN *hatsugen*, in what may be considered a gapping construction. Now, since gapping is not allowed in Japanese for a part of a word, in Kageyama's opinion *hatsugen-suru* is 'a compound generated in syntax rather than in the lexicon', which is to say that *hatsugen* and *suru* must be regarded as not forming a single morphological word. But a different opinion is put forward by Miyagawa (1987:35-37): if we consider (58), it is clear that coordination in Japanese can arise between two slightly different structures, namely VN-*suru* and VN-*o suru*:

(58) Gakkai de, Amerika-jin wa yoku hatsugen-suru ga, Nihon-jin
conference at Americans TOP often remark-do but Japanese
wa amari hatsugen o shi-nai
TOP seldom remark ACC do-not
'At academic meetings, Americans always speak out, but the Japanese seldom do'

As a consequence, the gapping for *hatsugen* in Kageyama's example (here, 56) may be seen as occurring with the VN-*o suru* construction, not with VN-*suru*. Miyagawa gives evidence to support this hypothesis, represented by the fact that gapping actually seems to be excluded by those VNs that do not allow the VN-*o suru* structure (like *seikoo* 'success'), and allowed by those that can build both constructions (like *benkyoo*):

(59) Taroo wa mainichi benkyoo-suru ga, Hanako wa tokidoki shika Ø
Taro TOP everyday study do but Hanako TOP sometimes only
shi-nai
do-not
'Taro studies everyday, but Hanako does so only sometimes'

(60) *Taroo wa itsumo seikoo-suru ga, Hanako wa tokidoki shika
Taro TOP always success do but Hanako TOP sometimes only do-not
Ø shi-nai
'Taro always succeeds, but Hanako only sometimes'

If Miyagawa is right, their behaviour as concerns gapping should characterize VN-*suru* verbs as morphological compounds (+morph), VN-*o suru* constructions as syntactic structures (-morph). Still, things

seem to be more complicate. Matsumoto (1996) points out that the answer by speaker B in (61) is possible, with gapping showing that the VN *rakka* 'fall' and *suru* (which allow *rakka-suru* but not *rakka-o suru*) do not form a single word:

(61) A: Sore-wa rakka si-masi-ta ka?
it-TOP fall do-POL-PAST INT
'Did it fall?'

B: Hai, Ø si-masi-ta.
yes, do-POL-PAST
'Yes, it did.'

To this, Kageyama (2009:11) replies that the situation is not univocal, because although (61) speaks in favour of a certain degree of syntactic analyzability in *rakka-suru*, on the other hand the unacceptability of a structure like (62), with gapping for *suru*, shows its syntactic indeformability:

(62) *Akai huusen-wa [rakka-~~si~~], aoi huusen-wa [zyoosyoo-si-ta].
red balloon-TOP [fall-~~do~~] blue balloon-TOP [rise-do-PAST]
'The red balloon fell and the blue one went up.'

To sum up, we can say that gapping really qualifies VN-*o suru* constructions as (-morph), but leaves the question open as concerns the status of VN-*suru*.

3.2.9. Lexical suppletion: -morph

Japanese can express some grammatical categories related to verbal paradigms, such as Politeness or Potential, by means of lexical suppletion, i.e. by employing different verbal roots. *Suru* is among the verbs involved in this pattern. In honorific contexts, when used as an autonomous verb, it becomes the respectful form *nasaru*. On the contrary, when appearing in those that can be considered as the best candidates to the status of *bona fide* compounds made with *suru*, like *aisuru* and *taisuru*, it cannot be replaced by *nasaru*:[29]

(63) ai-suru=> *ai-nasaru
tai-suru => *tai-nasaru

This can be done, however, in VN-*o suru* and, more significantly, VN-*suru* constructions. The noun is typically preceded by the honorific particle *o-* or *go-*:

(64) sensei-ga go-kenkyuu-o nasaru
professor-NOM HON-research-ACC do-RESP
'The teacher does (some) research'

(65) sensei-ga go-kenkyuu-nasaru
professor NOM HON-research-do-RESP
'The teacher does (a) research'

Both constructions behave the same way as concerns substitution by other suppletive roots, such as the potential *dekiru* 'can do' and the humble form *itasu*:[30]

(66) saikuringu (-o) suru => saikuringu-ga dekiru
cycling(-ACC) do cycling-NOM be-able
'to go cycling' 'to be able to go cycling'

(67) Boku-wa aisatsu(-o) suru => Watashi-ga go-aisatsu(-o)
I TOP salutation(-ACC) do I-POL-NOM HON-salutation (- ACC)
itashimasu
do-HUM-POL
'I salute' 'I (humbly) salute'

Once again, it can be noticed that the same is impossible in more *bona fide* compound verbs made with *suru*:

(68) ai-suru => *ai-dekiru
*ai-itasu

Beside *suru* verbs, one may wonder whether suppletion can take place in compounds made with different verbs, because if other verbs turned out to allow no suppletion when used as second elements in compounds, that would speak against morphological compoundhood for *suru* in Japanese. The verbs *iru* 'to be-there', *iku* 'to go', *kuru* 'to come', *iu* 'to say', *miru* 'to see', *taberu* 'to eat' can be replaced by suppletive honorific/respectful forms, as shown in (69):

(69)

Plain Form	Respectful Form
iru 'to be-there'	*irassharu*
iku 'to go'	*irassharu*
kuru 'to come'	*mieru*
iu 'to say'	*ossharu*
miru 'to see'	*goran-ni-naru*
taberu 'to eat'	*meshiagaru*

Unfortunately, fully satisfactory comparison between suppletion in compounds made with these verbs and *suru* is unavailable, because these verbs almost cannot appear as second elements in compounds. Still, there are a few exceptions: with *miru* 'to see' as second element, such as *yume-miru* 'to dream', *nusumi-miru* 'look furtively'; and with *iru* 'to be-there', such as *narabi-iru* 'to be in a queue'. Significantly, in such compounds the suppletive honorific form of the verb is excluded: **yume-goranninaru*, **nusumi-goranninaru*, ?*narabi-irassharu*.[31]

As a whole, both because of the rarity of relevant structures in the language, and because in the few existing cases suppletion is excluded, the result is that verbal suppletion never takes place for verbs occupying the position of second element in a Japanese compound. The opposite holds for VN-(*o*)*suru/nasaru*. As a consequence we can say that, to the extent that it allows comparison between our constructions and other structures more clearly characterized as compounds in Japanese, the possibility of lexical suppletion seems to count as a (-morph) feature, setting both VN-*suru* and VN-*o suru* verbs apart from true compounds, and characterizing them as more similar to syntactic constructions.

3.2.10. Summary of ±morph features

Unlike their status as ±lex lexicalized items, VN-*suru* and VN-*o suru* constructions seem to occupy quite different positions between compounds and syntactic structures as concerns (±morph) features. This is shown in Table 2:

Table 2: Morphological compound features

	VN-SURU		VN-O SURU
Constructional valency	+morph	=	+morph
Reduplication	-morph	=	-morph
Lexical suppletion	-morph	=	-morph
Tone patterns	+morph	≠	-morph
Structuring by functional words	+morph	≠	-morph
Nature of modifiers	+morph	≠	-morph
Coordinate Objects	+morph	≠	-morph
Gapping for the Noun	?morph	?	-morph

As can be seen, there is one feature that qualifies both constructions as morphological compounds, and two features that tend to locate them among syntactically formed structures. These include lexical suppletion, which can be regarded as a central feature of any Japanese verb, equivalent to paradigmatic inflexion in fusive languages. But the other features considered, including key parameters such as tone patterns, structuring by functional words and nature of allowed modifiers, draw a clear boundary between the two constructions.

4. Conclusions

As a conclusion, we can summarize our observations about *suru*-verbs in Japanese as follows:

1. Complex verbs formed with *suru* must be regarded as intermediate between syntactic phrases and lexicalized items, since, as we have seen in § 3.1, they show characteristic features of the one and the other status. But, interestingly, there seems to be very little difference between VN-*suru* and VN-*o suru* from this respect, their behaviours being quite parallel. In other words, one can question whether we have to do with lexical units or not, but in any case the answer tends to be the same for both constructions.

2. As concerns morphological vs. syntactic activation, some important features group the two constructions together with syntactic constructions, speaking against their nature of morphological compounds; however, the majority of the features considered draw a boundary between VN-*suru* and VN-*o suru*, characterizing the former as morphologically, the latter as syntactically activated compounds.

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Notes

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1 The matter has been studied intensively over the past decades, as can be seen from the works listed in the bibliography at the end of this paper, to which I refer.

2 Cf. Miyagawa (1987, 1989), Tsujimura (1990a, 1990b), Uchida & Nakayama (1993), Miyamoto (1999), Nakajima (2008); and others.

3 Cf. Ozumi (2007:283-284).

4 Cf. https://www.msu.edu/course/lin/881/Tsuji_4_morph_2.pdf

5 Cf. Miyagawa (1987).

6 Of course this doesn't mean that the process by which the *formation* of such structures takes place is not morphological in nature.

7 The construction seems to be observable (marginally) also with nouns that do not produce an argument structure, such as (cf. Nakajima 2008):

o-cha suru = 'do tea', i.e. to drink something in a coffee-shop, or the like.

hashigo suru = 'do ladder', i.e. to pass from one place/thing to the other.

chin suru = 'do *ding*' (the sound of the microwave oven), i.e. to heat with a microwave oven.

(i) a. Kinoo kachoo to baa-o HASHIGO shi-ta.
yesterday section.chief-with bars-ACC ladder do-PAST
(Yesterday, the section chief (and I) did bar-hopping.)

b. Tanaka to kissateN-de OCHA shi-ta.
Tanaka-with coffee.shop-at tea do-PAST
((I) had coffee with Tanaka at a coffee shop.)

c. Haha- ga gohaN-o CHIN shi-ta.
mother-NOM bowl.of.rice-ACC 'ding' do-PAST
(Mother heated a bowl of rice with a microwave oven.)

But this produces an idiomatic reading, which, for example, is not preserved in passive formation, and doesn't allow the syntactic construction with the accusative marker *-o*, as shown by Nakajima (2008):

(ii) a. *Baa-ga (kachoo to boku-ni) HASHIGO sare-ta.
bar-NOM (section.chief and I-by) ladder do-PASSIVE-PAST

b. *Haha-ga gohaN-no CHIN-o shi-ta.
mother-NOM bowl.of.rice-GEN 'ding'-ACC do-PAST

Hence, Nakajima suggests that we should regard them as idiomatic constructions, rather than compound words belonging to the lexicon.

8 Righteously, Martin (1975) is not content with one class of *suru*-Ns. He distinguishes at least four, displaying different behaviours, but his description makes it evident that virtually each noun may be shown to have features slightly different from each other. What we will adopt here (like all other authors) is thus just a fiction: we will take our examples and base our analysis essentially on those VNs (the great majority) that are put by Martin in the two intermediate categories, and we will do as if it were true that they share exactly the same properties.

9 Cf. Bauer (2005) on the boundary between derivation and compounding.

10 (Except for marginal and quite odd sounding cases.)

[11] In doing so, we will partially recall arguments used from a different perspective in Lombardi Vallauri (2005), to which I refer for further analysis of the constructions under examination.
[12] Cf. also § 3.2.3. below.
[13] Cf. Lombardi Vallauri (2005:323).
[14] Cf. Shibatani & Kageyama (1988:473).
[15] Putative exceptions to this are discussed and rejected in Lombardi Vallauri (2005:318-319).
[16] For wider discussion on such problems, cf. Bauer (2005).
[17] Cf. Tsujimura (1990a, 1990b), Jacobsen (1991), Grimshaw & Mester (1988), Miyagawa (1989), Dubinsky (1997), Uehara (1998), and Lombardi Vallauri (2003) for a survey.
[18] This is true when VN-*o suru* constructions appear in unmarked utterances. Shingo Suzuki pointed out to me that when the VN is topicalized, as in (i) here below, it becomes less clear whether the dative may depend on *suru* alone. But the question remains open, whether we still have a VN-*o suru* construction in this case:

(i) shitsumon-wa, Taroo-ni shimashita
question TOP Taro DAT do-POL-PAST
'the question, I asked it Taro'

[19] Examples (30) and (31), though acceptable, sound a little odd, because acts of doing something for someone are usually expressed in Japanese by means of the conjunctive form of the verb linked to a verb of giving, whose function is also to express different degrees of respect. The most common such verbs are *yaru* 'give (to familiar or inferior subjects)', *ageru* 'give (to socially equal persons)', *sashiageru* 'give (to socially superior persons)'. More natural versions of (30) and (31) would thus be the following:

(30a) Kodomo-ni chokoreeto-o katte yatta
child DAT chocolate ACC buy-CONG give-PAST
'(I) gave the child(ren) to buy chocolate'

(31a) Midori-ni shi-o yonde agemashita
Midori DAT poem ACC read-CONG give-POL-PAST
'(I) gave Midori the fact of reading a poem'

[20] This is shown in (i) (Cf. Uehara 1998:153-154):

(i) *ho-n o yo-mu* (from *ho-n* and *yo-mu*)
H-L L H-L H-L H-L
to read a book book read

[21] Cf. Shibatani (1990:252), Lombardi Vallauri (2005:322-323). An example of *bona fide* compound word which reorganises the tone patterns of the composing items, obtaining a contour that fits the rules for a single word, is shown in (i):

(i) *mi-mi-so-o-ji* (from *mi-mi* and *so-o-ji*)
L-H- H-L-L L-H L-H-H
ear-cleaning ear cleaning

[22] This is also possible in newspaper titles and in non-final elements of lists. Cf. Shibatani & Kageyama (1988:453).
[23] Examples (40-42) are only acceptable if conceived as instantiations of (43-45) uttered in informal speech, where the accusative marker *-o* has dropped (cf. § 3.2.4.). But in formal speech and in writing they would be excluded.
[24] Some of the examples given in this paragraph, as well as its central idea, are slightly modified from Kageyama (1977:125-127).
[25] Livio Gaeta, personal communication.

[26] The utterance in (55) obviously becomes acceptable in informal speech, where the omission of the particle *-o* is generalized (and not limited to our constructions).
[27] Martin (1975:880) goes in the same direction, specifying that such a gapping is acceptable with what he calls 'free VNs'. We quote ex. (56) directly from Kageyama (1982), and (58-60) from Miyagawa (1987).
[28] Cf. Kageyama (1977:128; 1991:179).
[29] As already observed, verbs like *aisuru*, although originated from compounding, might also be considered synchronically as derivates. If this perspective is adopted, the fact that *suru*-verbs behave differently from them may loose its significance as regards their stance with respect to compounds, just keeping the value of setting them apart from lexicalized items. Still, it must be remarked that if *aisuru* and *taisuru* were no more to be considered as compounds, there would exist no true, *bona fide* compounds at all made with *suru* in Japanese, and *suru* would only appear either as the empty verb we have been describing so far, or as a derivational mark.
[30] Cf. Booij (forthcoming). As for (66), the potential verb *dekiru* requires the 'nominative' particle *-ga* instead of *-o*. As for (60), the honorific prefix *go-* is usually added to the noun when using the humble verb *itashimasu*.
[31] Instead of the suppletive form *goranninaru*, the respectful inflected form of *miru* is applied: *yume-mirareru*. Ikuko Sagiyama (personal communication) qualifies *narabi-irassharu* as 'not natural, and never heard'.

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Abbreviations

ACC = direct object particle
CONG = conjunctive form of verbs
COP = copula
DAT = dative particle
GEN = genitive particle
HON = honorific prefix
HUM = humble form of verbs
INT = question particle
NOM = subject particle
PASS = passive form of verbs
POT = potential form of verbs
POL = polite form of verbs
RESP = respectful/honorific form of verbs
TOP = topic particle