Is Japanese a flexible language? Japanese root and verb derived nominalizations

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1. Introduction

While Japanese contains a varied arsenal for categorial change, the discussion in this chapter will only address two types of nominalizations in Japanese within the context of the FLEXIBLE LANGUAGE debate (Hengeveld & Rijkhoff, 2005; Peterson, 2005 and Don and van Lier, 2008; cf. Evans & Osada, 2005; and Croft, 2005). The first type appears to be the familiar Ø-derived nominalizations found in English; the second type is deverbal, but not Ø-derived.

The analysis I propose for both nominalization types assumes that lexical formation (Marantz, 1997, 2001 and 2002) consists of categorically-unspecified ROOTS (eventually) merging with the functional heads *n*, *v* and *a*. Merger of these functional heads forms a syntactic PHASE in the sense of Chomsky (2001); that is, a locality domain transferred to the PF and LF interfaces.

2. Apparent Deverbal Conversions

A substantial number of Japanese nominalizations are equivalent to the *renyōkei* (called 'infinitive' in the Western literature), a verbal stem, e.g., *oyogi* 'swimming' (cf. *oyogu* 'to swim'), *odori* 'dancing' (cf. *odoru* 'to dance'),

hanashi (c.f. *hanasu* 'to talk') etc. Martin (1975: 883) refers to such nominalizations as INFINITIVE-DERIVED NOUNS, typically believed to be deverbal (Kageyama, 1999 and Nishio, 1977, among many). In a footnote, which exemplifies the deverbal opinion Martin (1975) writes:

> In a few instances the derivation may have gone the other way historically; …from the viewpoint of synchronic description, it would appear not to matter, in fact, to be undecidable.

I argue, based on the semantics, that there can be no derivational relation between the two in either direction; while they appear to be zero-related changes of category, the semantics tells us otherwise.

The SINGLE ENGINE HYPOTHESIS (Marantz, 2001 and 2002 and Arad, 2003) predicts that the distinction between root derivations and word-based derivations is responsible for frequent non-compositional and deterministic compositional meanings, respectively. "The ability to assign multiple interpretations is strictly reserved for roots. Once the root has merged with a category head and formed a word (n, v, etc.), its interpretation is fixed and carried along throughout the derivation. This locality constraint is universal and holds across all languages" (Arad, 2003: 740).

Japanese verbs participating in transitivity alternations contain non-root morphology. Nominalizations related to verbs which participate in alternations

retain this morphology and are not strictly speaking roots. Harbour (2000) adopts Sapir (1921)'s term, RADICALS, for these morphologically-complex pieces. Radicals subsume both roots and stems (ibid.).

With this in mind, let us consider the semantics of several Japanese nominalizations; some formed with apparent transitivizing affixes, others with intransitivizing affixes.

The root √*aw*- (also associated with the paired verbs *a-u* 'meet'/*aw-ase-ru* 'join') merged with an apparent causative morpheme *–ase* yields the nominalization *awase* 'a lined kimono'. An analysis that assumes transitivity-marking morphology occurs in the terminal node *v* (e.g., Harley, 1995 and 1996, Miyagawa, 1998 and Pylkkänen, 2002) could only claim the nominalization *awase* is necessarily a deverbal noun. The semantic relation between the verb *awase-(ru)* 'join' and the nominalization *awase* 'a lined kimono' is then in conflict with the predictions of the single engine hypothesis exemplified by Arad (2003). Examples of non-compositionality, however, are not isolated, but a frequent characteristic of nominalizations with embedded morphology in Japanese. Consider Table 1, below:

Table 1: Non-compositional nominalizations

Root	Transitive Verb	Nominalization
√*chir-*	*chir-**as**-u-*$_{\text{TRANS}}$ 'scatter'	*chir**as**hi* 'a leaflet'
√*d-*	*d-**as**-u* 'expel'	*d**as**hi* 'soup stock'
√*nag-*	*nag-**as**-u* 'wash away'	*nag**as**hi* 'a sink'
	Intransitive Verb	
√*tar-*	*tar-**e**-ru* 'sag, droop'	*tar**e*** 'sauce, gravy'
√*kir-*	*kir-**e**-ru* 'be severed'	*kir**e*** 'a piece of cloth'
√*han-*	*han-**are**-ru* 'separate from'	*han**are*** 'a cottage'

This type of semantic relation between the verbs and their nominalizations rules out any derivational relation. It therefore follows that such nominalizations are not deverbal. I assume the Ø-HYPOTHESIS which in this context claims that regardless of the existence of compositional nominalizations, the fact that non-compositionality is an option means all such nominalizations are radical-derived. The paradox for the single engine hypothesis is addressed by providing an untraditional analysis of this morphology. I argue for a decompositional approach to Japanese roots following a line of thought advanced by Marantz, (2001 and 2002) and Harbour, (2000).

3. Where's the causative force in the nominalization?

How does one get from the semantics of 'meet' + CAUSATIVE = 'a kimono'?

Nominalizations with apparent transitivity markers name artifacts almost exclusively, e.g., *aw-ase* 'a lined kimono', *chir-ashi* 'a leaflet', *han-are* 'a separate cottage' and *kir-e* 'a piece of cloth'. Since the morphology makes no reference to argument structure, modifying nouns can only have a possessor reading, e.g., *kanojo-no awase* 'her lined kimono' (Marantz, 1997).

Since the semantics of "transitivity-markers" makes no semantic contribution to the nominalizations, I submit that causative force in both the verbal and nominal environments is independent of morphological exponence. As in English, causative force in Japanese lexical causatives is exclusively associated with a zero-morpheme CAUSE. This raises a crucial question that demands an answer, the focus of the next section.

4. The Function of Morphology in Alternating Verbs and Nominalizations

If apparent transitivity markers are not the morphological spell-out of the category-defining head *v* (Pylkkänen, 2002, Miyagawa, 1998, and Harley, 1995 and 1996); if they are not the source of the abstract morphemes CAUSE and INCHOATIVE, then what is their function? Syntax places them between the root and the category-defining head of *n* assuming they are non-cyclic non-category-defining.

den Dikken (1995) argues that apparent valence-changing morphemes with multiply ambiguous functions in Dutch, Indonesian and Sanuma are AFFIXAL PARTICLES.

Consider the affixal particle *ver-* and its function in Dutch:

(1) a. Jan stuurde uitnodigen voor het feest aan zijn vrienden.

'Jan sent invitations for the party to his friends.'

b. Jan ***ver***-stuurde zijn vrienden uitnodigen voor het feest.

'Jan sent his friends invitations for the party.'

(2) a. Jan maakte zijn positie op de arbeidsmarkt beter.

'Jan made his position in the job market better.'

b. Jan ***ver***-beterde zijn positie op de arbeidsmarkt.

'Jan bettered his position in the job market.'

(3) Zijn positie op de arbeidsmarkt ***ver***-beterde.

'His position on the job market bettered.'

(4) a. *ver-*$_1$ = applicative affix

b. *ver-*$_2$ = causative affix

c. *ver-*$_3$ = unaccusative affix (den Dikken, 1995: 229-230)

Within Dutch, the affix *ver-* has no unique semantic function, e.g., a bi-unique association with the causative force of verbs. It appears in multiple verbal environments. It therefore, demands an analysis, in den Dikken's view, that

avoids accidental homophony. den Dikken's conclusion is that such affixes, seemingly transitivity-markers in Dutch, Indonesian and Sanuma, are insightfully analyzed as AFFIXAL PARTICLES (1995: 235-5).

One of den Dikken (1995)'s arguments is based on paraphrase. He notes that example (3) b, above, *Jan **ver**-stuurde zijn vrienden uitnodigen voor het feest* 'Jan sent invitations for the party to his friends', with the affixal particle *ver-*, can be paraphrased as *Jan stuurde zijn vrienden uitnodigen voor het feest **toe**/**op***, with either of the free particles *toe* or *op* (den Dikken, 1995: 234).

Unlike Dutch and English, Japanese has no free particles. Based on their syntactic functions, however, a plausible candidate for a particle in Japanese is the morpheme *–ku* and its allomorph, the postposition *-ni*.

A number of roots in Jacobsen's Class 3, in addition to forming verbs and nouns, form adjectives which belong to the class which occur with bound morphology, (*keiyōshi*, in Japanese), e.g., √*hiro-*, √*taka-*, and √*tsuyo-*. Their non-past adjective forms are *hiro-i* 'wide', *taka-i* 'high' and *tsuyo-i* 'strong'. As verbs they take the forms *hiro-mar-u* /*hiro-me-ru* 'widen-$_{\text{INTRAN}}$ /widen-$_{\text{TRAN}}$

As noted by Kageyama (1999: 73), these intransitive/transitive verb pairs have paraphrases in which the bound adjectival morpheme *–ku* is supported by the light verbs *naru* 'become' and *suru* 'do, make', e.g., *tsuyo-ku naru* 'X becomes

strong(er)' and *tsuyo-ku suru* 'make X strong(er)', cf. *tsuyo-mar-u* and *tsuyo-me-ru* 'strengthen', respectively. .

Perhaps the most crucial fact relevant to the affixal particle hypothesis I argue for is that:

> The overwhelming majority of *ver-* prefixed verbs whose roots are adjectival or nominal don't exist as verbs with *ver-* chopped off … *ver-nietigen* [*is*, MV] 'destroy', but **nietigen* doesn't exist as a verb (Marcel den Dikken, personal communication).

Affixal particles are required for lexical formation. If the morphological markers associated with transitivity in Japanese are affixal particles of the type postulated by den Dikken, we need to find affixal morphemes with multiple functions in the transitivity-marking system and cases where the roots have no word-forming capacity without affixes, in addition to the ability to be paraphrased. In sum, the notable properties of Dutch affixal particles.

I focus on the Japanese morpheme *–e-*, which is found as an apparent transitivity-marker with multiple functions in seven of Jacobsen (1992)'s fifteen semi-productive morphological classes. Like den Dikken (1995: 230)'s affixal particle *ver-* in Dutch, in Jacobsen's Classes 1, 9, and 13, it seems to mark intransitivity:

Table 2: Class 1: *-e-* / *-Ø-*

Intransitive	Transitive
*hag-**e**-ru* 'peel off'	*hag-u* 'peel off'

Table 3: Class 9: *-e-* / -as-

Intransitive	Transitive
*ak-**e**-ru* 'dawn'	*ak-as-u* 'spend the night'

Table 4: Class 13: *-e-* / *-akas-*

Intransitive	Transitive
*ama-**e**-ru* 'act dependent on'	*ama-(y)akas-u* 'spoil'

In Classes 2, 3, 14 and 15 it behaves as a marker of transitivity:

Table 5: Class 2: *-Ø-* / *-e-*

Intransitive	Transitive
ak-u 'open'	*ak-**e**-ru* 'open'

Table 6: Class 3: *-ar-* / *-e-*

Intransitive	Transitive
ag-ar-u 'rise'	*ag-**e**-ru* 'raise'

Table 7: Class 14: *-or-* / *-e-*

Intransitive	Transitive
kom-or-u 'be fully present'	*kom-**e**-ru* 'fill with'

Table 8: Class 15: *-are-* / *-e-*

Intransitive	Transitive
sut-are-ru 'fall into disuse'	*sut-**e**-ru* 'throw away'

In a sub-class of Class 3 (*jūjūdōshi* 'verbs of giving and receiving'), the presence of the morpheme introduces an applicative argument:

Table 9: Sub-class of Class 3 – Transitive / Di-transitive Alternations

Transitive	Ditransitive
sazuk-ar-(*u*) 'receive'	*sazuk-**e**-*(*ru*) 'grant'
azuk-ar-(*u*) 'keep'	*azuk-**e**-*(*ru*) 'entrust'
osow-ar-(*u*) 'learn'	*oshi-**e**-*(*ru*) 'teach'

Indeed in Classes 3, 9, 13, 14, and 15, the roots alone have no lexicalizations as verbs or nouns without the attachment of the closed-class morphology to the roots. This is fully the case in ten of Jacobsen (1992)'s fifteen alternating-classes. The single morpheme *–e-* has multiple functions within the Japanese verbal system, in fact, the very same functions as the morpheme *ver-* in Dutch. To the multiply ambiguous morpheme *–e-*, one may also add the morpheme *–Ø-*. In Classes 1, 4, and 12, *Ø* is associated with transitive verbs, in Classes 2 and 8 it is associated with intransitive verbs. If we include the ambiguous morpheme Ø as an affixal particle, we cover all classes.

Since Japanese roots have no lexicalizations without the attachment of affixal particles, I draw an analogy with BOUND LATINATE ROOTS in English, e.g., *–ceive* and *–mit*, (Aronoff, 1976: 11-14), which also have no lexicalizations without the attachment of affixal particles, e.g., *re-*, *con-*, and *per-*. As is the case with bound latinate roots, the majority of Japanese alternating roots do not form lexical items without affixal particles. It is, therefore, a crucial function of the putative transitivity-markers to support the formation of verbs and nominalizations with these roots.

This analysis is in line with the recent "radical decomposition" of roots in Hebrew by Harbour (2000). Roots such as √*destroy* are, in fact, bi-morphemic cross-linguistically, decomposable into a root √*-stroy* and a particle *de-*.

Chomsky and Halle (1968: 371) give affixal particles the special phonological boundary =, as opposed to the universal boundaries + and #. *Destroy* is thus analyzed as *de=stroy*. In other words, despite the morphological complexity of root=affixal particle, it does not create a phonological cycle, i.e., it is non-phase-defining. If it is non-phase-defining, it follows that there may be semantic anomalies associated with morphemes of the root=affixal particle type. If the Japanese morphemes containing roots and affixal particles have a = boundary then it follows that they are not semantically interpreted until they later merge with a phase-defining morpheme, *n*, *v*, or *a*. Nothing crucial relies on whether Japanese root and affixal particles have the special boundary =, but merely that they be non-cyclic, i.e., non-phase-defining.

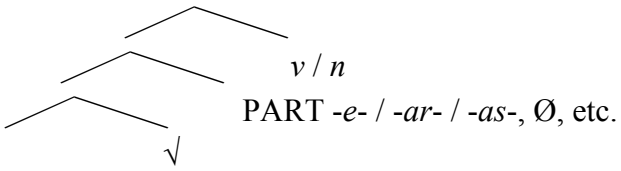
Cycles in phonology depend on labeled bracketing (Aronoff, 1976: 25), i.e., the categorial labels verb, noun and adjective. Labeling for complex morphological pieces entails that the meaning of the word can be compositionally derived from the meaning of its constituent parts (Aronoff, 1976 and Brame, 1974). In other words, the meaning of the noun *awase* 'kimono', if bracketed, should be derivable from its parts √*aw*- 'meet' + *ase*-CAUSE. This is obviously not the case and the conclusion that the closed-class morphology is non-cyclic, i.e., non-phase-defining, follows.

All Japanese nominalization of the class under discussion here, by this criterion, are non-cyclic, non-bracketed and non-phase-defining: √*chir*- 'scatter' + -*as*-CAUSE ≠ 'leaflet'; √*nag*- 'flow' + -*as*-CAUSE ≠ 'a sink'; √*d*- 'exit' + -*as*-CAUSE ≠ 'soup stock', etc.

Given a non-cyclic affixal particle analysis, we now have a clue for the reason why the frequent non-compositional semantic relations between Japanese verbs and their root/radical-related nominalizations that contain affixal particle occur.

I assign the following structure to Japanese radicals:

(5)



Crucially, affixal particles being non-cyclic must be below the phase-defining heads *v* and *n* in order to account for the non-compositional semantic interpretations they may have. In fact, this is expected since non-compositionality is strongly associated with non-cyclicity (Aronoff, 1976: 26).

5. Flexible or differentiated?

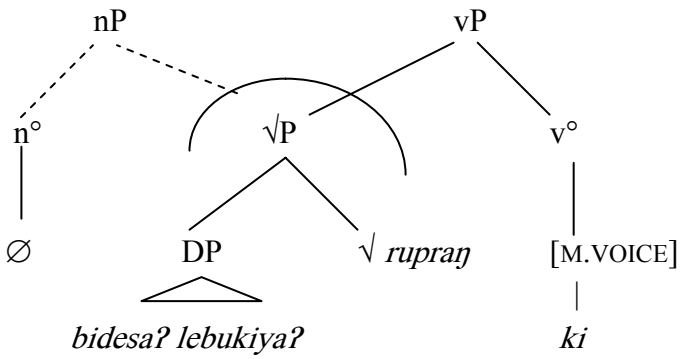
DIFFERENTIAL is the term reserved for languages which have garnered more attention among linguists, e.g. the Germanic languages. Radical-derived

nominalizations in Japanese bare two resemblances to the flexible languages discussed in Don and van Lier (2008).

First, both Japanese radical-derived nominalizations merge with morphological pieces before category-typing. Additionally, the derivational output can appear as either a predicate or noun. Don and van Lier (2008) provide a syntactic analysis of flexibility based on Peterson (2006)'s description of *Kharia*:

(6) *bharat=ya?* *lebu=ki* [*bides=a?* *lebu=ki=ya?*
India=GEN person=PL abroad=GEN person=PL=GEN
rupraŋ] *=ki=may.*
appearance=MID.PST=3PL
'The Indians took on the appearance of people from abroad.' (Peterson 2006: 85):

(7)



Example (7) shows the merger of a root with non-root morphology prior to eventual category-typing, similar to the analysis I presented above for radical-derived nominalizations where I claim there is an affixal particle. Additionally, outputs can be embedded by the categorical defining *n* and *v*. However, Japanese

allows non-compositional meanings, whereas the diagnostics for flexible languages allows compositional meanings alone. We are, therefore, forced to the conclusion that there is no flexibility in Japanese radical-derived nominalizations. Let's look at an additional nominalization in the context of flexible languages.

6. Japanese deverbal nominalizations

A second type of common nominalization in Japanese is deverbal. It crucially depends on a specific verbal argument structure for its legitimacy as a nominalization. These deverbal nouns consist of a verb-stem plus an overt nominalizing suffix –*mono*.

The morpheme *mono* has several uses which need to be distinguished. First, it exists as a free morpheme with two basic meanings, 'a concrete object' □, and 'a person' □. Making use of these two meanings, it is frequently found in compounds other than the deverbal nominalization I am concerned with.

One common compound is based on the 'concrete object' meaning; another makes use of its meaning as 'a person'. Examples of the first type are *Kurosawa-mono* 'something produced by the movie director, Kurosawa', *kankoku-mono* 'a product of South Korea' and *sentaku-mono* 'laundry (lit. something that is washed)'. Examples of the second type are *inaka-mono* 'a country bumpkin', *baka-mono* 'a foolish person' and *waka-mono* 'a youth'.

Note that the function common to such compounds is the modification of *mono*, either the 'person' or 'concrete object' meaning of the noun; *waka-mono* is 'a person who is young', *Kurosawa-mono* is 'a product of Kurosawa'.

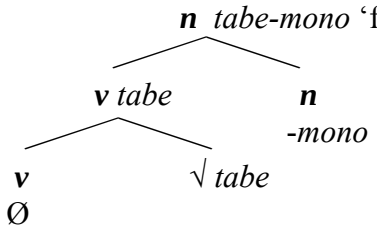
The nominalizing use of *mono* I want to focus on derives its meaning compositionally from the verb stem it is paired with: "something/someone that is V-*en*" A common deverbal noun *tabe-mono* 'food', for example, is derived from the verb stem *tabe* 'eat'; it takes an internal argument in its argument structure and concreteness is a semantic requirement of internal arguments[1]. Literally, *tabe-mono* means 'something that is eat-en' or 'food'. Slightly more formally:

Semantics: [*something/someone that is X-en*]

$[N_i\ V_j]_{VP} \rightarrow [\text{V-stem}_j + mono_i]_N$ *iff* N is VP internal and concrete.

Derivationally:

(8)



Example (8) shows the noun *tabe-mono* 'food' is formed from the categorically unspecified root √*tabe* merging with the phase-defining head *v*; the verbal meaning is now necessarily carried upward in the derivation according to the

[1] In addition to *mono* 'concrete thing', there is a morpheme *koto* 'abstract thing' used for deverbal nominalizations where the internal argument is not concrete, e.g., *negai-goto* 'a wish' from the verb *nega-u* 'to wish for' and *narai-goto* 'things studied' from the verb *nara-u* 'to learn'. Interestingly, the verb *kangae-ru* 'to think, ponder' allows both: *kangae-goto* 'thoughts, *kangae-mono* 'a puzzle'. The *n* in these deverbal nominalizations is sensitive to the concreteness of the verbs internal argument. (Thanks to Hiroaki Tada for bringing this to my attention)

hypothesis advocated by Marantz, 2001 and Arad, 2003. (See below) Further merger with *n* results in an overt morpheme *–mono*, a phonological spell-out of the head *n* for such nominalizations.

Note that the semantics for deverbal nominalizations in which an internal argument is required entails that unergative deverbal nominalizations do not exist. This is borne out by the fact that **naki-mono* (cf. *nak-u* 'to cry'), **hashiri-mono* (cf. *hashir-u* 'to run'), **aruki-mono* (cf. *aruk-u* to walk) and the like, are indeed not possible.

There are two apparent exceptions worth mentioning here: *hataraki-mono* 'a hard working person' (cf. *hatarak-u* 'work') and *warai-mono* 'the butt of a joke' (cf. *wara-u* 'laugh'). Recall the modifying relation of compounds other than deverbal nominalizations. The compound *hataraki-mono* can be understood as the modification of *mono*'s use as a person, i.e., 'a person who works'. It is therefore a compound rather than deverbal nominalization despite its use of a verb stem.

The nominalization *waraimono*, however does not fit the modifying compound pattern; it is not 'a person who laughs', but a 'person who is laughed at', conforming to the deverbal pattern. Hiroaki Tada (pc) suggests that the verb 'laugh' tolerates internal argument by becoming 'laugh at'. This view seems correct and explains the apparent paradox.

While root-based semantics may be semantically non-compositional when merged with the first category head as the examples of Table 2 show, derivation from a preexisting category sees only as far as its complement, a lexical category. In the deverbal Japanese case, the nominalization sees the argument structure of *v*, its complement, and if syntactic-semantic requirements are satisfied, a legitimate nominalization is formed.

Examples of this type of Japanese deverbal derivations are shown below in Table 9:

Table 9

Stem	**Verb**	**Deverbal Nominalization**
nomi	*nom-u* 'to drink'	*nomi-mono* 'a drink'
tabe	*tabe-ru* 'to eat'	*tabe-mono* 'food'
nise	*nise-ru* 'to imitate'	*nise-mono* 'a fake'
wasure	*wasure-ru* 'to forget'	*wasure-mono* 'a forgotten item'

Interesting to note in these cases, there are no root-based nominalizations extant. Kageyama (1999) has argued that it is a phonological restriction crucially related to the number of morae.

7. Root-based nominalizations and their interaction with deverbal nominalizations

Cases where root-based derivations and deverbal nominalizations are the source of doublets from a common root are of interest and allow some insight into the crucial differences between the two. In many cases there are dramatic non-compositional semantic differences between the verbs and the root-based nominalizations while deverbal nominalizations always remain semantically predictable.

Not all roots meet the argument structure and semantic requirements of the deverbal morpheme *–mono* while forming root-derived nominalizations so doublets of the type shown in Table 10 are scarce:

Table 10

Verb	Root-derived nominalization	Deverbal nominalization
aw-ase-(ru)-NON-PAST ‘to join’	*aw-ase* ‘a lined kimono’	*awase-mono* ‘a joined thing’
kabur-(u) ‘to wear on the head’	*kaburi* ‘a head’	*kaburi-mono* ‘a thing worn on the head’
nor-(u) ‘to ride in’	*nori* ‘enthusiasm’	*nori-mono* ‘a vehicle’
hara-u ‘to pay’	*harai* ‘payment’	*harai-mono* ‘things to be disposed of’

In these cases, there are the expected semantic distinctions between the root-based nominalizations and deverbal nominalizations; the first often semantically

non-compositional and unpredictable, the second compositional and predictable from the verbal meaning.

The final example seems to deviate from the pattern, non-compositional root-based nominalization vs. compositional deverbal nominalizations, but in fact, the verb *hara-u* has as its core meaning ‘to take care of necessary matters’ although by semantic extension has come to mean ‘to pay’ in contemporary Japanese.

Additionally, there is no requirement that root-based nominalizations be semantically idiosyncratic; the hypothesis merely posits ‘special meaning’ as a possibility for roots (Marantz, 2001). On the other hand, derivation from preexisting lexical categories, by hypothesis, can never be non-compositional (ibid.).

An example from Japanese that makes this point is the root-based nominalization *uri* ‘sales’ (cf. *ur-Ø-u* ‘to sell’). Its deverbal nominalization *uri-mono* means ‘something that is sold, goods for sale’. The root-based nominalization, *uri,* refers to the sales of a company, a store, etc. This close relation between verb and root-based nominalizations should not be unexpected since they are derived from a common root. The deverbal nominalization semantics, on the other hand, is mandated by the syntactic-semantics requirements of deverbal nominalizations in Japanese.

In Japanese deverbal derivations there are again some similarities to flexible languages; the output is always compositional and together with the light-verb *suru* 'do' many can serve as predicates fitting two of the flexible language diagnostics, e.g., *kai-mono suru* ('shopping', cf. ka-u 'to buy'). Again, however, the early category-typing leads to the conclusion of differentiation rather than flexibility.

8. Summary

In this piece I have made use of data from two category-changing constructions, two common types of Japanese nominalizations in a search for flexibility. I have argued that the infinitive-derived nominalizations of Martin (1975) are, in fact, derivationally-unrelated to verbs; neither the verb nor noun is basic, but a non-categorical root is their source.

Additionally, I have provided a preliminary analysis of the deverbal nominalizing morpheme *-mono*.

More generally, I have tried to show that derivational morphology is wholly the product of syntax, in line with the tenets of the single engine hypothesis. The single engine hypothesis (Marantz, 2001 and 2002 and Arad, 2003); there is only one generative operation in human language, NARROW SYNTAX.

The search for flexibility, however, seems to lead to the conclusion that Japanese falls among the more pervasive differentiated languages.

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