Asian and African Languages and Linguistics, No.7, 2012

Phonologically conditioned allomorphy in Nivkh

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This article discusses a case of allomorphy found in a subset of Nivkh transitive verbs which contain a pronominal prefix *i*-. While previous descriptions claimed the allomorphy of pronominal prefixes to be phonologically conditioned, the current analysis argues that it is the allomorphy of transitive verbs which is phonologically conditioned. This analysis eliminates arbitrary stipulations which were inevitable in previous descriptions in order to account for the distribution of allomorphs. Several supporting arguments for the current analysis will be provided, especially with respect to the pronominal nature of *i*-, which is argued to be suppressed in several contexts.

Key words: Nivkh, transitive verbs, pronouns, phonologically conditioned allomorphy

1. Introduction

This article discusses a case of allomorphy (i.e. selection of allomorphs) in a subset of transitive verbs in Nivkh (language isolate, Russia).[1] The verbs to be considered have two allomorphs which alternate according to the type of object which immediately precedes the verb in the canonical SOV word order of the language. One allomorph is consistently used when the object is singular or a reflexive pronoun, whereas the other allomorph is used elsewhere, i.e. with any other type of object.

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[1] I would like to thank the following consultants for providing data for the current work: Nadezhda Bessonova, Ekaterina Chirik, Valentina Ivanova-Akiliak, Vera Khein, Lidiia Kimova, Zoia Liutova, Galina Lok, Ol'ga Niavan and Svetlana Polet'eva. I also gratefully acknowledge Tokusu Kurebito, Johanna Mattissen and the audience at the 123rd general meeting of the Linguistic Society of Japan (Kyushu University) and at the Transitivity workshop (ILCAA, Tokyo University of Foreign Studies), and the two anonymous reviewers for valuable comments. Fieldwork for this work was supported by the project 'Typological and historical comparative studies on the languages in Northeast Asia' coordinated by Tokusu Kurebito (ILCAA), supplied by the Japanese Ministry of Education, Science, Sport and Culture (Category B, project number 19401020, 2008-2012). Nivkh has approximately 50 speakers on the island of Sakhalin and on the lower reaches of the Amur River.

While there is no explanation on this seemingly curious allomorphy in the literature, this article claims that it is phonologically conditioned. In phonologically conditioned allomorphy, an allomorph which best satisfies the phonological requirements of a language is selected for the purpose of optimizing the phonological shape of the output (Rubach and Booij 2001, Anderson 2008, Nevins 2011 etc.). If allomorphy can be proved to be phonologically conditioned, the need to stipulate the selection of allomorphs (in terms of subcategorization) disappears. As a result, the grammatical analysis may be simplified.

This article is organized as follows. Section 2 demonstrates the problem by illustrating allomorphy in pronouns and transitive verbs. I will compare previous descriptions, and point out a case of inconsistency in the way previous authors have parsed a concatenation of pronoun and verb. This inconsistency is the topic of section 3. While some authors claim that the allomorphy of pronouns is phonologically conditioned, I will argue that it is the allomorphy of *transitive verbs* which is phonologically conditioned, not that of pronouns. Section 4 takes up a related issue of whether a pronominal prefix *i-* on a stranded verb should be regarded as an agreement marker. Section 5 concludes with a closing discussion.

2. The problem

2.1. Allomorphs of pronouns

Table 1 demonstrates allomorphs of pronouns in the West Sakhalin dialect.[2] Singular and reflexive pronouns have long and short allomorphs. Of these allomorphs, the long allomorph is a citation form whereas the short allomorph is a clitic. The latter cannot stand alone and requires a prosodic host to surface.

Table 1: Nivkh pronouns

Type of allomorph	1SG	2SG	3SG	1PL	2PL	3PL	Reflexive
Long (citation form)	ɲi	ʧʰi	iɸ	ɲiŋ (exclusive) mer (inclusive)	ʧʰiŋ	imɣu	pʰi
Short (clitic)	ɲ-	ʧʰ-	iⁿ-				pʰ-

Short allomorphs surface in two syntactic contexts. In NP, a short allomorph indicates possessor (1a). In VP, it indicates the object (1b).[3]

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[2] Unless otherwise noted, the current article discusses data from the West Sakhalin dialect of Nivkh (see Shiraishi 2006/2010 for an overview of this dialect). Examples without credits are taken from my field notes, collected in Okha, Nogliki and Nekrasovka (Sakhalin, the Russian Federation). These were collected from a total of eight speakers, all female.

3 Hyphens at the end of verbs indicate verbal morphology omitted here.

(1) a. ʧʰ-ɨtɨk
2SG-father
'your father'

b. Galik ʧʰ-ŋarma-
Galik 2SG-waited for
'Galik waited for you.'

Crucially, short and long allomorphs are *not* interchangeable.[4] The use of long allomorph as in (2) indicates that the pronoun is a subject, in which case *Galik* is interpreted as an object. This word order is a deviation from the canonical SOV word order in Nivkh.

(2) Galik, ʧʰi ŋarma-
2SG waited for
'You waited for Galik.' ('*Galik waited for you.')

Practically every description of Nivkh reports this distribution of long and short allomorphs in every known dialect (e.g. Kreinovich 1934, Hattori 1944/2000, Austerlitz 1959 etc.). Nevertheless, there is one context in which previous descriptions exhibit disagreement on whether a pronoun is in the short or long allomorph. This context is laid out in the next section.

2.2. Allomorphs of *i*-transitive verbs

A subset of Nivkh transitive verbs has two allomorphs, one with and one without a prefix *i-*.[5] This prefix has the allomorphs *j-* and *e-* but for the sake of simplicity I will use *i-* as a cover term and call these verbs *i-transitive verbs*.[6] These verbs have a common phonological characteristic that the root of the citation form consists only of consonant(s) (*-ɣ-* 'kill', *-sp-* 'stab') or that it begins either with a cluster (*-rli-* 'pull') or a vowel (*-amɣta-* 'praise'). Nevertheless, not every transitive verb beginning with *i-*, *j-*, or *e-* is an *i*-transitive verb, e.g. *jeski-* 'sell' **j-eski-*. In sum, *i*-transitive verbs cannot be identified

4 According to Austerlitz (1959: 103), the use of long allomorph in NP yields an appositive relationship (e.g. *ɲi iʧx* 'I, the old man') though this is a rare usage.
5 Otaina (1978) counts 140 such verbs. The total number of transitive verbs in Nivkh exceeds 400 (Nedialkov, Otaina and Kholodovich 1974).
6 The distribution *i-*, *e-* and *j-* is phonologically conditioned. *i-* surfaces when a verb contains one of the high vowels /i ɨ u/, e.g. *i-rli-* 'pull', and *e-* surfaces when a verb contains one of the non-high vowels /e o a/, e.g. *e-rʁop-* 'touch'. This regularity is no longer transparent in some verbs due to a later phonological rule that deleted the trigger: e.g. *i-ɣ-* 'kill'. *j-* surfaces when a verb begins with a vowel. The last case will not be discussed since here the concatenation of pronoun and verb is straightforward: *j-amɣta-* 'praise him/someone', *pʰ-amɣta-* 'praise oneself'.

on the basis of phonological shape alone. The historical development of *i*-transitive verbs is discussed extensively in Jakobson (1957) and will be taken up in section 3.2. below

Of the two allomorphs of the *i*-transitive verbs, the allomorph with *i*- is the citation form and will be called the *i-allomorph* in what follows. The allomorph without *i*- cannot stand alone and requires a phonological host in order to surface. I will call it the *bound allomorph*.

		i-allomorph (citation form)	Bound allomorph	
(3)	a.	i-ɣ-	-kʰu-	‘kill’
	b.	i-mɣ-	-kʰim-	‘give’
	c.	i-ndɨ-	-nřɨ-	‘see’
	d.	i-ɣlu-	-kʰlu-	‘afraid of’
	e.	i-rlɨ-	-tlɨ-	‘pull’
(4)	a.	e-sp-	-ʧʰeβ-	‘stab’
	b.	e-β-	-po-	‘take’
	c.	e-zmu-	-smo-	‘like’
	d.	e-rʁop-	-tχop-	‘touch’

Although the phonological shapes of *i*-allomorph and bound allomorph tell that they are historically related to each other, there is no synchronic phonological process in Nivkh which derives one allomorph from the other. Therefore, these allomorphs should be stored in the lexicon, their exact shape being unpredictable. This is in fact the way Nivkh dictionaries are edited (e.g. Savel’eva and Taksami 1970).

The distribution of the two allomorphs is as follows. The *i*-allomorph is selected when the object is one of the following pronouns: 1st singular, 2nd singular or reflexive.

(5) a. hɨ ɲiβx ɲezmu- (ɲe-zmu/ɲ-e-zmu)
that person 1SG-liked
‘That person liked me.’

b. hɨ ɲiβx ɲesp- (ɲe-sp/ɲ-e-sp)
that person 1SG-stabbed
‘That person stabbed me.’

c. hɨ ɲiβx ʧʰesp- (ʧʰe-sp/ʧʰ-e-sp)
that person 2SG-stabbed
‘That person stabbed you.’

d. hɨ ɲiβx pʰiɣ- (pʰi-ɣ/pʰ-i-ɣ)
that person REF-killed
'That person killed himself (i.e. committed suicide).'

The bound allomorph is selected when the object is one of the plural pronouns or a genuine (non-pronominal) NP.

(6) a. hɨ ɲiβx imɣu-kʰu-
that person 3PL-killed
'That person killed them.'

b. hɨ ɲiβx ɲɨŋ-ʧʰeβ-
that person 1PL-stabbed
'That person stabbed us.'

c. hɨ ɲiβx laŋř-kʰu-
that person seal-killed
'That person killed a seal.'

d. hɨ ɲiβx laŋř-ʧʰeβ-
that person seal-stabbed
'That person stabbed a seal.'

When an object is 3rd person singular, either the *i*-allomorph or a concatenation of *i*^{n}- or *iɸ* with the bound allomorph is used. The latter cannot be used when an object is indefinite.

(7) a. ɲi i-ɣ-
1SG 3SG/INDEF-kill-
'I killed him/it/someone.'

b. ɲi i^{n}-kʰu-
1SG 3SG-kill-
'I killed him/it/*someone.'

c. ɲi iɸ-kʰu-
1SG 3SG-kill-
'I killed him/it/*someone.'

An interesting inconsistency among previous descriptions can be found in a context where first singular, second singular or a reflexive pronoun is the object of an *i*-transitive verb. In this case, the *i*-allomorph is selected as the host, as is illustrated in (5) above. Here, the VP can be parsed into two ways. One is to parse the pronoun into a long allomorph, and replace it with *i*-, yielding [long allomorph – base of *i*-allomorph], e.g. *pʰi-ɣ-*. The other way is to parse the pronoun into a short allomorph, yielding [short allomorph – *i*-allomorph], e.g. *pʰ-iɣ-* or *pʰ-i-ɣ-*. The former parsing is observed in Kreinovich (1958, 1966), Austerlitz (1959: 103–106), Panfilov (1965: 52–53) and Mattissen (2003: 56), whereas the latter is observed in Kreinovich (1934), Hattori (1962a: 117, 1988/2000: 13), Nedialkov, Otaina and Kholodovich (1974: 250) and Gruzdeva (1998: 51, 53).[7]

Although these two methods of parsing imply entirely different views on the way a pronoun and *i*-transitive verb are concatenated, this inconsistency has hitherto been left unnoticed in the literature. In the sections that follow, I will discuss this problem and provide evidence which supports the parsing into a short allomorph. For the sake of discussion, I will label the parsing into a long allomorph the *long hypothesis* and the parsing into a short allomorph the *short hypothesis*.

3. Evaluation of the hypotheses

3.1 Long hypothesis

A key to the current problem is the semantic content of *i*-. As many authors describe, *i*- can be used to refer to either third person singular or indefinite person (Hattori 1944/2000: 121, 1962b: 77, Kreinovich 1958: 23, 1979: 311, Austerlitz 1967: 101).

(8) a. ɲi　　i-ndɨ-
　　1SG　　3SG/INDEF-saw
　　‘I saw him/someone/something.’

　　b. ɲi　　e-zmu-
　　1SG　　3SG/INDEF-liked
　　‘I liked him/someone/something.’

According to the long hypothesis the long allomorph replaces *i*-, thereby functioning as an object. Note that this is a deviation from the canonical allomorphy of pronouns in which pronouns ought to surface as a short allomorph (if there is one) when they function

[7] It is often the case that the parsing is inconsistent within the works of a single author with data originating from different sources.

as an object (1b). A standard explanation for this deviation is a phonological one, namely, that the choice of the long allomorph avoids the surfacing of a consonant cluster (Mattissen 2003: 55–56, Nedialkov and Otaina 2012: 34). Since short allomorphs consist of a single consonant (*ɲ-*, *ʧʰ-* and *pʰ-*) and since the base of *i*-allomorphs begins either with a consonant cluster (e.g. *-ndɨ-* 'see') or consists of a single consonant (e.g. *-ɣ-* 'kill'), concatenation of the two yields unpronounceable clusters (e.g. **ʧʰ-sp-* or **pʰ-ɣ-*). This can be avoided if the long allomorph is selected instead of the short allomorph. The choice of the short or long allomorph is thus phonologically conditioned.[8]

In contrast to the long hypothesis, the short hypothesis runs into a problem since a pronominal interpretation of *i-* leads to a contradictory interpretation of transitive verbs as having two objects, the short allomorph and *i-* (*pʰ-i-ɣ-*). The long hypothesis does not suffer from such a contradiction since a long allomorph and *i-* are in complementary distribution (thus either *pʰi-ɣ-* or *i-ɣ-*). According to this hypothesis, the object pronoun replaces *i-* and thus the two do not co-occur.

In fact, however, there are cases in which *i*-transitive verbs seem to have two objects. This happens when an object and the transitive verb are not adjacent. In such a case the verb surfaces with *i-*, as is illustrated in the examples below (Kreinovich 1937: 92-93, Hattori 1944/2000: 122).

(9) a. ŋ-ɨtɨk liɣs ɐʁgur i-ɣ-
1SG-father wolf quickly i-killed
'My father killed the wolf quickly.'

b. tɨ bitɣɨ, iɸ e-β-l?
this book 3SG i-took-Q
'This book, did he take it? (Panfilov 1965: 167)

c. ʧʰi sidʒ-ŋa j-ɨrsudʒ?
2SG who-Q i-pursue
'Whom do you pursue?' (Gruzdeva 1998: 46)

[8] This reasoning is often illustrated on a par with the nominal context where first, second singular and reflexive pronouns surface with a vowel when a head noun begins with a cluster, e.g. *ɲi-ʧʰɣa~ɲe-ʧʰɣa* 'my money'. Nevertheless, the pronoun here cannot be identified as a long allomorph since it does not bear accent, unlike the vowel of a long allomorph: *ɲi-ʧʰɣá~ɲe-ʧʰɣá* vs. *ɲézmu-* 'like'. This difference is explicable if we regard the vowel in the former as being epenthetic, and therefore devoid of accent, comparable with the vowel which is inserted in the same syntactic context to avoid a sequence of similar consonants: *ɲi-nának* 'my sister'.

In the examples above, the object is not in the canonical pre-V position for various reasons, such as an insertion of an adverb (9a), topicalization (9b) and focusing (9c). Crucially, the stranded verb is not allowed to surface without *i-*, i.e. in bound allomorph. This was also confirmed during fieldwork. Speakers immediately rejected sentences with a stranded bound allomorph.

(10) a.*ɲ-ɨtɨk liɣs eʁgur kʰu-
1SG-father wolf quickly killed
'My father killed the wolf quickly.'

b.*atak liɣs endox kʰlu-
grandfather wolf very afraid
'Grandfather was very afraid of the wolf.'

c.*ɲ-ɨtɨk liɣs tɨβ-ux kʰu-
father wolf house-LOC killed
'Father killed the wolf in the house.'

The examples above show that syntactic constituents other than objects, such as an adverb or PP, cannot function as a host to accommodate a bound allomorph. When an object is not adjacent to the verb, the bound allomorph loses its host and cannot surface. Consequently, the citation form (*i*-allomorph) surfaces in such a context.

Note that in (9) it looks as if the transitive verb had two objects, the object NP and *i-*. Apparently, *i-* in such a context lacks semantic content, the object NP being the 'real' object. Lack of semantic content of *i-* led Shterberg (1900) to conclude that *i-* in such a context is 'pleonastic' (see also Kreinovich 1937: 91-93, 1958: 22 fn.5).

Previous works have scarcely paid attention to the ungrammaticality of (10), and did not ask why the verb appears as the *i*-allomorph in this context. Kreinovich did not explain how such a pleonastic usage of *i-* fits into his interpretation of *i-* as a pronominal element; what the grammatical relationship between the object NP and *i-* on the stranded verb would be. In his article in 1937, he merely pointed to a similar usage of third person pronoun in Classical Nahuatl. In subsequent works (Kreinovich 1958, 1966, 1979), he described *i-* as *the indefinite pronominal indicator of the object* (неопределенный местоименный показатель объекта).

The pleonastic usage of *i-* casts doubt on a strict interpretation of *i-* as a pronoun. Since object and *i-* co-occur in certain contexts, they are not in complementary distribution. Hence, complementary distribution of pronoun and *i-* cannot be used as an argument against the short hypothesis.

Another argument against the long hypothesis is that it requires an arbitrary stipulation to account for the allomorphy of *i*-transitive verbs. Earlier in this section, I introduced an argument for the long hypothesis that allomorphy of long and short allomorphs was phonologically conditioned. In contrast, however, the allomorphy of *i*-transitive verbs cannot be claimed to be phonologically conditioned. In the long hypothesis, it is entirely arbitrary that first, second singular and reflexive pronouns choose the *i*-allomorph, and not the bound allomorph. Therefore, this information should be stipulated using subcategorization frames.

(11) Subcategorization frame 1: long allomorph – *i*-allomorph, e.g. *pʰi-ɣ-*.
Subcategorization frame 2: short allomorph – other transitive verbs,
e.g. *ʧʰ-ŋarma-*.

A critical flaw of such an analysis is that it fails to explain why the long allomorph subcategorizes for the *i*-allomorph. Crucially, this allomorphy is *not* phonologically conditioned since if long allomorphs were allowed to be used, they could equally well attach to a bound allomorph. From a phonological point of view, this would yield an even better result since for many verbs the shape of the bound allomorph is phonologically less offending than the base of the *i*-allomorph (compare, for instance, *-ɣ-* with *-kʰu-* 'kill', or *-sp-* with *-ʧʰeβ-* 'stab'). Although a stipulation of the type in (11) was assumed (often tacitly) in practically all previous works, no one ever attempted to provide an explanation for it.[9]

3.2 Short hypothesis

In contrast to the long hypothesis, the short hypothesis does not suffer from arbitrary stipulations. Instead, this hypothesis succeeds in providing a simple explanation for the allomorphy of *i*-transitive verbs. There are two arguments in support of this hypothesis.

First, the short hypothesis claims that pronouns are always short when they function as object in pre-V position. This means that there is no need to rely on (be it phonologically conditioned or not) allomorphy to account for pronouns in pre-V position (because there is no allomorphy in this context).

Second, allomorphy of *i*-transitive verbs can be explained as being phonologically conditioned. Since pronouns are always short, allomorph selection of *i*-transitive verbs can be regarded as optimizing the phonological output shape of VP. This means that an allomorph which concatenates in the phonologically least offending fashion with the

[9] For instance, Hattori set up different conjugation paradigms for the two allomorphs: *nominal conjugation* and *pronominal conjugation* (1944/2000: 121).

object pronoun is chosen. As a matter of fact, *i*-allomorphs fare better for this purpose since they contain a vowel which successfully accommodates a prefix consisting of a single consonant without creating a cluster (e.g. *pʰ-i-ɣ-*).

In this way, the short hypothesis simplifies the description of allomorph selection without any additional grammatical device. For these reasons, I conclude that the dubious vowel should be parsed as part of the verb, not the pronoun.

The short hypothesis accords in part with a radical view on the nature of *i-* advocated by Jakobson, who analyzed *i-* as a prothetic vowel (Jakobson 1957). According to Jakobson, *i-* in contemporary Nivkh has "ceased to act as a pronominal object and was reinterpreted as a prothetic vowel (1957: 89)." Jakobson drew this conclusion solely from the internal reconstruction of transitive verbs. According to this analysis, prefixation of *i-* to transitive verbs was once obligatory in contexts where an object was not named explicitly (as in citation forms). Later, a phonological rule of *i*-deletion swept *i-* out from this position, except in contexts where the loss of *i-* would lead to a phonological marked structure such as a consonant cluster (*e-zmu-*) or a syllable with an unfilled onset (*j-amxta-*). Considering the marginal role of *i-* as a pronominal element as seen above, this analysis conforms to the current proposal.

4. Is *i-* an agreement marker?

The short hypothesis is based on the assumption that the pronominal content of *i-* can be suppressed, at least in certain contexts. An argument in favor of this assumption was that an object and *i-* could co-occur, as shown in (9). At this point, an interesting issue arises as to whether *i-* exhibits agreement with the object. This issue has recently been taken up by Kazama (2009). Kazama cites Hattori (1944), who (correctly) reports that *i*-transitive verbs should surface as the *i*-allomorph when an object is not adjacent to it. Based on this description, Kazama proposes to regard *i-* as an agreement marker, thereby classifying Nivkh as a head-marking language.

The issue of whether *i-* is an agreement marker has already been discussed in Shiraishi (2004), so I will only briefly review the main points. Data from Nivkh texts reveals that agreement between *i-* and a non-adjacent object is not compulsory. In the examples below, an object in plural co-occurs with *i-*.

(12) a. pʰ-oʁlagu　　maŋgur　　j-ar-
　　REF-children　　much　　i-feed　　(Savel'eva and Taksami 1970: 501)
　　'To feed the children lots of food.'

b. ʧʰxɨɸ ɨi̯βu-ŋan, ɨs qʰau-te ma χau-te imɣu
bear keep-when spine dry-CV dried fish dry-CV3PL

tʰulɸ j-ar-nɨ-...
winter i-feed-FUT-
'When you keep a bear, you should dry spine (of fish) and make dried fish in order to feed them (bears) in the winter.' (Shiraishi and Lok 2004: 45)

c. ɲ-ɨtɨk hɨ oʁla-ɣu pʰ-rɨβ-ux j-amxta-
1SG-father this child-PL REF-house-LOC i-praise
'My father praised these children in his house.'

In the examples above, *i-* co-occurs with a plural antecedent indicating that there is no agreement between the two. These examples make it difficult to identify *i-* as an agreement marker, say, of topic-anaphora agreement (in the sense of Bresnan and Mchombo 1987) or clitic-doubling.

However, speakers seem to vary in the acceptability of the type of sentences in (12). Shiraishi (2004) reports that two, out of eight speakers felt a sentence in which a plural antecedent and *i-* co-occur to be strange (13a). These speakers insisted that a correct sentence should show agreement in number, as in (13b) below.

(13) a.*ɲ-ɨtɨk eʁa-ke liɣs-ke i-ɣ-
1SG-father cow-COM wolf-COM i-killed
'My father killed the cow and wolf.'

b. ɲ-ɨtɨk eʁa-ke liɣs-ke imɣu-kʰu-
1SG-father cow-COM wolf-COM 3PL-killed
'My father killed the cow and wolf.'

If we are to respect the judgment of these speakers, we cannot identify *i-* as a pure prothetic vowel, in contrast to Jakobson. On the other hand, it is also true that there are many cases of *i-* co-occurring with a plural antecedent in Nivkh texts. Before we discuss this matter, more data is necessary.

5. Conclusion

While proponents of the long hypothesis claim that allomorphy of pronouns is phonologically conditioned, this article rejects this claim and argues that it is the

allomorphy of transitive verbs which is phonologically conditioned. The advocated hypothesis has a number of advantages over the previous one; it rejects allomorphy of pronouns in pre-V position, thereby simplifying the paradigm of pronouns considerably. In addition, there is no need to appeal to arbitrary stipulations (subcategorization) to account for allomorphy of *i*-transitive verbs. Support for the current hypothesis comes from the pleonastic usage of *i*-, where an object and *i*- on the stranded verb may co-occur. We analyze this as a suppression of the semantic (pronominal) content of *i*-, and propose to interpret the concatenation of the short allomorph with *i*-allomorph in an identical way.

Abbreviations

COM	comitative	PL	plural	V	verb
CV	converb	PP	postpositional phrase	VP	verb phrase
FUT	future	Q	question particle	1	first person
INDEF	indefinite	REF	reflexive	2	second person
LOC	locative	SG	singular	3	third person
NP	noun phrase				

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