

Initial clusters in pre-Proto-Nivkh: Internal reconstruction from Proto-Nivkh

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Building on recent work towards the reconstruction of Proto- and pre-Proto-Nivkh (Fortescue, 2016; Janhunen, 2016; Halm, 2017; Halm & Slater, 2018), we use internal reconstruction to investigate two developments (probably regular sound changes) of initial consonant clusters in pre-Proto-Nivkh, taking rigorously reconstructable Proto-Nivkh forms as our point of departure. These developments are: (1) the surface-level loss of an original manner contrast (perhaps plosive-versus-fricative) in oral obstruents in cluster-second position, leaving only a morphophonemic contrast (between obstruents which show a predictable plosive-fricative alternation under prefixation and those which remain fricatives invariantly) as its reflex; and much more tentatively, (2) the deletion of original palatal glides in syllable onsets originally containing any consonant cluster.

Keywords: Nivkh, Gilyak, Proto-Nivkh, pre-Proto-Nivkh, Internal Reconstruction, Initial Clusters

1. Introduction

The Nivkh family of languages is indigenous to Sakhalin Island, the adjacent mainland coast, and the lower course of the Amur River in the Far East of Russia. For our purposes, we will consider the family to consist of six distinguishable lects or varieties: Amur Nivkh (AN), spoken on the Asian mainland, West Sakhalin Nivkh (WSN), originally spoken on the Northwest corner of Sakhalin Island nearest to the mainland, North Sakhalin Nivkh (NSN), spoken originally on the Schmidt Peninsula at the Northern tip of Sakhalin, East Sakhalin Nivkh (ESN), South Sakhalin Nivkh (SSN), and the modern, koineized variety² of Nogliki (NgN), as documented by Tangiku et al. (2008). Particularly relevant sources for these varieties include the dictionaries of Savel'eva and Taksami (1965; 1970) for AN; the work of Shiraishi (especially Shiraishi, 2007), for WSN; Austerlitz' work (1982; 1990; as well as other publications) for SSN; and Tangiku et al. (2008) for NgN. Overviews of the family, including its phonology in particular, are provided in Gruzdeva (1997; 1998) and Shiraishi (2007). Fortescue (2016) is an excellent comparative dictionary, and also gives heuristic proto-forms, but does not approach specific phonological correspondences or developments in detail. Halm (2017) and Halm & Slater (2018) apply the comparative method to data from the attested Nivkh varieties to identify exact sound changes which have distinguished the attested varieties from Proto-Nivkh (PN),³ and Halm & Slater (2018) also very briefly considers the internal phylogeny of the family in view of these sound changes. The internal reconstructions undertaken in this paper will take PN forms which can be reconstructed rigorously as our point of departure — that is, forms which are attested both in AN or WSN on the one hand, and in ESN or SSN on the other, and whose attested forms can be related to one another through the regular application of known sound changes. We will avoid etyma which appear in only one branch of the family, or which appear across the family but show irregular sound correspondences, as they may represent borrowing or other developments outside of direct inheritance from Proto-Nivkh.

Morpheme-initial consonants in Nivkh show an elaborate pattern of alternation under the influence of prefixes and preposed or incorporated lexical morphemes, a pattern which has been commented upon by virtually every linguist to work on Nivkh (e.g., but far from exhaustively, Jakobson, 1957/1971; Austerlitz, 1990; Gruzdeva, 1998; Mattissen, 2003; Shiraishi, 2007; Nedjalkov & Otaina, 2013; Fortescue, 2016; Luukkonen, 2016). The synchronic behavior of these consonants in absolute morpheme-initial position is well documented and the subject of solid consensus today, although diachronic origins and the optimal theoretical characterization of the phenomenon remain less settled. However, a far less thoroughly discussed phenomenon is the alternation of oral obstruents that appear in the second position of a morpheme-initial consonant cluster which occurs in some morphemes. This alternation, and its possible diachronic origins, will form the primary focus of this paper. A secondary focus will be the status of glides in this same position.

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² Koineization is the emergence of a new variety of a language from the mixing, leveling, and simplifying of different dialects.

³ A summary of sound changes attested in Nivkh varieties is included in the Appendix.

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1.1. Notes on the presentation of data. A summary of the notation conventions used in this paper is as follows: (1) we will use an asterisk to indicate our reconstructions, e.g. /* ϕ orm/; (2) a degree symbol indicates Fortescue's (2016) typical or canonical forms, e.g. / $^{\circ}$ ϕ orm/; (3) a single tilde represents a predictable phonological or a grammatical variation due to known processes, e.g. / ϕ orm ~ p^h orm/; (4) a double tilde represents an unpredictable or inexplicable variation or doublet, e.g. / ϕ orm \approx β orm/; (5) a hyphen marks a synchronically productive or otherwise well-understood and uncontroversial morpheme boundary, e.g. / ϕ orm-i/; (6) a double hyphen or equal sign indicates a conjectural morpheme boundary, e.g. /* ϕ =orm/; (7) a point or period marks a syllable boundary, e.g. / ϕ orm.gun/; (8) the pound or number sign /#/ indicates pause or word boundary; (9) square brackets indicate an uncertain reconstruction or a doubtful transcription, e.g. / $[\phi]$ orm/; (10) parentheses indicate that a form can or does appear both with and without the enclosed segment or segments, e.g. / (ϕ) orm/, equivalent to / ϕ orm \approx orm/. In addition, the following cover symbols are used: (1) the sign /V/ is used to indicate an unspecified vowel; (2) the sign /C/ indicates an unspecified consonant; (3) the sign /W/ indicates an unspecified glide; (4) the sign /P/ is used for an unspecified plosive; (5) the sign /F/ is used for an unspecified fricative. Finally, a single chevron or shaftless arrow is used to indicate diachronic change, /* ϕ orm/ > / ϕ or/; and bidirectional chevron or bidirectional shaftless arrow is used to indicate cognacy, WSN / ϕ orm/ <> AN / ϕ orm/.

The (maximal) consonant inventory of all varieties is shown as we will transcribe it in Table 1 below. AN, WSN, and probably NSN differ in lacking a contrastive /w/ in syllable onset. Although we can confidently reconstruct the contrasts /*i \neq j/ and /*u \neq w/ postvocally in Proto-Nivkh due to a conditioned sound change (Halm, 2017), some sources fail to render this or other glide-vowel distinctions transcriptionally, at least in certain environments (such as failing to distinguish /Vu/ from /Vw/ when another vowel does not immediately follow, or /iV/ from /jV/ when preceded by a consonant). It is not perfectly clear which of these are phonologically real mergers or gaps in these environments, and which are merely orthographic shortcomings. That is, the varieties described in those sources may have these contrasts, but the writing systems used in those sources do not reflect the contrast. Where this non-distinction occurs, and comparative sources do not illuminate the correct phonemicization, we will follow our sources in the transcription of the undifferentiated segment. Note also that SSN differs from the inventory presented in Table 1 by lacking a contrast between the voiced and the voiceless unaspirated plosive series. All varieties have a six-vowel inventory, which we will transcribe as /a, e, i, o, u, $\text{\textcircled{a}}$ /, although the phonetic realization of these may be closer to [$\text{\textcircled{a}}$, $\text{\textcircled{e}}$, $\text{\textcircled{i}}$, o, u, $\text{\textcircled{y}}$] in at least some varieties.

	Bilabial	Alveolar	Palatal	Velar	Postvelar
Fortis Stop	p^h	t^h	c^h	k^h	q^h
Lenis Stop (<i>Non-Contrastive in SSN</i>)	[p]	[t]	[c]	[k]	[q]
Voiceless Fricative	ϕ	$\text{\textcircled{r}}$	$\text{\textcircled{s}}$	x	χ
Voiced Fricative	β	r	$\text{\textcircled{z}}$	$\text{\textcircled{y}}$	$\text{\textcircled{b}}$
Voiced Stop	b	d	$\text{\textcircled{j}}$	g	G
Nasal	m	n	$\text{\textcircled{\text{ɲ}}}$	$\text{\textcircled{\text{ŋ}}}$	
Approximant	[w]		j		
Lateral		l			
Voiceless Onset			h		

Table 1. Transcription of the (maximal) Nivkh consonant inventory. Shaded cells indicate gaps. All unbracketed phonemes are reconstructed for Proto-Nivkh and attested in all modern varieties, while /w/ is reconstructed for PN but has been merged into / β / in the syllable onset in AN, WSN, and NSN. The contrastive voiceless unaspirated (i.e., lenis) stops /p, t, c, k, q/ are present across all varieties except in SSN. In the remaining lects, they are in superficially contrastive but underlyingly complementary distribution with the voiced stops /b, d, $\text{\textcircled{j}}$, g, G/, both of which correspond to voiced stops in SSN: namely, outside of SSN, the voiced stops occur in some environments morpheme-internally, and morpheme-initially when preceded across a morpheme juncture in certain constructions by /l/ or a nasal, which may be elided so that voicing of the following plosive is the nasal's only surface-level reflex; in all other environments, the SSN voiced stops correspond to voiceless unaspirated stops in the other lects.

2. Oral obstruents in the second position of initial clusters: an underlying contrast

Initial clusters in Nivkh are restricted to a maximum of two consonants, evidently across all dialects (Gruzdeva, 1998, p. 12; Shiraishi, 2007, p. 29). In such clusters, oral obstruents, nasals, and the lateral /l/ may occur as either

the first or second element. However oral obstruents in such clusters are subject to restrictions, as follows.

The initial oral obstruent in a free morpheme in AN, WSN, NSN, or ESN may be either fortis or lenis underlyingly, with its surface realization determined by the combination of its underlying fortis or lenis specification with its morphophonemic environment (Gruzdeva, 1998, pp. 13-15; Shiraishi, 2007, p. 58 ff.): underlying fortis oral obstruents show an allophonic alternation of voiceless aspirated plosives with voiceless fricatives, while underlying lenis oral obstruents show a parallel allophonic alternation among voiceless unaspirated plosive, voiced plosive, and voiced fricative realizations (albeit that these basic patterns are further complicated in some instances by other, narrower allophonic rules; see Shiraishi, 2007, p. 57 et alibi).

In these lects, this behavior is the same whether the initial oral obstruent is followed by a vowel or by another consonant, forming a cluster. In SSN and NgN, meanwhile, the same or nearly the same system holds for initial oral obstruents which are followed by a vowel, however in those followed by a fricative in a cluster, the underlying fortis-lenis contrast has been lost, with the result of the merger behaving identically to the underlyingly fortis obstruents in single-consonant morpheme-initial onsets (i.e., showing allophonic alternation of voiceless aspirated plosive and voiceless fricative realizations).⁴ As mentioned above, however, the behavior of morpheme-initial consonants is well studied, and not the focus of our interest here.

Across all varieties, a restriction has been documented that the second consonant in initial clusters, if it is an oral obstruent, must be a voiceless fricative (Austerlitz, 1956, p. 263; 1990, pp. 25-28; Shiraishi, 2007, p. 30). However, this restriction actually only holds for forms in morphological isolation. When we examine forms in other morphophonemic environments, such as verb roots with object person prefixes or noun roots with possessor person prefixes, we can observe a contrast between two underlying categories of oral obstruent in this initial-cluster-second position: one, which when resyllabified by a bound prefix surfaces as a plosive, and a second, which remains invariantly a fricative in the same environment. The bound prefixes or clitics (for both nouns, where they indicate possessor person, and verbs, where they indicate direct object or undergoer person) which cause this resyllabification are: /ɲ- ~ ɲi- ~ ɲe-/ |1|, /c^h- ~ c^{hi}- ~ c^{he}-/ |2|, /∅_v- ~ i- ~ e-/ |3 or INDEFINITE| (with dialectal variation), /w- ~ u- ~ o-/ |RECIPROCAL|, and /p^h- ~ p^{hi}- ~ p^{he}-/ |REFLEXIVE|. Although these five prefixes group together with each other, and apart from prefixed nominal or pronominal morphemes (Mattissen, 2003, pp. 55-62 et alibi; Shiraishi, 2007, pp. 38-41 et alibi), in almost all morphophonemic characteristics, the bulk of our data for roots which show alternation of their initial-cluster-second obstruent to a plosive are examples with the 3rd or indefinite person morpheme /∅_v- ~ i- ~ e-; the verb form with this object prefix is given as the citation form or one of the citation forms for a verb in many sources, so it is much more common in the literature than forms including the other four bound prefixes.

By comparing attested forms across the Nivkh lects, we can see that this situation is neither a recent development, nor any sort of idiolectal, dialectal, or free variation, but rather that it is clearly reconstructable to Proto-Nivkh, with the same etyma displaying either alternation to a plosive or invariance of their initial-cluster-second consonant across various documentary sources for AN, SSN, and (albeit in scarcer data) for the other lects of the family. Table 2 below gives etyma which show an initial-cluster-second consonant which alternates to a plosive when a bound prefix is added, each supported by forms on both sides of the major phylogenetic divide of the family, together with a PN reconstruction based on these attested forms. Table 3 gives similarly attested and reconstructed etyma showing an invariant fricative in the same position.

While there are a number of etyma which are attested in one or more sources which had to be omitted from Tables 2 and 3 on the basis that they were not attested across the two or three major branches of the family (i.e., in both AN or WSN on the one hand, and SSN, or, less preferably, ESN or NgN, on the other), and hence could not be rigorously reconstructed to PN, all of those etyma which meet this attestational threshold in the sources available to the present author are given below. It is especially worth pointing out that *all* of these agree in which of the two categories they fall into in terms of the behavior of their second consonant, underscoring the diachronically stable nature of this behavior. The only etyma reported below which may fall outside this generalization are the etyma for ‘to lie down upon’ and ‘to spit’, which *do* agree in all attested sources, but may or may not be attested in the SSN or ESN branches of the family — the uncertainty is due to Mattissen’s opaque

⁴ This holds, at least, for forms which are in morphological isolation. Too few morphologically complex SSN forms (and none at all for NgN) are present in data available to the present author to determine whether the underlying lenis-fortis contrast might perhaps be preserved in some morphophonemic environments.

citation for the primary source of the form which she gives.

We should note that much of the disparity between the forms attested in Tables 2 and 3 is subphonemic variation (particularly, differences in the transcription of voicing in non-initial consonants, cf. Shiraishi, 2007, pp. 52-53), or is the product of regular sound change (see Halm, 2017; Halm & Slater, 2018). The only exceptions to this appear to be: (1) the unexpected nasals in Savel'eva and Taksami's transcriptions of some of the forms of the etymon for 'to loathe' and in the ESN and NgN forms of the etymon for 'to aim'; (2) the variation /uj ≈ ui/ between the transcriptions of the syllabic nucleus of the etymon for 'to kick' (where /ui/ is probably phonemically correct: see Halm, 2017) and by the same token /aj/ for expected /ai/ in 'to spit'; (3) the variation between velar /x/ or /ɣ/ and postvelar /χ/ or /ʁ/ in the etymon for 'to gnaw' (since Savel'eva & Taksami record both forms for this etymon, it is possible that a doublet is a linguistic reality); (4) the unexpected vowel elision in the NgN forms of the etyma for 'to accompany' and 'to gnaw, bite'; (5) unexpected palatal-alveolar exchanges in the NgN etyma for 'to kick' and 'to gnaw, bite'; and (6) the variation between an ablauting and a non-ablauting form in the etymon for 'to sit'. This last item is perhaps most worthy of comment.

Nivkh shows a small class of monosyllabic verbs, which lose their root vowel when prefixed with a bound morpheme (Mattissen, 2003, pp. 129-131). We see that Tangiku et al. (2008) gives a non-ablauting NgN form under a gloss of 'to finish, end, cease, stop', and Austerlitz (1990, p. 27) also gives a non-ablauting form under a similar gloss. Meanwhile, both Mattissen (2003, pp. 127-130) and Austerlitz (1982, p. 84) give ablauting — but otherwise identical — forms under a gloss of 'to sit' for AN (probably) and SSN, respectively, while Savel'eva and Taksami give an irregular paradigm including both an ablauting and a non-ablauting form (1965; 1970), both for AN, and both for the gloss of 'to sit'. The most parsimonious explanation for this situation appears to be a doublet in PN, with both ablauting /* i-ɾp- ~ -tʰiɸ- ~ -ɾiɸ-/ and non-ablauting /* i-ɾp(i)- ~ -tʰɸi- ~ -ɾɸi-/ forms of an otherwise identical verb in use, all with a sense of 'to sit, be still, be at rest, be finished, cease, halt, stop', with daughter varieties either distinguishing (SSN) or not distinguishing (AN) the reflex(es) of this etymon as two separate verbs with a shade of difference in meaning. Accordingly, we offer a single reconstructed PN doublet as the source for all these forms.

2.1. The diachronic origin of this contrast. Based on the forms tabulated above, and the absence of conflicting data, we can confidently reconstruct to PN this underlying contrast between alternating (i.e., plosivising) initial-cluster-second consonants on the one hand, and invariant fricatives in the same position on the other. We can also confidently reconstruct to PN the surface-level behavior of both underlying types surfacing as fricatives when no bound prefix precedes. This is reflected in the PN reconstructions offered in Tables 2 and 3. It is particularly to be noted that, while alternations of morpheme-initial consonants under the morphophonemic influence of preposed or incorporated *free lexical etyma* can certainly be reconstructed to PN, these free, rather than bound, forms are not attested to trigger the alternation of initial-cluster-second consonants in any lect — as we will see below, this pattern is paralleled in the distribution of allomorphs with a deleted versus an undeleted palatal glide in this same initial-cluster-second position. Finally, we should note that in nearly every other phonological environment, the attested lects of Nivkh agree in contrasting precisely two manners of oral obstruents: fortis and lenis underlying obstruents contrast in morpheme-initial position for all but a few closely bound suffixes or recently borrowed terms, while plosives and fricatives contrast in all medial positions, with voicing determined allophonically (Shiraishi, 2007, pp. 52-55). In final position, some modern lects attest the same two-way contrast between plosives and fricatives, while others show a three-way contrast among plosives, weak fricatives, and strong fricatives. However, the strong-weak final fricative contrast can be shown to be a development conditioned by now-elided vowels, with a reconstructable stage of pre-Proto-Nivkh featuring only a two-way fricative-plosive contrast in final position as well (Halm & Slater, 2018, pp. 33-35). These facts, taken together, lead us toward a hypothesis regarding the pre-Proto-Nivkh origin of this contrast in initial-cluster-second position.

The most economical and elegant explanation for the underlying contrast between plosivizing and invariant fricative oral obstruents in initial-cluster-second position attested in the modern Nivkh lects and reconstructable to PN is evidently that pre-Proto-Nivkh featured a phonemic contrast in this position — quite plausibly a contrast between plosives and fricatives, as in all other non-initial positions, although this cannot be certain. This contrast was then superficially eliminated by a regular sound change in word-initial position pPN /*#CP, /*#CF/ > PN /*#CF/, a change which affected forms without a bound prefix, as well as those forms with a preposed or incorporated lexical element, but *did not* affect forms with a bound prefix.

Savel'eva & Taksami (1970) AN	Savel'eva & Taksami (1965) AN	Austerlitz (1982, p. 88; 1990, pp. 20, 27-28) SSN	Mattissen (2003, pp. 127-130) (AN?)	Other source as indicated	gloss	PN
/i-nda-f ~ i-da-f ~ -ŋɛ-a-f/	/i-nda-f ~ -ŋɛ-a-f/	/i-ntə- ~ -ŋɛ-a-/	/i-nda-f ~ -ŋɛ-a-f/	ESN /i-da-d/ Savel'eva & Taksami (1970) NgN /i-da-t/ Tangiku et al. (2008)	'to see, find, behold'	/* i-nda- ~ -ŋɛ-a-/
/i-rku-f ~ -txu-f ~ -rxu-f/			/i-rku-f ~ -txu-f ~ -rxu-f/	AN /i-rku-f ~ -txu-f/ Fortescue (2016), citing Taksami (1983) NgN /e-šqa-d/ Tangiku et al. (2008)	'to lie down upon'	/* i-rku- ~ -txu- ~ -rxu-/-
/e-šqa-f ~ -q ^h ŋa-f ~ -χna-f/	/e-šqa-f ~ -q ^h ŋa-f ~ -χna-f/	/-šqa-/-	/e-šqa-f ~ c ^h χa-f ~ -šχa-f/	Tangiku et al. (2008) AN /e-šqa-f ~ c ^h χa-f ~ -šχa-/ Fortescue (2016), citing Taksami (1983)	'to loathe, hate, dislike, disdain'	/* e-šqa- ~ -[c ^h χa] ~ -[šχa] -/
/i-rp-c ~ -t ^h βi-f ~ -rɪβ-f/	/i-rp-c ~ -t ^h βi-f ~ -rɪβ-f/	/i-rp- ~ -t ^h ɪβ- ~ -rɪβ-/-	/i-rp-c ~ -t ^h βi-f ~ -rɪβ-f/		'to sit'	/* i-rp(i)- ~ -t ^h βi- ~ -rɪβ-/-
			/t ^h βi-/-	NgN /t ^h βi-d/ Tangiku et al. (2008)	'to be over, finished, to halt'	/* i-rp- ~ -t ^h βi- ~ -rɪβ-/-
	/i-škuj-f/	/-škuj-/-		NgN /i-škuj-d ~ -[t ^h]xuj-d/ Tangiku et al. (2008) SSN /c ^h xui-nt/ Fortescue (2016), citing Takahashi (1942)	'to kick'	/* i-škuj- ~ -c ^h xui- ~ -šxui-/-

Table 2. Etyma with a fricative alternating to a plosive in the second position of an initial cluster. Shaded areas indicate no available pertinent data.

Savel'eva & Taksami (1970) AN	Savel'eva & Taksami (1965) AN	Austerlitz (1982, p. 88; 1990, pp. 27-28) SSN	Mattissen (2003, pp. 127-130) (AN?)	Other source as indicated	gloss	PN
/i-βra-f ~ -p ^h ra-f/	/i-βra-f ~ -p ^h ra-f/	/i-βra ~ -p ^h ra ~ -φra-/	/i-βra-f ~ -p ^h ra-f ~ -φra-f/		'to tidy up, to make pleasant, to ffb'	/* i-φra ~ -p ^h ra ~ -φra-/
/e-ŋop-c ~ -t ^h xop-c ~ -ŋxop-c/	/e-ŋop-c ~ -t ^h xop-c ~ -ŋxop-c/	/-ŋxop ~ t ^h xop-/	/e-rrop-c ~ -t ^h xop-c ~ -ŋxop-c/; /e-ŋop-c ~ -t ^h xop-c ~ -ŋxop-c/		'to touch, stir, move'	/* e-ŋxop- ~ -t ^h xop- ~ -ŋxop-/
/e-rβaj-f ~ -t ^h βaj-f ~ -βaj-f/	/e-rβaj-f ~ -t ^h βaj-f ~ -βaj-f/	/t ^h βaj-/	/e-rβaj-f ~ -t ^h βaj-f ~ -βaj-f/		'to spit, to spit upon'	/* e-rβai- ~ -t ^h βai- ~ -βai-/
/e-vro-f ~ -k ^h ro-f ~ -xro-f/	/e-vro-f ~ -k ^h ro-f ~ -xro-f/	/-xro-/	/e-vro-f ~ -k ^h ro-f ~ -xro-f/		'to hang up'	/* e-xro ~ -k ^h ro ~ -xro-/
/i-vra-f ~ -k ^h ra-f ~ -xra-f/	/i-vra-f ~ -k ^h ra-f ~ -xra-f/		/i-vra-f ~ -k ^h ra-f ~ -xra-f/	NGN /i-vr-i-vr-d/ Tangiku et al. (2008)	'to accompany, serve, follow, attend'	/* i-xra- ~ -k ^h ra- ~ -xra-/
/e-žra-f ~ -k ^h ra-f ~ -xra-f/	/e-žra-f ~ -k ^h ra-f ~ -xra-f/		/e-žra-f ~ -k ^h ra-f ~ -xra-f/	ESN /e-ŋra-d/ Savel'eva & Taksami (1970) NGN /e-ŋra-d/ Tangiku et al. (2008)	'to point at, aim at, indicate, mark'	/* ? /
/e-vri-f ~ -k ^h ra-f ~ -xra-f/	/e-vri-f ~ -kra-f ≈ /e-vri-f ~ -k ^h ra-f ~ -xra-f/			NGN /e-βz-d/ Tangiku et al. (2008)	'to gnaw, bite'	/* ? /

Table 3. Etyrna with an invariant fricative in the second position of an initial cluster. Shaded areas indicate no available pertinent data.

This is of two-fold significance: it both increases the elegance and uniformity of our reconstruction of pre-Proto-Nivkh at the chronological stage prior to this change (by making the two-way contrast of obstruent manners uniform across all phonological environments), and also provides specific and concrete evidence in support of the hypothesis that the phonological interaction between bound prefixes and roots is older than or otherwise historically distinguished from the phonological interaction between roots and their preposed or incorporated free lexical elements, since a stage of pre-Proto-Nivkh (the stage at which this sound change operated) existed in which the former conditioned a sound change differently from a word boundary or pause, but the latter, evidently, did not.

3. The palatal glide in pre-Proto-Nivkh initial-cluster-second position

The second phonotactic observation to be offered, together with a hypothesis of a diachronic development possibly underlying this change, pertains to the apparent absence of palatal glides in the same initial-cluster-second position which we have been discussing, although the evidence for both the synchronic phonotactic observation and the diachronic hypothesis is much weaker than for the contrast within the oral obstruents in this position discussed above.

3.1. The synchronic absence of /#Cj/. Palatal glides in first syllable onsets, preceded by another consonant, are certainly extremely rare. We would tentatively suggest that they may, in fact, be completely absent in all documented Nivkh lects. Surveying all the etyma in Austerlitz (1990), Tangiku et al. (2008), and Fortescue (2016), for instance, there are only three seeming incidences of /#Cj/, namely /k^hju/ ‘cell of the mesh in a net’ (Fortescue, 2016); and /pjuβlak/ ‘black’ and /mjowcŋ ≈ meocŋ/ ‘gun’ (Tangiku et al., 2008). The first seems to probably be a mistranscription for /k^hiu/, based on the cognates adduced for this form in Halm (2017, pp. 17, 21). The second may be segmentable /pju=βlak/, in which case the latter element would have some attested cognates of the form /p^hlak-/ or reduplicated /p^hlak-φlak-/ with the meaning or translation equivalent ‘to glitter, shine’ (Fortescue, 2016). However, no cognate seems to be attested for the first syllable in any of our sources. Since sequences of /iu/⁵ are reasonably common, including in the position /#C_/ (Halm, 2017), and Tangiku et al. (2008) are sometimes imprecise in their transcriptions, it may be most parsimonious to assume that the transcription /p[j]juβlak/ is an error for /piuβlak/. Alternatively, it may be correctly transcribed, but (since it lacks identifiable cognates) represent a loan or other unique development in NgN, in which case it would not defy the absence of /#Cj/ sequences in Proto-Nivkh. The third such form, Tangiku et al. (2008)’s /mjowcŋ ≈ meocŋ/ ‘gun’ is evidently a recent loan, as can be inferred on the basis of its semantics and the phonologically irregular doublet, and confirmed by the identification of a plausible Tungusic source in Ul’ch (Fortescue, 2016, p. 104).

3.2. A possible diachronic explanation: pPN /#Cj/ > PN /#CØ/. The only modern datum which offers a possible hint to the diachronic origin of this distributional gap is an etymon for ‘to laugh at, to deride’ which is recorded in both Mattissen (2003, p. 28) and Savel’eva and Taksami (1970) with the allomorphs /e-ɣjeβ-ɣ ~ χeβ-ɣ ~ q^heβ-ɣ/. The first of these allomorphs includes the indefinite third-person undergoer prefix /e-/, which allows the syllabification /e-ɣ.jeβ-ɣ/, so that /j/ can occupy the entire onset of the second syllable, with /ɣ/ occupying the coda of the first syllable. In the second and third allomorphs, which lack a bound prefixial element, both /j/ and /ɣ/, if present, would have to belong to the onset of the verb’s only syllable, forming a cluster, and, as we can see, the /j/ is absent from these attested forms. This suggests the possibility that a sound change in the pre-Proto-Nivkh era deleted /j/ whenever it was the second element in an initial consonant cluster. Thus, in verbs like /e-ɣ.jeβ-ɣ ~ χeβ-ɣ ~ q^heβ-ɣ/, it would be preserved only in the allomorphs where a bound prefix allows resyllabification, while in nouns, such a glide is simply deleted altogether (at least in citation forms), leaving the attested gap in the phonotactic distribution of this phoneme. It should be noted that this hypothetical /j/-deletion, like the merger of oral obstruents discussed above, is sensitive to prefixation with what are today bound elements, but not the process of incorporation, preposition, or prefixation (whichever might be the most optimal term for the process) of a verb or noun by other lexical, free morphemes, indicating a specific object, goal, or undergoer of a verb, or possessor of a noun. This implies that at some point in pre-Proto-Nivkh, the phonological relationship

⁵ Although the possibility pointed out by an anonymous reviewer that /i/ and /j/ may simply not contrast prevocalically certainly merits to be taken seriously given the scarcity of prevocalic /j/, at least some of our sources do make such a distinction orthographically, and offer minimal pairs. For instance, Savel’eva & Taksami (1970) offer /ju/ (orthographically **ю**) ‘dew [poca]’ ≠ /iu/ (orthographically **уй**) ‘duck [yтка]’.

between the modern bound elements and the root to which the prefix was attached was different from, and probably more intimate than, that between the head root and the preposed/incorporated/prefixed free lexical morphemes indicating a specific object/goal/undergoer or possessor.

As tenuous as the evidence for such a pPN deletion of /j/ in this position is, it is even more difficult yet to determine whether this sound change might have extended to the other glide in the Nivkh phonemic inventory, /w/. Austerlitz (1990) observes "A vexatious problem arises in connection with initial clusters such as /t^hφ/ in /t^hφi-/ 'finish' (above) because this cluster /t^hφ/ is difficult to distinguish from the initial cluster /t^hw/. (In /t^hw/ the /w/ is devoiced by the preceding fortis /t^h/ and is thus rendered indistinguishable from /φ/ which is a bilabial [φ].)" [all notation regularized] (p. 29). Accordingly, he does not distinguish transcriptionally between /w/ and /φ ~ β/ in this position, and it seems that neither Tangiku et al. (2008) nor Savel'eva and Taksami (1965; 1970) do either, regardless of whether this reflects an actual phonological merger (as is quite plausible for at least Savel'eva and Taksami), or the systematic absence of /w/ in this position, or mere orthographic shortcoming. Fortescue (2016) does make a distinction transcriptionally, but close examination of his sources reveals that in this environment, none of his sources can be relied upon to support such a distinction.⁶ Hence it is possible that all glides (not just /j/) may have been deleted in initial-cluster-second position, or bilabial glides /w/ in this position may have merged with /φ ~ β/, or they may persist to the present day, suffering from systematically poor transcription; for that matter, we cannot rule out the possibility that /w/ in this position never existed within the reconstructable history of pre-Proto-Nivkh, since we lack any form analogous to /e-βjeβ-ɟ ~ χeβ-ɟ ~ q^heβ-ɟ/ showing us /w ~ ∅/ in a single paradigm. The evidence is simply too thin to support any hypothesis with respect to initial-cluster-second /*w/ at this stage.

4. Conclusions

We have seen evidence presented above for one reconstructable behavior of forms with oral obstruents in initial-cluster-second position (i.e., /*#C_/) in pre-Proto-Nivkh, and much slimmer evidence for another hypothesis concerning the palatal glide /j/ in the same position. As to the oral obstruents, we have seen that a contrast present in all attested modern Nivkh varieties between, on the one hand, alternating obstruents which vary predictably between fricative and plosive realization, and on the other, invariant fricatives which do not alternate, can be securely reconstructed for Proto-Nivkh. An argument has also been offered that this reflects an original, pPN phonemic contrast in this position, with the surface-level merger of both series into surface-level fricatives when the cluster is in the absolute initial position (i.e., complex-initial or unprefixated) being the result of a pPN sound change /*#CP/ > /*#CF/. As to the palatal glide /j/, we have seen some evidence that it may have undergone a simple deletion in the same environment and at a similar period, /*#Cj/ > /*#C∅/, although this is appreciably less well supported, and the possible inclusion or exclusion of the labial glide /w/ in this change is undeterminable at present.

These conclusions help to clarify our understanding of the history of Nivkh prior to the period of Proto-Nivkh proper, at the initial divergence of the attested Nivkh varieties from one another. It is to be hoped that other evidence adduced in future — either further documentary evidence of the varieties of Nivkh itself, or “external comparison” *sensu* Janhunen (2016) — will serve to either confirm or refute these conclusions, and aid in the illumination of the history of one of Asia’s most enigmatic language families.

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⁶ His reconstruction of /*^ht^hwax/ ‘estuary’ has a glide solely on the basis of a verbatim transcription of a form provided by Austerlitz, while /*^ht^hwærk/ ‘spruce’, his only other form with a /w/ in this position, actually has no supporting forms with a transcribed glide /w/, rather than fricative /β/, at all.

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Appendix: A summary of sound changes attested in Nivkhh varieties

The sound changes by which the attested Nivkhh varieties have developed from Proto-Nivkhh are primarily the following (the asterisk indicates reconstructed forms): (1) PN /*a, *i, *u/ > AN, WSN, NSN /ə/ before a glide, but not as the first element of a true diphthong (both are attested); (2) PN /*a/ > AN, WSN, NSN /ə/ when adjacent to or tautosyllabic with a velar consonant, except in forms where this would be prohibited by vowel harmony or by similar adjacency to a postvelar consonant; (3) PN /*i/ > AN, WSN /ə/ in morpheme-final position when directly preceded by an alveolar stop, /[t,d]_+;/ (4) PN /*w/ > AN, WSN, NSN, NgN /β/ in the syllable onset; (5) PN /*mx, *mχ/ > AN, WSN /ŋk/ and (6) PN /*ŋq/ > AN, WSN /ŋk/ morpheme-finally, and probably in all positions; (7) PN /*χ/ > AN, WSN /x/ in the coda of syllables headed by the vowel /o/; (8) PN /*n/ > AN, WSN /ŋ/ before a front vowel /i/ or /e/; (9) PN alveolar oral obstruents are phonetically palatalized but still contrast with the palatal oral obstruents in WSN before a front vowel /i/ or /e/, while the palatal and alveolar stops are completely merged (at least transcriptionally) in AN sources in this same environment; (10) PN voiced velar and postvelar fricatives which directly follow a vowel and precede a consonant may be elided with compensatory vowel length in AN, WSN, NSN, with the changed and unchanged forms generally appearing in free variation; (10) PN clusters of a palatal and an alveolar consonant generally assimilate to alveolar articulation for both segments, both historically and synchronically, in NgN, ESN, and SSN: both palatal oral obstruents and the palatal nasal seem to assimilate when followed by any alveolar consonant, while perhaps only the palatal oral obstruents (and not the nasal) assimilate when preceded by an alveolar; (11) PN /*x/ > SSN, NgN /χ/ |/[c^(h),t^(h)][a,o]/, and PN /*x/ > NgN /χ/ |/[c^(h)]/ regardless of vocalism (that is, PN velar /*x/ is merged into postvelar /χ/ when preceded by an alveolar or palatal stop and followed by the vowel /o/ or /a/ in SSN and NgN, as well as whenever it is preceded by a palatal stop in NgN); (12) and finally, SSN initial consonant clusters of a lenis consonant followed by a voiceless fricative assimilate to fortis manner for both members of the cluster. (13) A single series of SSN plosives, described variously as either lenis, voiced, or weakly voiced (here transcribed simply as voiced) corresponds to both unaspirated voiceless and voiced plosives in all other varieties, although the direction of the diachronic change giving rise to this situation (i.e., either a merger in SSN or a conditioned split in all other lects) is unclear.

