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CHUKCHI DENOMINAL VERB CONSTRUCTION: OVERVIEW AND RELATION TO NOUN INCORPORATION

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This paper is devoted to denominal verb constructions (DNV construction, in a sense of [Gerdts & Marlett 2008]) in Chukchi language. The goals of this paper are twofold. The first aim is purely descriptive: we will clarify the description of morphosyntax and semantics of six affixal verbs which participate in the formation of DNVs in Chukchi, and also suggest a new way of analyzing the polysemy of these and other Chukchi affixal predicates. The second aim of the paper is to compare DNVs in Chukchi to the closely related phenomenon of Noun Incorporation in the same language. We will highlight the similarities between the two constructions and examine different approaches ([Mithun 1997], [Johns 2007], [Gerdts & Marlett 2008], [Muro 2008] and [Barrie 2006]) to the relationship between these phenomena. We will show that it is natural to analyze Chukchi DNVs as a result of the grammaticalization of noun incorporation construction (see [Mithun 1997] for the similar analysis for Salish and Wakashan languages).

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1. Introduction

Chukchi language belongs to the Chukoto-Kamchatkan language family and is spoken by approximately 4500 people who live mainly on Chukotka peninsula in the North-Eastern Siberia [Census 2010]. In this section, we will provide the minimal basis of Chukchi morphosyntax.

1.1. Chukchi morphosyntax

Word boundaries in Chukchi are clearcut − phonological words are defined by rules of vowel harmony, which affect both roots and affixes (compare (1a) and (1b)).

(1) a. *tipʔejŋe-k*   b. *tepʔajŋa-ŋŋo-k*
        sing-INF   sing-INCH-INF
        'to sing'.   'to start singing'.

Chukchi derivational and inflectional morphology is mainly suffixal, although prefixation and even circumfixation occurs. Core arguments of the clause are (only in some tense-aspect forms) marked on the verb by pronominal indices (2, 3) and also by nominal case markers, which makes Chukchi both dependent and head marking. Case markeing in Chukchi follows ergative pattern: S = P ≠ A. S and P arguments are marked with nominative, while A is marked by instrumental case (2, 3).

(2) *ətłəɣ-e*   *ekk-in*   *wała-Ø*   *Ø-pəne-ni-n*[5]
     father-INS   son-POSS   knife-NOM.SG   2/3.S/A-sharpen-3SG.A.3.O-3SG.O
     'The father sharpened son's knife'.

(3) *ɣəmə-ka-jpə*   *qora-t*   *Ø-ɣəntek-wʔe-t*
     I-obl-ABL   reindeer-NOM.PL   2/3.S/A-run.away-TH-PL
     'The reindeers ran from me'.

1.2. DNVs in Chukchi

Despite noun incorporation constructions (4a) (see [Spencer 1995]), Chukchi exhibits another kind of construction which combines noun stems and morphemes with verb-like lexical meaning in a single wordform (5a).

(4) Noun Incorporation
a.   *ekke-ne*   *ətłəɣə-n*   *ʔəttʔə-n-qametwa-w-ne-n*
     son-INS   father-NOM.SG   dog-TR-eat-CS-3SG.A.3.O-3SG.O
b.   *ekke-ne*   *ʔəttʔə-qeɣ-ti*   *rə-qametwa-w-ne-na-t*   *ətłəɣ-in*

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son-INS   dog-DIM-NOM.PL   TR-eat-CS-3SG.A.3.O-3SG.O-PL   father-POSS

‘Son fed father’s dogs’.

(5) Denominal Verb Construction

a.   *uunʔə-ɣiłi-ɣʔ-i*
        berry-SEARCH-TH-2/3SG.S

b.   **uunʔə-t   ɣiłi-ni-ne-t*
        berry-NOM.PL SEARCH-3SG.A.3.O-3SG.O
        ‘He was picking berries’.

The difference between the two constructions is straightforward: while verb roots in noun incorporation (NI) constructions can occur independently (with appropriate inflectional morphemes) of incorporated nominals (4b), denominal verbal affixes can’t form predicates without a nominal host (5b).

Constructions like (5a) can be encountered in the literature by different labels: lexical affixes [Gerdts 2003], [Mithun 1997], denominal verb constructions [Gerdts 2008], affixal predication ([Wojdak 2005], [Muro 2008]). Here we will name the whole construction as Denominal Verb Construction (DNV) and the affixes with such verbal lexical meaning as affixal verbs. Nominal stem participating in these constructions will be referred to as ‘nominal host’ or ‘incorporated noun’.

The semantic relationship between nominal hosts and deverbal affixes is similar to the relationship between incorporated nouns and incorporating verbs. In both constructions, noun stem refers to theme or patient participant of the event described by deverbal affix or incorporating verb.

In the work [Kurebito 2001] author listed affixes which form DNVs in the Western dialect of Chukchi. The similar list of affixes is found in Amguema dialect of Chukchi. In our work we will consider six affixal verbs (6).

(6) Affixal verbs with glosses and approximate translations

  ♠ *-ɣiłi*   SEARCH   ‘search, go searching’
  ♠ *-ɣərki* DRAG.OUT   ‘drag out, cut, pull out’
  ♠ *-ŋətt*   CATCH   ‘hunt smthg, strike someone’
  ♠ *-u*   EAT   ‘eat smthg, get by hunting’
  ♠ *-nŋe*   GET   ‘get, buy, acquire’
  ♠ *te-...-ŋ* MAKE   ‘make, repair, prepare, do’

All these morphemes are, indeed, affixes (but not roots), according to the criterion of inability to occur without nominal host (5, 7-11).

(7)   (10)

a. *tə-kenti-nŋe-ɣʔe*
1SG.S/A-candy-GET-TH

b. **nŋe-ni-ne-t   kenti-t*
get-3SG.A.3.O-3SG.O-PL candy-NOM.PL
'She bought some candies'.

(8)

a. *umqə-ŋəttə-ɣʔ-i*
polar.bear-TH-2/3SG.S

b. **umqə-Ø   ŋəttə-ni-n*
polar.bear-NOM.SG   CATCH-3SG.A.3.O-3SG.O
'(Father) hunted polar bears'.

(9)

a. *ɣe-t-orwə-n-łin*
PF-MAKE-sledge-MAKE-PF.3SG

b. **ɣe-te-n-łin   orwoor*
PF-MAKE-MAKE-PF.SG sledge.NOM.SG
'He made a sledge'.

a. *ɣa-pʔoŋpʔoŋ-ɣərke-łen*
mushroom-DRAG.OUT-TH-2/3SG.S

b. **pʔoŋpʔoŋə-t   ɣe-ɣərki-łinet*
mushroom-NOM.PL   PF-DRAG.OUT-PF.3SG
'She gathered some mushrooms'.

(11)

a. *ɣe-tekisɣ-u-łine-t*
PF-raw.meat-EAT-PF.3SG

b. **ɣ-u-łin   tekisɣə-n*
PF-EAT-PF.3SG raw.meat-NOM.SG
'They eat raw meat'.

Most of these affixes attach only to nominal bases (7-11) and question roots (15). The exception is circumfix (*te-...-ŋ* 'MAKE'), which can attach to an adverbial intensifier[6]. In the following we will consider only DNV constructions, where this affix is attached to noun roots and question words (12).

(12) *te-sinin-ŋə-ɣʔ-i*   *ənn-əpat-ɣʔ-e*
MAKE-by.himself-MAKE-TH-2/3SG.S   fish-cook-TH-2/3SG.S
'He did it by himself, he cooked the fish'.

2. Semantics of affixal verbs and verbal roots

As pointed by [Mithun 1997], [Gerdts & Marlett 2008] and many others, affixes forming denominal verbs can have quite broad meaning, largely dependent on the semantics of their noun host. The same observation is true for Chukchi. For instance, suffix-*u* attached to nominal hosts denotes foodstuffs, liquids or narcotic substances, means the event of consumption (13). From the other hand, the same suffix attached to nominals denoting wild animals, describes the event of getting by hunting[7] (14).

(13) -*u* 'eat' with edible things

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[6] Note that verbs in Chukchi can incorporate not only nouns, but verbs, adverbs and question words, too (see [Skorik 1948] and [Spencer 1995]).
[7] In other Chukchi dialects, it can also mean taking something from someone [Skorik 1977].

a.	*tekisɣ-u-k*	meat-EAT-INF	'to eat raw meat'
c.	*nə-ʔeq-iməł-u-qin*	ST-bad-water-EAT-ST.3SG	'he drinks vodka'
d.	*n-taʔak-o-qen*	ST-tobacco-EAT-ST.3SG	'he smokes cigarettes'

(14) *-u* 'get by hunting' with wild animals

| a. | *umk-u-ɣʔ-e* | 'polar.bear-EAT-TH-2/3SG.S' | 'he has killed a wild bear' |
| b. | *ɣe-miłut-u-łin* | 'PF-rabbit-EAT-PF.3SG' | 'he has killed a rabbit' |

Considering such context-dependent semantics of DNV constructions, how can we separate the semantics of affixal verbs involved in these constructions from the semantics of noun hosts of these affixal verbs? In Chukchi, affixal verbs can be attached to question word roots, *rʔenut/req* 'what?' (15)[8]. Question words do not denote entities of some certain class, so they don't contribute their own meaning to the whole DNV construction semantics. Therefore, the only possible translations of DNVs based on question roots are the translations which reflect the affixal verb's own semantics. Construction-specific and 'lexicalized' translations of DNVs are not expected to arise when a consultant is asked to translate the DNVs derived from question roots.

(15) *ɣe-rʔenut-u-łin*   'PF-what-EAT-PF.3SG'   'what did he eat?/what did he get?'

In this section, we will describe the semantics of six Chukchi deverbal affixes (*-ɣiłi* 'SEARCH', *-ɣərki* 'DRAG.OUT', *-ŋətt* 'CATCH', *-u* 'EAT', *-nŋe* 'GET', *te-...-ŋ* 'MAKE'). We will mainly focus on two issues: the differences in meaning of quasi-synonymous DNVs and the relationship between affixal verb and 'synonymous' autonomous verb.

2.1. SEARCH (*-ɣiłi*)

DNVs with *-ɣiłi* affix are most often translated as the process of gathering or searching something (16-18).

(16) *uunʔə-ɣiłi-ɣʔ-i*
berry-SEARCH-TH-2/3SG.S
'He was picking berries'.

(17) *pʔoŋ-ɣełe-rkən*
mushroom-SEARCH-IPFV
'He is gathering mushrooms'.

(18) *əłqep-ɣiłi-ɣʔ-i*
hobnail-SEARCH-TH-2/3SG.S
'He was searching (lost) hobnails'.

[Kurebito 2001] notes for Western dialect of Chukchi, that suffix can have variant *-ɣisi*. Nevertheless, at least for Amguema dialect it is not true. *ɣisi*, in fact, is a verb which has similar meanings and can incorporate Theme/Patient of the situation (19), while *-ɣiłi* can't be used independently (5).

(19)

a.   *uunʔə-ɣisi-ɣʔ-i*
        berry-gather-TH-2/3SG.S

b.   *uunʔə-t*   *ɣisi-ni-ne-t*
        berry-NOM.PL   gather-3SG.A.3.O-3SG.O-PL
        'He gathered some berries'.

Moreover, these two morphemes have different semantics. The most appropriate translation of verb *ɣisi* is 'to gather' rather than 'to search/to look for', as we see by the difference between examples (18) and (20).

(20)   *əłqep-ɣiłi-ɣʔ-i*
        hobnail-gather-TH-2/3SG.S
        'He gathered some hobnails'.

The two morphemes also differ in aspectual semantics: while *-ɣiłi* denotes a process, *ɣisi* denotes an achievement (compare 21 and 22). We can see it by the fact that in aorist form DNV construction can have imperfective interpretation, while the construction with autonomous verb - only a perfective one.

(21)   *uunʔə-ɣiłi-ɣʔ-i,*   *uunʔə-ɣisi-ɣʔ-i*
        berry-SEARCH-TH-2/3SG.S   berry-gather-TH-2/3SG.S
        'He was picking berries and gathered them'.

(22)   *#uunʔə-ɣisi-ɣʔ-i,*   *uunʔə-ɣiłi-ɣʔ-i*
        berry-gather-TH-2/3SG.S   berry-SEARCH-TH-2/3SG.S
        '#He gathered berries and picked them'.

Suffix *-ɣiłi* can also attach to animates: either animals (23) or humans (24). In these contexts, the 'searching' component in this affixal verb's semantics is active.

(23)   *qaa-ɣełe-ɣʔ-e*
        reindeer-SEARCH-TH-2/3SG.S
        'He searched lost reindeers'.

(24)   *nenene-ɣiłi-ɣʔ-i*
        child-SEARCH-TH-2/3SG.S
        'He was looking for the missed children'.

When DNV is formed from a certain noun class (it seems to us that this class consists mainly of artefacts), the component of movement can appear in the meaning (25).

(25) *kenti-ɣiłi-ɣʔ-i*
      candy-SEARCH-TH-2/3SG.S
      'He wandered looking for candies'.

The same range of translations arises when *-ɣiłi* attaches to the question root. The range of meanings observed suggests that the core meaning is that of searching something to gather it.

As for an 'analytic equivalent', it seems that no freestanding verb in Chukchi covers the range of semantic domains expressed by DNVs with *-ɣiłi*. The verb *(ł)qərir*, which is the closest equivalent, seems to express meanings more similar to 'look for', but not 'search' (compare (20) and (26)).

(26) qərir-ni-ne-t   əłqepə-t
      look.for-3SG.A.3.O-3SG.O-PL   hobnail-NOM.PL
      'He was looking for (*lost) hobnails'.

2.2. DRAG.OUT (*-ɣərki*)

This affixal verb is listed in [Kurebito 2001] with the meanings 'search, gather, catch'. The same range of translations can be found also in the Amguema dialect (27-29).

(27) *pʔoŋpʔoŋ-ɣərke-ɣʔ-e*
      mushroom-DRAG.OUT-TH-2/3SG.S
      'He found some mushrooms'.

(28) *wʔej-ɣərki-ɣʔ-i*
      grass-DRAG.OUT-TH-2/3SG.S
      'He gathered some grass'.

(29) *ɣa-qaa-ɣərke-łena-t*
      PF-reindeer-DRAG.OUT-PF.3SG-PL
      'They caught a reindeer'.

However, not all these translations reflect the meaning of this affixal verb. The affixal verb doesn't attach to the nominal hosts which denote things that can't be cut, uprooted or dragged out (30), which means that meanings like 'search' or 'find' are the side effects of Russian translations.

(30) **əłqep-ɣərki-ɣʔ-i*
      hobnail-DRAG.OUT-TH-2/3SG.S
      Possible meaning: 'He found some hobnails'.

The 'catch' meaning seems also to be idiomatic. With this meaning, *-ɣərki* is used only in the stem *qaa-ɣərke* 'reindeer-DRAG.OUT' (compare 30 and 31).

(31) *ɣe-ʔattʔə-ɣərki-łine-t*
      PF-dog-DRAG.OUT-PF.3SG-PL
      Possible meaning: 'He caught a dog'.

As our consultants explain, this DNV can be used only to describe the specific type of catching the reindeer, when the part of the herd was driven into the corral and the herders are 'dragging out' particular reindeers with a lasso.

The attachment of *-ɣərki* to the question root signals that this affixal verb indeed means only 'to gather by uprooting/dragging out' (32).

(32) *rʔenut-ɣərki-ɣʔ-i?*
      what-DRAG.OUT-TH-2/3SG.S
      'What did he gather?/What did he uproot?/*What did he catch?/*What did he find?'

According to these data, this affixal verb is used productively only with inanimate nouns and means gathering in a particular manner – by dragging out, cutting or uprooting, so the range of its semantics is quite narrow.

As in case of *-ɣiłi*, our consultants insist on the fact that no autonomous root can expresses the semantics of *-ɣərki*.

2.3. CATCH (*-ŋətt*)

The meaning of this affixal verb is quite concrete. Suffix *-ŋətt* describes hunting activities, regardless of the exact manner of hunting (33-35).

(33) *umqə-ŋəttə-ɣʔ-i*
      polar.bear-CATCH-TH-2/3SG.S
      '(Father) hunted a polar bear'.

(34) *ɣ-ałwəło-qora-ŋəttə-łen*
      PF-wild-reindeer-CATCH-PF.3SG
      'Father hunted a wild deer'.

(35) *ɣałɣa-ŋəttə-ɣʔ-e*
      bird-CATCH-TH-2/3SG.S
      'Father hunted a bird'.

This affixal verb doesn't denote the process of catching something without killing it. It can't in general be attached the noun denoting fish (36) or domestic animals (compare (34) and (37)).

This marker describes only the process of human hunting – it's incompatible with non-human Agents (38).

(36)   *ənnə-ŋəttə-ɣʔ-e
        fish-CATCH-TH-2/3SG.S
        Possible meaning: 'He caught a fish'.

(37)   *ɣa-qaa-ŋəttə-ɬen
        PF-reindeer-CATCH-PF.3SG
        Possible meaning: 'He caught a reindeer'.

(38)   *reqoka-ɬɣə-n   ɣe-miɬutə-ŋəttə-ɬin
        fox-SING-NOM.SG   PF-rabbit-CATCH-PF.3SG
        'Fox hunted a rabbit'.

Sometimes, when -ŋətt is attached to certain noun stems denoting domestic animals or human beings, the semantics of the whole DNV seems to be non-compositional and associated with concepts of striking or attacking (39-40).

(39)   ʔəttʔə-ŋəttə-ɣʔ-i
        dog-CATCH-TH-2/3SG.S
        'He hit a dog'.

(40)   ɣ-ʔeqeɬʔə-ŋəttə-ɬine-t
        PF-enemy-CATCH-PF.3SG-PL
        'They attacked the enemies'.

However, the meaning of such DNVs is non-compositional, and, probably, lexicalized. DNVs with question root hosts can't be interpreted as denoting 'hitting' (41).

(41)   rʔenut-ŋəttə-ɣʔ-e?
        what-CATCH-TH-2/3SG.S
        'What did he catch by hunting?/#What did he hit?'.

This affixal verb seems to have no verbal root equivalent with same semantics. However, one of the possible meanings of the affixal verb -u ('EAT') also refers to the concept of hunting. We will discuss the difference between two verbs below in Section 2.4.

2.4. EAT (-u)

As we have already mentioned above, this affixal verb has quite extensive semantics: it can denote both *consumption* and *getting on a hunt*. The former meaning arises when the affixal verb is attached to nouns denoting ingestible things like food, drinks and tobacco (42). The latter meaning emerges when the noun it is attached to denotes a wild animal (43).

(42) *-u* 'eat' with edible things

a.	*tekisɣ-u-k*	meat-EAT-INF	'to eat raw meat'
c.	*n-ʔeq-iməł-u-qin*	ST-bad-water-EAT-ST.3SG	'he drinks vodka'
d.	*n-taʔak-o-qen*	ST-tobacco-EAT-ST.3SG	'he smokes cigarettes'

(43) *-u* 'get by hunting' with wild animals

| a. | *umq-u-ɣʔ-e* | 'polar.bear-EAT-TH-2/3SG.S' | 'he has killed a wild bear' |
| b. | *ɣe-miłut-u-łin* | 'PF-rabbit-EAT-PF.3SG' | 'he has killed a rabbit' |

The affix *-u* strictly implies a hunting manner. For instance, it's not used to talk about an animal if it's not caught in the hunt but bought in a store (44).

(44) *#ətłəɣə-n*   *ɣe-miłut-u-łin*   *wełə-tko-ra-jpə*
father-NOM.SG   PF-rabbit-EAT-PF.3SG   negotiate-ITER-house-ABL
Intended meaning: '#Father got a rabbit in the shop'.

With nouns that can mean both *a creature* (animal) and its *meat* both interpretations are possible (45).

(45) Both meanings with some nouns
ɣe-nn-u-łin
PF-fish-EAT-PF.3SG
'He ate fish'/'He caught a fish'.

This affix can also convey both meanings when it is used with an interrogative root. Notably, for some our consultants the main interpretation would be '*What did he eat?*' but not '*What did he get on a hunt?*'

(46) *rʔenut-u-ɣʔ-e*?
what-EAT-TH-2/3SG.S
'What did he eat?/What did he get by hunting?'.

The meaning of this affixal verb 'to get on a hunt' differs from the semantics of similar affixal verb *-ŋətt* 'CATCH' in two main aspects. Firstly, *-u* can be used with non-human Agents while *-ŋətt* cannot (47). Secondly, -u denotes *achievement* whereas *-ŋətt* is a *process*.

(47) *reqoka-łɣə-n*   *ɣe-miłut-u-łin*
fox-SING-NOM.SG   PF-rabbit-EAT-PF.3SG
'Fox caught a rabbit/ate a rabbit'.

Another meaning of *-u* 'to ingest, to consume' is rather close to the meaning of the seemingly cognate verbal root *ru* 'to eat'. Nonetheless, the semantics of *ru* is narrower as it can be used with neither drinks nor drugs (48).

(48) *#ru-ni-n*   *taʔak*
      eat-3SG.A.3.O-3SG.O   tobacco.NOM.SG
      Intended meaning: 'He smoked tobacco'.

2.5. GET (*-nŋe*)

This affixal verb has the semantics of different types of receiving or getting (49), (50). It can be also used describing situations with an 'inanimate beneficiary' (51).

(49) *nə-kenti-nŋe-qin*   *nanana-ɣtə*
      ST-candy-GET-ST.3SG   baby-DAT
      (Grandmother) buys candies for the babies.

(50) *ɣəm-nin*   *rojərə-n*   *mane-nŋa-ɣʔ-e*
      I-POSS   family-NOM   money-GET-TH-2/3SG.S
      My family has acquired some money!

(51) *nute~nut*   *uunʔə-nŋe-rʔu-ɣʔ-i*
      tundra~NOM.SG   berry-GET-DISTR-TH-2/3SG.S
      Berries have grown in the tundra!

Nevertheless, we suppose that meanings as in (51) can be generated only by the specific context. While DNVs derived from question roots can be interpreted as describing situations like (49, 50), the 'growing' interpretation is inaccessible (52).

(52) *rʔenutə-nŋe-ɣʔ-e?*
      what-GET-TH-2/3SG.S
      'What did he get?/What did he buy?/#What have grown?'.

Furthermore, this affixal verb cannot be attached to nouns denoting objects got on a hunt (53) - this meaning is conveyed by the affixal verbs *-u* and *-ŋətt* (see Section 2.4 above).

(53) *ətłəɣə-n*   *ɣe-miłutə-nŋe-łin*
      father-NOM.SG   PF-rabbit-GET-PF.3SG
      'Father bought a rabbit/#Father got a rabbit by hunting'.

The Chukchi language has separate verbs carrying the semantics of receiving, yet the meaning of such a verb ('buying'), as in other cases, would be rather narrow compared to the affixal verb (54).

(54) *tə-rkur-ɣʔe-n*   *kʔełi-Ø*
      1SG.S/A-buy-TH-3SG.O   hat-NOM.SG
      'I bought a hat/#I got a hat'.

2.6. MAKE (*te-...-ŋ*)

The affixal verb *te-...-ŋ* is the only circumfix in the list of Chukchi affixal verbs. It has a wide range of meanings related to making, repairing (55), cooking (56) and storing (57).

(55) *ətłəɣ-e* *ɣa-t-orwə-n-łen* *ekək*
      father-INS PF-MAKE-sledge-MAKE-PF.3SG son.NOM.SG
      'Father made the sledge for his son/Father repaired the sledge for his son'.

(56) *te-riłqə-n-ni-n* *epeqej-Ø*
      MAKE-porridge-MAKE-3SG.A.3.O-3SG.O grandmother-NOM.SG
      'She cooked the porridge for the grandmother'.

(57) *ɣe-te-nnə-n-łen*
      PF-MAKE-fish-MAKE-PF.3SG
      'He stored some fish as supplies'.

However, not all of these meanings can be associated with DNV construction with interrogative root (58). This fact suggests that at least 'cooking' and 'storing' meanings arise due to the specific context.

(58) *ɣe-te-reqə-n-łen?*
      PF-MAKE-what-MAKE-PF.3SG
      'What did he make?/What did he repair?/#What did he store?/#What did he cooke?'.

The meaning 'to make' in Chukchi can additionally be conveyed by the verbal root *tejk* which semantics is again narrower than it is of the corresponding affixal verb (59).

(59) *ətłəɣ-e* *ɣe-tejkə-łin* *orwoor*
      father-INS PF-make-PF.3SG sledge.NOM.SG
      'Father made the sledge/$^?$Father repaired the sledge'.

3. Morphosyntax of DNVs compared to NI

In this section, we will compare basic morphosyntactic properties of DNV and Noun Incorporation constructions in Chukchi.

3.1. Morphosyntax of DNVs

In general, nominal hosts of affixal verbs are roots stripped from all inflectional morphology. However, nominal hosts can sometimes be morphologically complex due to compounding and derivational affixes. Nominal hosts can be N-N compounds (60, 61), can be modified by incorporated adjectival (62) and verbal roots (63).

(60) *nə-qewja-memłə-saj-o-tore*
      ST-cold-water-tea-EAT-NP.2SG

'You drink tea with cold water'.

(61)   *ɣe-mejŋə-wił-kupre-nŋe-łin*
        PF-big-price-net-GET-PF.3SG
        'He has bought a really expensive net'.

(62)   *ɣ-ałwəło-qora-ŋəttə-łen*
        PF-wild-reindeer-CATCH-PF.3SG
        'Father hunted a wild deer'.

(63)   ɣa-ta-semat-kojŋə-n-łen
        PF-MAKE-break-cup-MAKE-PF.3SG
        'He repaired a broken cup'.

Semantically, these nominal stems seem to express meanings equivalent to the meanings expressed by NPs and DPs in other languages of the world. However, the complexity of stems which affixal verbs can incorporate are restricted. Numerals, demonstratives and quantifiers can neither be incorporated (64a, 65a) nor left stranded (64b, 65b).

(64) INs can't be modified by numerals

a.   **ɣe-ŋiren-kupre-nŋe-łin*
        PF-two-net-GET-PF.3SG

b.   **ŋireq   ɣe-kupre-nŋe-łin*
        two.NOM.SG   PF-net-GET-PF.3SG
        Intended meaning: 'He bought two nets'.

(65) INs can't be modified by demonstratives

a.   **ŋutin-umqə-ŋəttə-ɣʔ-i*
        this.INC-polar.bear-TH-2/3SG.S

b.   **ŋotqen   umqə-ŋəttə-ni-n*
        this   polar.bear-3SG.A.3.O-3SG.O
        Intended meaning: 'He hunted this polar bear'.

Remarkably, the constraints on complexity of affixal verb's hosts are the same as the constraints on incorporation in the NP domain in Chukchi (see 3.2). The general rule is that what can be compounded in absolutive NP can also be a complex host for the affixal verb (for the rules of incorporation in Chukchi NPs – see [Dunn 1999], [Muravyova et al. 2001 ms], [Vinyar & Gerasimenko *forthcoming*], [Kozlov manuscript]).

Another morphosyntactic feature of DNVs in Chukchi is the so-called Possessor Raising/Stranding construction (see [Mithun 1984], [Baker 1988], [Baker et al. 2005]). While generally DNVs are intransitive unergative verbs, raising construction can derive the transitive

verbs by providing an object slot for the possessor of the 'incorporated' noun (66). Apart from Possessors, Beneficiaries can also be 'raised' (67).

(66)   *ətłəɣ-e*   *ɣa-t-orwə-n-łen*   *ekək*
        father-INS   PF-MAKE-sledge-MAKE-PF.3SG   son.NOM.SG
        'Father repaired his son's sledge'.

(67) 'Benefactive raising'

a.   *te-riłqə-ŋ-ni-n*   *epeqej-Ø*
        MAKE-porridge-MAKE-3SG.A.3.O-3SG.O   grandmother-NOM.SG

b.   *te-riłqə-ŋ-ɣʔ-e*   *epeqej-ne*
        MAKE-porridge-MAKE-TH-2/3SG.S   grandmother-AN.OBL
        'She cooked the porridge for the grandmother'.

As for referential properties of affixal verb's nominal hosts, this topic requires a separate study. However, elicited data shows that nominal hosts are able to establish discourse referents (68, 69).

(68)   [ok]*ətłəɣə-n*   *ɣ-umq-u-łin,*   *ren-ni-n*
        father-NOM.SG   PF-polar.bear-EAT-PF.3SG   bring-3SG.A.3.O-3SG.O
        nəmnəm-etə
        camp-DAT
        'Father got a polar bear by hunting and brought him to the camp.'

(69)   *pʔon-ɣełe-k,*   *ɣese-ni-ne-t*
        mushroom-SEARCH-LOC   gather-3SG.A.3.O-3SG.O-PL
        'She went to pick mushrooms and gathered some'.

3.2. Is DNV formation distinct from NI?

Although the detailed description of morphosyntactic features of Noun Incorporation construction falls beyond the purposes of the present paper, we will note some basic properties of NI construction in Chukchi[9] which will be relevant for the further discussion. According to the typology developed in [Mithun 1984], Noun Incorporation in Chukchi belongs to III Type: Raising is allowed (70), incorporated verbs can be referential (71), although incorporation is used for discourse backgrounding (see [Kozinsky et al. 1988]). However, no 'modifier stranding' is allowed (72).

(70) Possessor raising

a.   *ekke-ne*   *ətłəɣə-n*   *ʔəttʔə-n-qametwa-w-ne-n*
        son-INS   father-NOM.SG   dog-TR-eat-CS-3SG.A.3.O-3SG.O

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[9] For the detailed description – see [Skorik 1948], [Nedjalkov 1976], [Polinsky 1990], [Spencer 1995], [Dunn 1999], [Muravyova et al. 2001]

b.   *ekke-ne*   *ʔattʔə-qeɣ-ti*   *rəqametwaw-ne-na-t*   *ətɬəɣ-in*
    son-INS   dog-DIM-NOM.PL   TR-eat-CS-3SG.A.3.O-3SG.O-PL   father-POSS
    'Son fed father's dogs'.

(71)   *ŋinqej-Ø*   *ʔattʔə-maɬe-ɣʔ-e*   *ənkʔam*   *tawtaw-an-ŋŋo-ɣʔ-e*
    boy-NOM   dog-stroke-TH-2/3SG.S   and   bark-VB-INCH-2/3SG.S
    'The boy stroked (the/a) dog and (ˀhe/it) started to bark'.

(72)   **n-ewiɬqə-qin waɬa-mna-ɣʔ-e*
    ST-dull-ST.3SG knife-sharpen-TH-2/3SG.S
    'He sharpened (a/the) dull knife'.

As we have shown in section 3.1, DNV constructions shows the same basic properties (Raising, absence of stranding, possible referentiality of nominal elements).

DNV constructions and Noun Incorporation also show identical constraints on the complexity of the nominal element involved in them. Nominals containing incorporated nominal (73), adjectival (74), or verbal (75) roots can be incorporated, while nouns modified by numerals (76) or demonstratives (77) cannot.

(73)   *saj-koka-kaɣərɣajpə-n-təmne-k-wʔ-e*
    tea-pot-cover-TR-loose-CS-TH-2/3SG.S
    'He lost (a/the) cover of a tea pot'.

(74)   *aweɬqə-waɬa-mna-ɣʔ-e*
    dull-knife-sharpen-TH-2/3SG.S
    'He sharpened (a/the) dull knife'.

(75)   *tə-weɬə-tko-ŋeɬɣə-təɬpʔe-ɣʔa*
    1SG.S/A-negotiate-ITER-rope-tear-TH
    'The rope which I bought is torn'.

(76)   **ŋoten-waɬə-mna-ɣʔ-e*
    this.INC-knife-sharpen-TH-2/3SG.S
    Exp. meaning: 'He sharpened this knife'.

(77)   **ŋəron-ʔattʔə-n-qametwa-k-wʔ-e*
    three-dog-TR-eat-CS-TH-2/3SG.S
    Exp. meaning: 'He fed three dogs'.

Basic morphosyntactic relationship between 'lexical affixes' described by [Kurebito 2001] for Western Chukchi and synonymous verb roots is the inability of the latter to incorporate nouns. Although, as we have shown in section 2, the relationship between affixal verbs and verb roots is that of 'hyponymy' rather than of synonymy, the same observation holds for Amguema affixal verbs, too. The verb can't incorporate its direct object if the verbal root's semantics falls into the

range of semantics expressed by one of the affixal verbs (compare (17) and (78), (45) and (79), (9) and (80), (49) and (81)).

(78)   *nə-pʔoŋə-ɬqərer-qen
ST-mushroom-look.for-ST.3SG
Exp. meaning: 'He was looking for mushrooms'.

(79)   *ənnə-nu-ɣʔ-e
fish-eat-TH-2/3SG.S
Exp. meaning: 'He has eaten fish'.

(80)   *ɣ-orwə-tajkə-ɬen
PF-sledge-make-PF.3SG
Exp. meaning: 'He has made a sledge'.

(81)   *tə-kʔeɬi-rkur-ɣʔe
1SG.S/A-hat-buy-TH
'I bought a cap'.

4. Chukchi data and approaches to relationship between DNVs and NI

Chukchi data exhibits both similarities and differences between affixal verbs and autonomous verbs incorporating their objects. Here we highlight most important of them (82, 83).

(82) **Semantic asymmetry**: Some affixal verbs don't have autonomous verb counterparts. If there is an autonomous verb synonymous to affixal verb, then affixal verb will have much more diffused semantics.

(83) **Syntactic symmetry**: Affixal verbs behave morphosyntactically as autonomous verbs incorporating their direct object.

It is worth mentioning that the property (82) is not unique for Chukchi. The same semantic diffusionness was observed by [Mithun 1997] and [Muro 2008] for Salish and Wakashan, [Johns 2007] for Inuktitut and for other North- and Mesoamerican languages by [Gerdts & Marlett 2008]. As for syntactic similarity between NI and DNV (83), this doesn't seem to be a shared property among languages: [Gerdts & Marlett 2008] claim that in the languages of the Americas DNV construction and NI construction are morphosyntactically different.

It is tempting to develop such an analysis of DNV constructions in Chukchi that can explain (82, 83) in a uniform way. In this section, we will briefly suggest how contemporary approaches to denominal verbs can explain Chukhi data.

4.1. Denominal verbs as 'light verb incorporation'

Inuktitut (Escimo languages) has a large set of affixal verbs with quasi-lexical meaning. As well as affixal verbs in Chukchi, all Inuktitut affixal verbs have relatively abstract meaning (as compared to autonomous verbs in this language). [Johns 2007, 2009] analyzes affixal verbs in Inutkitut as light verbs incorporating nominal roots, therefore the process of DNV formation in Inuktitut is differnet from noun incorporation. This analysis can explain a relatively abstract meaning of affixal verbs, because, according to [Marantz 1997], light verbs don't involve any lexical content. According to analysis in [Johns 2007], semantics of the whole set of affixal verbs in Inuktitut can be derived from primitives like *have*, *be* etc. and operators like NEGATION, QUANTITY and EVENTIVENESS.

Analysis in [Johns 2007] predicts that none of the affixal verbs will contain any manner semantic content. However, as we observe difference between Chukchi affixal verbs which describe 'getting', the difference is reflected in the manner component (see Sections 2.4-2.5). Moreover, if we regard DNVs in Chukchi as a separate construction involving light verbs, we become unable to capture the *syntactic symmetry* (83) with NI construction.

4.2. Denominal verbs as 'suppletive incorporation'

In his dissertation (see [Barrie 2006]) Michael Barrie briefly describes 'bound incorporating verb roots' in Northern Iroquinian. In general, transitive verbs in Northern Iroquinian incorporate their verbal complements without any kind of suppletion. However, some verbs don't incorporate their direct objects. The similar meaning can be described by the 'incorporation' of the nominal root into by a bound verbal root, which don't occur as a root of a free-standing verb. As we have shown in Section 3.2, Chukchi picture is quite similar: when there is a transitive verb with a meaning similar to the meaning of affixal verb this free-stanging can't incorporate its direct object – the corresponding DNV construction is used instead. However, Chukchi DNVs are hard to classify as suppletion to Noun Incorporation. As we have shown, if there is a free-standing verb with the meaning similar to affixal verb, the semantic relationship between the two verbs is always hyponimy, but not synonimy.

4.3. Affixal verbs as 'semi-grammaticalized' NI constructions

As we observe affixal verbs sematics in Chukchi, we see that differnet affixal verbs show different degree of semantic bleaching. While some verbs express quite concrete lexical meaning (-*ɣərki* 'DRAG.OUT', -*ɣiłi* 'SEARCH',), at łeast one verb expresses nearly grammatical meaning (*te-...-ŋ* 'MAKE') and some affixal verbs show an intermediate degree of semantic diffusionness (-*nŋe* 'GET',

-*u* 'EAT/GET.BY.HUNTING'). Considering strong morphosyntactic similarity between NI and DNV formation and the fact that some affixal verbs are cognate to free-standing verb roots, it's tempting to regard DNV constructions in Chukchi as the 'descendants' of NI construction and different affixal verbs as the former verb roots, which are grammaticalized to different degree in the modern language.

This view on affixal verbs in Chukchi is supported by typological evidence. The same path (from roots to lexical affixes) was proposed by [Mithun 1997] for Salish and Wakashan languages. Moreover, many affixal verbs in Wakashan [Mithun 1997], Eskimo [Johns 2007] and other North American languages [Gerdts & Marlett 2008] express similar semantics of different types of getting/possession, consumption and creation. Some Chukchi affixal verbs express the same range of semantics. According to [Mithun 1984], verbs of getting/possession and creation are typologically the most typical verbs to form compounds with their direct objects: if a language has some kind of noun incorporation, the NI construction in this language will probably involve the verbs of this sematic type. Prototypically, direct objects of getting/possession, consumption and creation verbs are inanimate and rarely express salient discourse participants. Therefore, it's easy to imagine how DNV construction in Chukchi has evolved from NI construction. Considering that NI in Chukchi is Type III (see [Mithun 1984]), the most natural way to express the situations of getting/possession, consumption and creation in Chukchi was the NI construction. Eventually, the roots of the verbs in these constructions have become phonologically eroded and therefore bound. For some verbs, the semantic bleaching has also happened.

References

Baker, MC 1988, Incorporation: A theory of grammatical function changing, Chicago: University of Chicago Press, 1988.

Baker, MC 1996, The Polysynthesis Parameter, Oxford: Oxford University Press, 1996.

Baker, MC, Aranovich, R & Golluscio, LA 2005, „Two types of syntactic noun incorporation: Noun incorporation in Mapudungun and its typological implications‟, Language, vol. 81, pp. 138–176.

Barrie, M 2006, Dynamic Antisymmetry and the Syntax of Noun Incorporation. Ph.D. diss., University of British Columbia.

Census, 2010, Vserossijskaya perepis' naseleniya 2010. Tom 4. Natsional'nyj sostav i vladenie yazykami, grazhdanstvo. p. 20. Vladenie yazykami naseleniem korennyh malochislennyh narodov Rossijskoj Federatsii. [All-Russia population census 2010. Volume 4. Nationalities and language command, citizenship. p. 20. Command of the indigenous minority languages of the Russian Federation.] <http://www.gks.ru/free_doc/new_site/perepis2010/croc/Documents/БVol4/pub-04-20.pdf> (viewed 30 September 2017).

Dunn, MJ 1999, A Grammar of Chukchi, Ph.D. Diss, Canberra: ANU

Gerdts, DB 2003, „The morphosyntax of Halkomelem lexical suffixes‟, International Journal of American Linguistics, vol. 69, pp. 345-356.

Gerdts, DB & Marlett, S 2008, „Introduction: The form and function of denominal verb constructions‟, IJAL, vol. 74, pp. 489–510.

Johns, A 2007, „Restricting noun incorporation: Root movement‟, Natural Language and Linguistic Theory, vol. 25, pp. 535–76.

Kurebito, T 2001, „On lexical affixes in Chukchi‟, in O Miyaoka & F Endo (eds.), Languages of the Pacific Rim, Faculty of Informatics, Osaka Gakuin University, vol. 6, pp. 65-84.

Kozinsky, IS, Nedjalkov, VP & Polinskaja, MS 1988, „Antipassive in Chukchee: Oblique object, object incorporation, zero object‟, in M Shibatani (ed.), Passive and voice, Amsterdam, J. Benjamins, pp. 651–706.

Kozlov, AA *manuscript*, Incorporation in Chukchi noun phrase and how to avoid it.

Marantz, A 1997, „No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon‟, Penn Working Papers in Linguistics, vol. 4, pp.201-25.

Mithun, M 1997, „Lexical affixes and morphological typology‟, J Bybee, J Haiman & S Thompson (eds.), Essays on Language Function and Language Type: Dedicated to Talmy Givón, John Benjamins, Philadelphia, pp. 357–71.

Mithun, M 1984, The evolution of noun incorporation, Language, vol. 60, no. 4, pp. 847-894.

Muravyova, IA 2004, Tipologia incorporatsii (Typology of incorporation), Post-doc dissertation, Moscow, 2004 (in Russian).

Muravyova, IA, Daniel, MA & Zhdanova TJu 2001, Chukchi language and folklore in texts collected by V.G.Bogoraz, Part 1, Part 2. Moscow, 2001 (Unpublished).

Muro, A 2008, „Lexical affixation in Salish and Wakashan and its relevance for a theory of polysynthesis", Padua Working Papers in Linguistics, vol. 2, pp. 1-28.

Polinskaja, M & Nedjalkov, VP 1987, „Contrasting the absolutive in Chukchee", Lingua, vol. 71, pp. 239–269.

Nedjalkov, VP 1976, „Diathesen und Satzstruktur im Tschuktschischen", in R Lotsch & R Ruzicka (eds.), Satzstruktur und Genus Verbi, Akademie Verlag, Berlin, pp. 181-211.

Skorik, P 1948, Otsherk po sintaksisu chukotskogo jazyka: incorporatsia (A sketch of Chukchi syntax: incorporation). Uchpedgiz, Leningrad, (in Russian).

Skorik, P 1961, Grammatica chukotskogo jazyka (The grammar of Chukchi), vol. 1, Izdatel'stvo Akademii Nauk (Russian Academy of Science publishing house), Moscow, (in Russian).

Skorik, P 1977, Grammatica chukotskogo jazyka (The grammar of Chukchi), vol. 2, Izdatel'stvo Akademii Nauk (Russian Academy of Science publishing house), Moscow (in Russian).

Spencer, A 1995, „Incorporation in Chukchi", Language, vol. 71, pp. 439–489.

Vinyar, A & Gerasimenko, E submitted (2017), „Nesintaksicheskie ogranicheniya na incorporatsiyu v chukotskom jazike" [Non-syntactic Restrictions on Incorporation in Chukchi], Acta Linguistica Petropolitana. Transactions of the Institute for Linguistic Studies, (In Russian).

Wojdak, R 2005, The linearization of affixes: evidence from Nuu-chah-nulth, Ph.D. diss., University of British Columbia.

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