Inflection versus Derivation and the Template for Athabaskan Verb Morphology[1]

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0. Introduction

My purpose in this paper is two-fold:

- to review some traditional and current approaches to the distinction between word derivation and inflection in the Athabaskan languages, and its relation to the template model of the Athabaskan verb form
- to present some proposals toward an adequate account of the inflection vs. derivation distinction, and its relation to the structure of the Athabaskan verb form

For those readers who are not specialized in Athabaskan linguistics it may not be immediately obvious why the two issues mentioned in the title of this paper – namely, the inflection vs. derivation distinction and the issue of verbal template – would be related. The reasons for connecting these two issues amount to the following. First, the Athabaskan verb is morphologically very complex, and there are many affixal (specifically, prefixal) positions in

[1] This paper was originally presented at the Workshop on the Morphology-Syntax Interface in Athapaskan Languages held in Albuquerque, July 3, 1995. I was requested by the workshop organizers to present a talk specifically on this topic. In this publication I only minimally update the original text of the paper, slightly changing the introduction and adding some examples from recent field work. Between 1995 and now a number of important publications pertaining to the topic of this paper appeared, notably Rice 2000. Attempting to fully take them into account would mean completely rewriting this paper which would be a totally novel project. What makes me think that this paper is still worth publishing is that it has been prolifically cited in a number of publications, in particular Rice 1998, 2000. The final editing stage of the work on this paper was supported by grant #05-04-04240 from the Russian Foundation for the Humanities. I would like to express my gratitude to Suzanne Gessner whose careful editing helped to improve this article significantly. Of course, the remaining faults are my own.

which multiple derivational and inflectional morphemes occur. Second, these positions are arranged in a certain order that is frequently described in terms of a template, or position-filler, model. Third, there is an Athabaskanist tradition to understand certain positions of this template as dedicated to either inflectional or derivational affixes. Fourth, a notorious puzzle of the Athabaskan verb is that, contrary to robust cross-linguistic tendencies, inflectional affixes are generally closer to the root than derivational affixes, that is, counter to the well-known relevance (Bybee 1985), or scope (Rice 2000), principle. In addition to that, among the inflectional morphemes the order of proximity to the root is nearly mirror-image to what is found in the majority of languages. As has been demonstrated by A.E. Kibrik (1980) and Bybee (1985: 34-35), among others, the most common ordering of grammatical categories is: ROOT – (A) aspect – (B) tense – (C) mood – (D) person. Compare examples from the thoroughly scope-obedient (suffixing) Central Alaskan Yup'ik (Eskimo-Aleut family) and from the entirely unpredictable (prefixing) Navajo:

(1) Central Alaskan Yup'ik (Eskimo-Aleut)

ROOT	DERIV.	INFLECTION				
iter-	ngnaqe-	rraar-	tur-	llru-	u-	q
enter-	try.to-	first-	repeatedly-	Past-	Indicative-	3Sg
			ASPECT	TENSE	MOOD	PERSON

'he always wanted to enter first' (Mithun 1999: 407)

(2) Navajo

DERIVATION		INFLECTION				ROOT
ni-	hi-	di-	ghi-	s-	l-	tsił
Terminative-	Seriative-	Inceptive-	Progr-	1Sg.Nom -	TI↑↓-	move.sitting
DERIV.ASPECT	LEX.ASPECT	INFL.ASPECT	MODE	PERSON	VALENCY	ROOT

[nihideestsił] 'I will move on the buttocks to a point' (Young and Morgan 1987: 628, 443)

In Central Alaskan Yup'ik, the hierarchical proximity of derivation to the root, compared to the

peripherality of inflection, is obvious, and the boundary between derivation and inflection is clear-cut. In Navajo the ordering is odd and morphemes such as inceptive and transitivity indicator (TI) do not lend themselves easily to the derivation vs. inflection dichotomy (see below).

Three major sections of this paper (2, 3, and 4) address the inflection vs. derivation distinction in Athabaskan, the template models for the Athabaskan verb, and the relation between the two problems, respectively. Each of these three sections consists of two parts: in the first one I briefly review earlier research (previous reviews of the matters under investigation include Cook and Rice 1989, Kari 1989, 1992, Rice 1993), and in the second part I present my own proposals. Before I proceed with these three central sections, I will briefly outline the role of the inflection vs. derivation distinction in linguistic theory (section 1).

Along with the two major purposes mentioned above, I have in mind two additional, more general purposes that I will be able to fulfil only to a very limited extent.

- to propose some improvements in Athabaskan grammatical terminology, largely anachronistic and impenetrable for other linguists
- to propose some ways of how our representation of the Athabaskan morphosyntactic structure can be simplified, thus making these fascinating languages look a bit less bizarre.

1. Inflection and derivation in theoretical and typological linguistics

1.1. Current research

Relative peripherality of the inflection vs. derivation distinction in Anglophone linguistics[2]

[2] In the monumental handbook Haspelmath et al. eds. 2001 containing 1856 pages in English, German, and French the inflection vs. derivation opposition is never mentioned in English-language articles and is very cursorily touched upon in other articles. To see how low-ranked the inflection vs. derivation problem is in modern Anglophone linguistics one can do a search of these terms in the Linguist List web resource.

(compared e.g. to Russian linguistics) must be at least in part due to the scantiness of inflectional morphology in English. The situation is quite opposite in Athabaskan languages where virtually everything that can be represented morphologically is so represented. This fact makes the traditional inflection vs. derivation distinction of paramount importance for Athabaskan studies.

In contrast to the traditional clear-cut dichotomy between inflection and derivation, some authors have recently advocated the continuous nature of this distinction. Bybee (1985) proposed the following continuum of morphological expression: lexical – derivational – inflectional. She emphasized several criteria that can contrast inflection and derivation, including particularly:

(a) obligatoriness of expression
(b) strength of semantic change to the word
(c) range of applicability.

Inflectional morphology is expressed obligatorily, does not cause much semantic change, and has maximal applicability; derivational morphology, mutatis mutandis. According to Bybee, all such criteria do not contrast inflection and derivation absolutely discretely.

Payne (1985) suggests that the distinction between inflection and derivation is by no means discrete, and lists a cluster of eight parameters that characterize the two phenomena. She further applies the prototype approach in order to explain why there are no strict boundaries between the two "categories" - inflection and derivation. However, it is not clear whether inflection and derivation can be considered conceptual categories in any sense (note that the prototype approach was proposed by Rosch, Lakoff, and others, for conceptual categories).

Plank (1991) presents a list of 28 "elementary distinctions" that help to contrast some English inflectional and derivational morphemes. Plank argues for a continuous gradation between inflection and derivation: for example, some morphemes are characterized as derivational on almost all elementary distinctions, and others on much fewer.

Mel'čuk (1993:262ff.) defines inflectional categories on the basis of two necessary properties: obligatoriness of expression in every word to which the given category applies, and regularity of expression; he also mentions additional typical properties of the inflectional meanings (= grammemes): abstractness of meaning and broad combinatorial potential. Mel'čuk further notes that regularity of expression is a relative (gradual) rather than absolute property, and therefore a category may be inflectional to a certain degree. The grammeme ultimately serves in Mel'čuk's framework as a basis for the definition of the lexeme. The derivational meaning (= derivateme) is defined negatively with respect to the grammeme (p. 287ff.): non-lexical meaning which is not inflectional. Mel'čuk lists seven distinctions that contrast grammemes and derivatemes (p. 293ff.), though none of these distinctions can be considered completely necessary. As other authors, Mel'čuk acknowledges the absence of a rigid boundary between inflection and derivation, and identifies one important intermediate class of meanings (p. 302-303): quasi-grammemes which resemble the grammemes in being regular, but on the other hand are not obligatory. This notion is very useful for Athabaskan, as will be elaborated below. Finally, Mel'čuk draws a distinction between the strongly derived (productive derivation) and the weakly derived (non-productive derivation) lexemes.

Anderson (1982) argues for the traditional view that inflection and derivation are discretely distinct, and proposes relevance to the syntax as the criterion that can always distinguish the two phenomena. However, this latter criterion can hardly be defendable, because some of the most typically inflectional categories, such as tense, are not syntax-related (outside of certain versions of the generative grammar that declare, in an ad hoc manner, each morphological category a syntactic one).

Some more recent discussions of the inflection – derivation interface appear in Stump 1998, Haspelmath 2002: Ch. 4.

Generally, most theorists and typologists agree that the inflection vs. derivation distinction is not

discrete. However, we have to inquire into the reasons for such non-discreteness. One major cause of non-discrete oppositions in language is diachronic change: if phenomenon A cross-linguistically tends to develop into phenomenon B, then a discrete distinction between A and B can never be expected. In modern studies of the diachronic rise of grammar (grammaticalization), though, the issue of mutual historic relationship between derivational and inflectional morphemes has not been a matter of particular interest. The possibility that inflectional morphology can originate from derivational morphology was mentioned in Kuryłowicz' s classical definition of grammaticalization: "Grammaticalization consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status, e.g. from a derivative formant to an inflectional one" (Kuryłowicz 1965:52). Nevertheless, most studies of specific grammaticalization processes demonstrate the development from roots or words to either inflectional or derivational affixes, rather than evidence for the development of derivational morphemes into inflectional ones[3] (see e.g. Traugott and Heine (eds.) 1991; Bybee, Perkins, and Pagliuca 1992; Ramat and Hopper 1998; Wischer and Diewald 2002). So it appears unlikely that diachronic change could be the main reason for a grey zone between inflection and derivation.

In principle, there can be several types of difficulties in distinguishing related linguistic phenomena, at least the following:

- we encounter a specimen that seems to represent both phenomena at the same time; such an example would be the English verb suffix -ing that can function both as a derivational and as an inflectional morpheme; see the discussion of Athabaskan transitivity indicators below
- we encounter a specimen that seems to represent neither of the phenomena; such an example would be the English possessive -'s that is definitely not derivational, but also is not inflectional (not being obligatory); see the discussion of quasi-inflection below
- we encounter a specimen that is unclear on which of the phenomena it represents; this is the

[3] Norde 2002: 53-55 is a rather rare example of a discussion of how inflection develops (degrammaticalizes) into derivation.

worst situation signalling that our approach is seriously flawed.

The difference between these three types of difficulties should be kept in mind when dealing with the border area between inflection and derivation.

1.2. *Proposals for the role of inflection and derivation in linguistic theory*

Since attempts to distinguish between inflection and derivation encounter many difficulties (both universally and in particular languages), a heretical question arises: is it really necessary to make this distinction? It is therefore helpful to identify aspects in which this distinction is useful:

1) the practical, descriptive aspect: when describing a language we have to discriminate between the information listed in the dictionary and that remaining for the grammar; derivation would be accounted for in the dictionary, and inflection in the grammar (or, alternatively, inflection and productive derivation can be described in the grammar)

2) the theoretical (cognitive) aspect: what we think is stored as one lexeme (with its forms being, at least potentially, constructed on the basis of grammatical rules by speakers in real usage), and what we think is definitely stored and remembered as separate lexemes.

In the first aspect we are obliged to stick to the binary inflection vs. derivation opposition: every form should be accounted for somewhere in our description. In the second aspect we can allow the possibility that the dichotomy is a continuous one. In the literature, some evidence was presented, first, for the storage of inflectional forms in speakers' long-term memory (Stemberger and MacWhinney 1988), and second, for the ability of speakers to produce new derived lexemes on-line (see e.g. Zemskaja 1992).

Below I do not discriminate consistently between the two aspects, but their difference should be kept in mind.

Furthermore, there are aspects in which a distinction between inflection and derivation can be ignored. For example, Bybee, Perkins, and Pagliuca (1992) base their typological study on the concept of the grammatical morpheme ("gram"). A gram is defined so that both inflectional and productive derivational morphemes are included. Thus, for the study of diachronic development of morphology the "gram vs. non-gram" opposition (rather than "inflection vs. derivation") proves to be convenient.

I believe that inflection and derivation should be defined in the following way (not implying that these definitions are necessarily operational):

Inflectional morphemes are those that serve to produce forms of one and the same lexeme. The set of all forms of a lexeme constitutes this lexeme's paradigm.

Derivational morphemes are those that serve to form new lexemes. Addition of a derivational morpheme gives rise to a new paradigm.

These definitions can be supplemented with operational criteria. I propose to use the criteria suggested by Mel'čuk and Bybee, and to identify the third class of morphemes, namely quasi-inflectional:

Inflectional morphemes are obligatory (= obligatorily expressed in every word to which the given category applies) and regular (in terms of meaning, form, and distribution).
Quasi-inflectional morphemes are not obligatory and are regular.
Derivational morphemes are not obligatory and don’t have to behave regularly.

Thus quasi-inflectional morphemes, or quasi-grammemes, resemble grammemes in being regular but are not obligatory, like derivational morphemes.

In this paper the question of the inflection vs. derivation distinction is examined in connection with the problem of a template for Athabaskan morphology. This is due to the long-standing tradition of singling out special positions for derivational and "thematic" affixes in the Athabaskan verb form template. Indeed, the two problems prove to be related in Athabaskan.

2. Inflection versus derivation in Athabaskan languages

2.1. Earlier research

A model of word form structure implied by the traditional view of the inflection vs. derivation distinction held in general linguistics is as follows:

(3) root + derivational affixes + inflectional affixes

stem/lexeme

word form

Also, in general usage “stem” is essentially synonymous to “base”. (On word form structure terminology see e.g. Trask 1993; Haspelmath 2002: Ch. 2.)

In the Athabaskan tradition, "root" was usually called **stem**, "stem" was usually called **base**, and there was also an entity intermediate between these two, called **theme**[4]:

(3') stem + some derivational (thematic) prefixes + some other derivational (per se) prefixes + inflectional prefixes

theme

base

verb form

[4] Note that due to the generally prefixal character of the Athabaskan verb, the left-to-right order in charts (3') and (3") is the opposite to what actually appears in the verb forms.

This model can be extracted from the work of Sapir and Hoijer 1967, Hoijer 1974, Young and Morgan 1987. What is a lexeme in other languages correlates to both theme and base in Athabaskan. Kari (1979) has also proposed an additional level of derivation, intermediate between theme and base, called subtheme.

After the studies of Leer 1979, Kari 1979, Hardy 1979 on stem-final morphology, the notion of **root** also became current, designating the stem minus the synchronically not fully segmentable mode/aspect suffix. Therefore, the following modified model can now be considered the received one (the discontinuous line on the left means that the mode/aspect suffix can be both inflectional and derivational):

(3") mode/aspect suffix + root + some derivational (thematic) prefixes + some other derivational (per se) prefixes + inflectional prefixes

theme

base

verb form

What is meant by "thematic prefixes" and "theme" in Athabaskan studies? A close examination demonstrates that this is a very vague question. A strict definition is provided by Rice (1989:425): "The verb theme consists of the classifier, the verb stem, and any prefixes that must always occur with the classifier and stem". However, this strict approach is not always observed in lexicographic practice. For example, in the full listing of Navajo themes Young and Morgan (1987:318-356) do not include a single theme with any prefix besides the transitivity indicator [classifier]. In Young and Morgan 1987 the verbal lexical entries are bases, and themes are not used. Themes are more prominent in Young, Morgan, and Midgette 1992: "The Theme or Themes, representing the next derivational level after the stem, are described briefly in terms of Thematic Prefix (if any), classifier and, inter parentheses, transitivity (tt), intransitivity (ti), or reflexive (tr)" (p. xi). However, Rice's definition of thematic prefixes is not observed here either.

For example, the root GIZ (pp. 206-209) is represented by 13 themes, only two of which have a "thematic prefix" tá-. At least in the case of Navajo, verb themes are nothing more than the convention of having two levels of derivation. For instance, instead of having 50 bases derived from the given stem, this set of bases can be represented as 10 themes, each giving rise to 5 bases. Much the same approach is used in Golla n.d.: several themes are usually listed under each root, and each root normally allows several strings of thematic prefixes.

Kari (1979, 1992) uses the theme terminology very consistently, though it is not clear whether he understands the thematic prefixes in the same strict way as Rice does. Golla (1970) and Kari (1979) have proposed a theory of "theme categories" - large classes of verb themes having a certain semantic and formal unity.

The question of the inflection vs. derivation distinction has also received significant attention in Athabaskan studies. Kari (1979, 1992) proposed a model of Ahtna verb form generation consisting of nine consecutive stages, grouped into four general divisions: lexicon (verb theme formation), derivation (base formation), inflection (including only mode and pronominal insertion), and "postinflectional lexicon" (primarily the addition of nominalizing enclitics to the ready finite verb forms). In this model each morpheme or morphological category is classified as belonging to one of these four divisions. Motivations for particular decisions (e.g. why the causative is considered thematic, and why the distributive is considered derivational) are not always obvious.

Rice (1993) considers the inflection vs. derivation distinction in the general framework of generative grammar, and arrives at the conclusion that the conjunct morphemes are mostly inflectional, while the disjunct morphemes are not.

2.2. *Proposals for the inflection vs. derivation distinction in Athabaskan*

A question arises: is the notion of "verb theme", so persistent in Athabaskan descriptions, a mere

lexicographic convenience, or is it supposed to represent some kind of "linguistic reality"? I do not have a definitive answer to this question, but I am more inclined to believe that the former is likely to be true.

Let us look at this issue from the viewpoint of "linguistic reality". A verb theme by definition includes two segmental immediate constituents: a root and an affix string. Is not it possible to attribute the features ascribed to themes (such as their qualification as members of theme categories) to either roots or prefix strings? I assume this possibility should be explored before we are convinced that the verb theme is not a mere artifact of our description. Even if the notion of "theme" is abandoned, the huge and important work on "theme categories" is not going to perish if all relevant information can be included into generalizations on either roots or affix strings.

Paradoxically, in spite of the quite regular usage of the theme terminology by Young and Morgan, their 1987 and 1992 dictionaries have demonstrated that an Athabaskan language can be described without any essential use of the notion of "theme".

One class of morphemes that are usually characterized as "thematic" are transitivity indicators [classifiers]; this is perhaps partly due to the hypnotic force of the term "classifier". In fact, the transitivity indicators (TIs) are of course largely inflectional, especially as concerns the changes ø- > d- and ɬ- > l- accompanying the regular transitivity decrease processes (such as passive, reflexive, etc., see Kibrik 1996). The change ø- > ɬ-, accompanying the transitivity increase processes (productive, such as the causative, see Kibrik 1993, or unproductive, such as the anticausative, see Kibrik 1996), is a case of derivational usage of the TI. (Note that cross-linguistically transitivity-increasing processes tend to pertain to derivation, and transitivity-decreasing processes to inflection.) In Young, Morgan, and Midgette 1992 all causatives are listed as separate themes which effaces any significant difference between the derivational and "thematic" prefixes. I believe that a significant majority of non-zero TIs in particular verb forms can be shown to be a result of derivational or inflectional processes. In the cases where the TI

cannot be explained in terms of inflection or productive derivation, frequently it still can alternate in a meaningful way with another TI (see Kibrik 1993, 1996, 2001a, and also below). A small residue of cases where the TIs are really fossilized and lexicalized cannot be the reason for accepting the notion of theme and constructing the whole system of Athabaskan morphology around it.

The following types of TI occurrences can be differentiated:

- inflectional, fully predictable (passive, reflexive, iterative)
- derivational, quite predictable (causative) or poorly predictable (anticausative)
- lexical, normally zero; if not zero then fossilized, fully unpredictable.

Instead of distinguishing between thematic and derivational prefixes, I would suggest a distinction between non-productive and productive derivation. The former definitely should be accounted for in the dictionary, while the latter can be described in the grammar. Analysis of the data in Young and Morgan 1987, Young, Morgan, and Midgette 1992 suggests that the productivity of many recurrent derivational models could help to significantly reduce the number of lexical items in a Navajo dictionary.

Along with derivation and inflection, I propose to distinguish the third phenomenon in Athabaskan: quasi-inflection, following Mel'čuk's (1993) notion of quasi-grammeme, and Golla's (1970:115) notion of "secondary inflection". In Athabaskan languages there is a whole array of isolated morphemes that resemble inflectionals in being fully regular, but unlike inflectionals cannot be considered obligatory since they do not belong to any category, and can be contrasted only to absence. These morphemes include the distributive, the iterative, the nominalizing enclitics, etc. Considering these morphemes to be derivational, as is sometimes proposed, seems very unnatural: they definitely do not create new lexemes, but are freely added to any ready inflected verb form. In Sapir and Hoijer (1967) most of these morphemes were treated as paradigmatic (that is, inflectional). My proposals re the set and properties of Athabaskan quasi-inflectional morphemes and positions are detailed in section 4.2 below.

The following terminological series can be proposed for Athabaskan.

root
root plus a particular mode/aspect suffix = stem
root plus all possible mode/aspect suffixes = stem set
root plus derivational affixes = lexeme/base

To put it in another way, a stem is a mode/aspect variation of a root. A root is an abstraction of all stem variants. Stems can be derived from a root via morphophonemic processes consisting of either suffix addition or alternation. Terms like "theme" and possibly also "base" which are meaningless in the general linguistic context should better be abandoned.

A five-way distinction of morphological phenomena can be proposed:

(4)

root inventory	lexicon	
unproductive derivation		
productive derivation		
inflection		grammar
quasi-inflection		

The process of verb form generation would then look as follows:

(5)

root
↓ non-productive derivation
↓ productive derivation
lexeme (= root plus all derivational affixes)
↓ inflection
↓ quasi-inflection
verb form

3. Template models of the Athabaskan verb form

3.1. Earlier approaches

It is quite common in linguistics to describe the structure of word forms in terms of a linear sequence of positions (slots), so that to each of these positions a class of morphemes correspond that can fill in the slots in actual word forms. This model has been especially useful for: (a) agglutinative languages where classes of morphemes can be delineated most easily; (b) polysynthetic languages where an average word contains many morphemes and thus cannot be readily perceived by the investigator's eye. (Note that agglutination and polysynthesis are logically independent properties, and thus are not mutually exclusive.)

This kind of model has been traditional in Athabaskan studies, starting from Goddard and later in the works of Li, Hoijer, Young and Morgan, and others. This approach seemed so natural that it was frequently taken for granted. However, since it applies to the Athabaskan evidence not without certain difficulties, its appropriateness was questioned by several researchers (e.g. Krauss 1969, Rice and Saxon 1994). After that, it was recognized that this model is not the only one conceivable, and the model even received a name. Kari (1989) calls it the position-class analysis, and Rice (1992) calls it the template.

Much morphophonological research was conducted in connection with the template structure, resulting in the distinction of several types of boundaries between positions (see e.g. Kari 1989); this kind of research is outside of the scope of this paper.

With respect to morphology, at least the following problems associated with the "classical" template model are salient:

(a) The problem of interchanging positions: affixes X and Y belonging to two adjacent positions and required by the template to appear in the order XY, in fact appear in the order YX. For

examples see below.

(b) The problem of floating morphemes: a morpheme that is semantically and formally identical may appear in more than one position (true, this kind of identity is usually recognized only historically, and synchronically these morphemes are treated as homophonous elements belonging to different positions)

(c) The problem of affix recurrence in one and the same position: more than one affix belonging to the given position can occur at a time (e.g. in the traditional mode-conjugation position, or to the left of it in the "adverbial-thematic" position)

(d) The problem of the lack of one-to-one correspondence between grammatical functions and template positions: one and the same type of function can be rendered in entirely different positions (either simultaneously, or in complementary distribution). For examples see section 3.2 below.

(e) The problem of Athabaskan languages being an exceptional example of consistently prefixing languages among the verb-final languages. Bybee, Pagliuca, and Perkins 1990 have convincingly demonstrated that verb-final languages are typically suffixing, and in their language sample Slave turned out to be the only genuine exception to this generalization (1990:5-11).

Some further problems will be mentioned below, in section 4.

After the template-type analysis was questioned due to some of these difficulties, Kari (1989) attempted to rescue the template model: "Athapaskan languages have definable constraints on the linear order of affixes that can be captured in a rigorous position class analysis <...> The relative rigidity in the prefix morphology in Athapaskan languages validates a distributional, "slot and filler" characterization of the Athapaskan verb complex, so long as explicit

methodology is applied" (p. 427, 434-435). In order to justify the template model, Kari proposed the following methods:

- the template for a particular language (specifically, Ahtna) is supplemented with a set of metathesis rules reordering certain affixes "on the surface"; this addresses the above-mentioned problem (a)
- a much more detailed and fragmented set of positions is proposed; their number is as high as 31 for Ahtna; this helps to overcome problem (c).

3.2. *Proposals for the template structure*

In chart (6) below I present what can be called a Standard Average Athabaskan template; it is based on the actual templates of Navajo (Young, Morgan, and Midgette 1992), Hupa (Golla 1970), Ahtna (Kari 1989, 1992), Sarcee (Cook 1984), and Slave (Rice 1989). The template includes those positions that occur at least in two languages out of the listed five. I need this theoretical template for further reference to particular morphological positions.

(6)

18	proclitic
17	(b) Oblique [postpositional object] + (a) preverb [postposition]
16	various derivational
15	reflexive Accusative [direct object] pronoun (Navajo, Hupa)
14	iterative
13	distributive
12	incorporate (Slave, Sarcee, Ahtna)
11	number (Hupa, Slave)
10	Accusative [direct object] pronoun
9	3 person Nominative [deictic subject] pronoun

8	transitivity decrease (Navajo, Hupa)
7	qualifier
6	inceptive
5	qualifier
4	conjugation
3	mode
2	1/2 person Nominative [subject] pronoun
1	transitivity indicator [classifier]
0	root
+1	mode/aspect suffix
+2	enclitic

In the chart, I have proposed some non-traditional terms that I prefer as they fit general linguistic usage; their traditional and idiosyncratic Athabaskanist correlates are indicated in brackets. Vertical bars on the right hand part of the chart mark the pairs of positions that might be interchanged in some languages (or in some instances, see below).

The problem of interchanging positions, persistent in different parts of the verb form in Athabaskan languages, was mentioned above. There are some instances of interchange that can be treated as a result of a superficial metathesis. Consider the transitivity decrease marker di-. It is found in reflexives and semipassives [agentive passives] in Navajo and Hupa, and can hardly be associated with any of the traditional positions; we need to postulate a special position for it (position 8 in the above chart). However, in Navajo this morpheme sometimes occurs to the left of 3rd person Nominative [deictic subject] pronouns:

(7)	a.	táá-	bí-	ʔ-		di-	s-	d-	giz
		Pref-	3.Acc-10	Indef.Nom-9		TD-8	Conj-	TI↓-	wring
		`He was washed'							

	b.	bi-	di-	ʔ-	ní-	l-	ʔį
		3.Acc-10	TD-8	Indef.Nom-9	Pref-	TI↑↓-	see
		`He is looked at'					
(8)	a.	ʔá-	zh-	dí-	l-	zhéé́h	
		Refl.Acc-15	4.Nom-9	TD-8	TI↑↓-	mow	
		`He (4th person) shaves himself'					
	b.	ná-	ʔá-	di-	zh-	ni-	l-	ts'in
		Pref-	Refl.Acc-15	TD-8	4.Nom-9	Pref-	TI↑↓-	punch
		`He (4th person) punches himself'				(Young and Morgan 1987: 70-71)		

In these kinds of examples (7b), (8b) the metathesis treatment, I believe, is quite appropriate, as long as we are able to indicate the precise (morpho)phonological conditions when the rule applies[5]. But there are still more complex instances like the variable order of the 3rd person Nominative and the Accusative pronouns in Hupa (Golla 1970) and Ahtna (Kari 1989:439). Consider a Hupa example:

(9)	a.	ch'i-	whi-	wi-	ł-	te:ł
		3An.Nom-9	1Sg.Acc-8	Pref-	TI↑-	An.move
		`He carries me along'				

[5] A tentative formulation of the rule could be as follows: $Ci_9 + di_8 \rightarrow di_8 + Ci_9$ / __ {di, ni, …}, that is: the order of a position 9 prefix and the position 8 di- prefix is inverted in front of the prefixes of the shape di-, ni- and perhaps several others.

b.	ni-	ch'i-	wi-	ł-	te:ł
	2Sg.Acc-8	3An.Nom-9	Pref-	TI↑-	An.move
	`He carries you along'		(Golla 1970:103-104)		

Accounting for such essentially morphological phenomena in terms of metathesis would necessarily involve reference to individual morphemes, which would contradict the phonological status of what is known as metathesis. I believe we must recognize the fact that the order of positions may be either full or partial.

Another problem with the template analysis was mentioned above: simultaneous appearance of more than affix in one and the same position. In chart (6), only 12 out of 21 positions definitely do not allow more than one morpheme at a time, namely: +1, 0, 2/9, 3, 4, 6, 8, 10, 11, 13, 15. Kari (1989) attempted to eliminate this difficulty and construct a more detailed template that would obligatorily list those affixes that can cooccur in one verb form in distinct positions (see p. 435). In a number of cases this attempt is very successful and helps to simplify the whole picture. However, I believe that in general the recurrent placement of affixes in one and the same position is an inherent feature of the Athabaskan verb structure. One example is the Navajo derivational/ thematic zone of Kari 1989:444 which comprises two positions, 8B and 8A, probably reflecting Young, Morgan, and Midgette's (1992) positions Ib (1/3) and Ib (2), respectively (and my positions 16 to 18 in chart (6)). Each of these positions can hold more than one morpheme at a time. Young, Morgan, and Midgette (1992: 860-861) list, for example, the following standard strings of derivational prefixes:

(10) a. ta-Ib(2) + na-Ib(2) + ʔa-IV

b. P-ghá-Ib(1) + P-í-Ib(1) + zh-VIa

The (10a) type of example could probably be accounted for by postulating one or two additional

positions in Kari's zone 8. But the (10b) type of examples, abundant in Navajo (see Kibrik 1990; cf. Craig and Hale 1988), makes one either allow two prefixes in one position (pronoun + preverb), or to allow the cyclic repetition of the position pairs: 9 - 8 - 9 - 8 (in Kari's 1989 numeration).

Another example of more than one morpheme at a time in what is generally considered one position is transitivity indicator [classifier] doubling in Navajo (11) and especially Hupa (12):

(11)	yiyoo-	ł-	l-	woł	`he is causing it to run along'	
		TI↑	TI↑↓		(Young, Morgan, and Midgette 1992:885)	
(12)	di-	ł-	di-	je:w	`be sticky'	(Golla n.d., entry JE:W)
		TI↑	TI↓			

Thus the "one position – no more than one affix" principle can hardly be rescued, and a more flexible model is in order. I believe that this principle is not an inherent part of the template aproach, and we should rather sacrifice this principle in order to save the whole approach.

A template accounting for the two mentioned problems, designed for a particular Athabaskan language, should therefore allow, first, the possibility of more than affix in a given position at a time, and, second, a partial ordering of adjacent positions (and the corresponding affix classes):

(13) {a,b...x} < {c,d...y} = {e,f...z} ...,

where a,b, etc. are members of affix classes, members of each class may cooccur in one and the same position within one verb form, "<" means `is placed to the left of', and "=" means `is placed immediately next to'. Then two affix classes connected by the "<" (full order) relation would correspond to two strictly consecutive positions; two affix classes connected by "=" (partial order) relation would correspond to two systematically interchanging positions, such as Hupa

3rd person Nominative and Accusative pronouns. Separate rules would be needed to account for the relative placement of affixes belonging to one class within one position, and for the relative placement of affixes belonging to systematically interchanging positions.

The third problem of the Athabaskan template mentioned in section 3.1 above is the lack of one-to one correspondence between grammatical categories and morphological positions. The category "Nominative pronoun" is marked in positions 2 and 9. The category "Accusative pronoun" is marked is positions 10 and 15. The category "mode" is marked in positions 3 and +1, and other closely related meanings in positions 6 and 14. The meaning "transitivity decrease" is marked in positions 1 and 8. Still more complex are various derivational [adverbial, thematic] meanings that are frequently described as discontinuous morphemes placed in positions 5, 7, 16, 17a. This property of Athabaskan is probably what Sapir and Whorf referred to as "interrupted synthesis" (see section 4.1 below; this expression also refers to the linear mix-up of derivational and inflectional categories). At this point I am not sure this phenomenon can be explained otherwise than by some complex and peculiar diachronic scenario that led to its rise.

Finally, two more problems associated with the Athabaskan template were mentioned above: the problem of floating morphemes[6] and the problem of the typologically very unusual coocurrence of consistent prefixation and verb-final word order[7]. Again, the only ways of commenting on these really puzzling problems I am aware of are speculatively historical. They probably do not ruin the synchronic template model. These typologically unusual features of Athabaskan must be the result of some very peculiar development that happened at the Proto-Athabaskan stage or earlier. Sapir (1929) expressed the belief that the Athabaskan languages represent the most un-American structural type of all American Indian languages, and he was looking for Asian isolating relatives that could be imagined to give rise to the Athabaskan type. Indeed, the type of polysynthesis found in Athabaskan only superficially resembles the polysynthesis of many other native American linguistic groups. The solution of the enigma of the Athabaskan verb structure

[6] Such as the Navajo prefix dzi- 'away into space' that appears in positions Ib and VIa in the numbering of Young and Morgan (1987: 47).

is still in the future.

To sum up the discussion of the template-type model of the Athabaskan verb form, I agree with Kari (1989) that this model is in principle an adequate tool of analysis, and although there are some problems associated with it they are not fatal for the model and can be eventually surmounted. There is some evidence demonstrating that the template is not only a convenient tool of representation, but also a necessary element of a reasonable description of Athabaskan structure. By this evidence I mean, in the first place, the "bound pronouns" within the verb form. No matter how we conceive of these types of morphemes – as referential pronouns (Jelinek 1985) or as agreement markers (Saxon 1986) – probably noone would question the claim that they serve to encode the arguments' semantic roles. Athabaskan languages are among the most consistently head-marking (Nichols 1986) languages. Even when full NPs are present in the clause, the way they occur does not help to establish the referents' roles. Using languages with nominal cases (like Latin) and languages with grammatical word order (like English) as an analogy, one can interpret Athabaskan structure roughly in the following manner. (I use here the pronominal interpretation of the person markers, but the table below can be reinterprented in terms of the agreement approach.)

(14)

Athabaskan	**Latin analogy**	**English analogy**
Position 2/9	Nominative case	Pre-VP syntactic position
Position 10	Accusative case	Post-verbal syntactic position
Preverbs	Oblique cases and prepositions	Prepositions
Pronouns in position 2/9 (Navajo sh-, ji-...)	(Pro)nominal lexemes	(Pro)nominal lexemes
Pronouns in position 10 (Navajo shi-, hwi-, …)	(Pro)nominal lexemes	(Pro)nominal lexemes
Pronouns in position 17b	(Pro)nominal lexemes	(Pro)nominal lexemes

[7] Other typological peculiarities and anomalies of Athabaskan are discussed in Kibrik 2002, 2003.

Thus positions 2/9, 10, and 17b are the direct correspondents of what is the formal marking of case in languages like Latin (i.e. case desinences)[8]. The very fact of placing a particular bound pronoun referring to an argument into a specific position establishes the argument's semantic role. Apparently the positions can be defined only relative to each other. It is unlikely that we can define, say, position 2 or 10 other than by indicating that it follows before position so-and-so, and after position so-and-so. (For a more detailed argumentation for this understanding of the pronominal positions see Kibrik in press.) If we define positions in this manner, this is the template. The template is thus analogous to grammatical word order in other languages. I believe that the template is real in Athabaskan because it helps to establish the predicate-argument relations.

4. Connection between the inflection vs. derivation distinction and the template for the Athabaskan verb form

4.1. Earlier research

I am not aware of any explicit theory of template morphology that would predict that the template positions must be attributed any specific function as concerns the inflection vs. derivation distinction. However, in Athabaskan linguistics such an attribution is usually assumed. As will be demonstrated below, this assumption is correct, and a kind of correlation between the inflectional and derivational functions, on the one hand, and particular morphological positions, on the other, is actually observed in the Athabaskan template. The fact that not just individual morphemes but template positions can be characterized in terms of the derivation vs. inflection distinction is an empirical fact, significant for linguistic theory.

Hoijer, Young and Morgan, and others typically label certain positions "derivational". In Sapir

[8] In Kibrik 2001b I demonstrated that in addition to nominative and accusative positions, it makes sense to also discern the dative position in the Navajo verb.

and Hoijer (1967:85) only two positions (corresponding to what are positions 18-16 and 6-5 in chart (6) above) were considered derivational, and all the rest (with one exception, see below) were labeled "paradigmatic", that is, inflectional. Kari (1989:428) cited an unpublished paper by Whorf who quoted Sapir's term "interrupted synthesis" that characterizes this property of Athabaskan.

More recently the problem of the correlation between the inflection vs. derivation distinction and the template was raised very explicitly in the work of Kari (1979, 1992). In Kari's multi-step model of Ahtna verb form generation, discussed in section 2.1 above, much more belongs to derivation as compared to Hoijer: only mode and pronominal categories are considered inflectional. Essentially the same attribution of template positions is suggested in Rice (1993).

From a typological point of view, the major puzzle posed by the Athabaskan template (and surpassing the puzzles discussed in section 3) is the following. Cross-linguistically, the derivational affixation overwhelmingly is placed closer to the root compared to the inflectional affixation (see e.g. Bybee 1985:96 ff.). This tendency is explained by an iconic principle: the more relevant a morpheme is to the meaning of the root, the closer to the root it appears. The Athabaskan structure is a striking counterexample to this generalization: most derivational affixes are farther away from the root than most inflectional affixes. The apparently oldest inflectional categories - the 1st/2nd person Nominative pronoun and the mode - are coded closer to the root (positions 2-4) than the apparently oldest derivational categories, i.e. "qualifiers" (positions 5-7). The supposedly newer inflectional categories, such as the 3rd person Nominative pronoun and Accusative (positions 9-10), still are closer to the root than other derivational morphemes (positions 16, 17a).

From a purely formal point of view, Athabaskan inflectional affixes could be considered infixes placed within the verb lexeme skeleton (I understand from Kari 1989:426 that this is the proposal of Speas 1987). I think that this proposal is logically uncontroversial. From a functional point of view, it seems that the order of positions in the Athabaskan verb form can be better

explained in terms of a diachronic process of grammaticalization (incorporation of non-bound grammatical elements into the verb word), rather than in terms of the inflection vs. derivation distinction. The question of why Athabaskan languages display such stable and consistent resistance to cross-linguistic tendencies remains open.

Rice (1993)[9] is an attempt to resolve this problem in terms of generative grammar, that is using supposedly universal syntactic categories such as VP, CP, etc. Rice suggests that "the Athabaskan verb is phrasally rather than lexically formed" (p. 154), and "the verb `word' is thus not a lexical construct but a phonological one, and verb affixes are syntactically words" (p. 166). According to this approach, inflection can still be demonstrated to be outside of derivation. I think that Rice is absolutely right that the Athabaskan morphology is "syntax-shaped" (a neologism formed analogously to the pattern "egg-shaped" or "horseshoe-shaped"). The morphological slots in the Athabaskan template resemble sentence positions in a language with grammatically fixed word order. This must be a reflex of the relatively late rise of Athabaskan polysynthesis, compared to some other American Indian polysynthetic languages. However, even if it is true that Athabaskan structure is not the way it looks, the question still remains: why does it look the way it does?

4.2. *Proposals on the inflection vs. derivation distinction, as related to the template model*

As was pointed out above, there are significant problems with discretely separating inflection from derivation. However, in every language there must be a set of clearly derivational and clearly inflectional affixes. In Athabaskan, morphological positions that are exclusively devoted to a particular type of morphology, are:

Purely derivational positions: qualifier [5,7] and various derivational [16].
Purely inflectional positions: Nominative pronoun [2/9], Accusative pronoun [10], Reflexive

[9] And, in a more detailed way, Rice (2000). As pointed out in fn. 1, this paper does not aim to discuss the solution proposed in that monograph.

Accusative pronoun [15], Oblique pronoun [17b], mode [3], conjugation [4].
Quasi-inflectional positions: transitivity decrease [8], number [11], distributive [13], iterative [14], and probably incorporates [12] and enclitics [+2] (cf. Kari's term "postinflectional lexicon" for the latter).

Positions 8, 11, 13, and 14 can only be occupied by one quasi-inflectional morpheme each. For example, the distributive morpheme in Upper Kuskokwim adds the meaning that the event took place on more than an individual occasion and, by inference, suggests the plurality of the absolutive argument:

(15)	a.	tsasja	ts'a-di-ghi-ł-joch	'I broke a cup/the cups'
		cup	Pref-Pref-ghPf-TI↑-broke	
	b.	tsasja	ts'a-**n-**da-zi-ł-joch	'I broke the cups'
		cup	Pref-Distrib-Pref-zPf-TI↑-broke	

The form in (15a) does not have the meaning of non-distributivity or singularity of the patient, rather it is unmarked in this respect; if there were several cups, they were broken collectively. So the distributive morpheme does not belong to any paradigm but is in contrast only to absence, to lack of any formal marking and meaning. This is very different from grammatical categories whose zero members do convey a specific meaning, as e.g. English *I work* in the present tense, contrasted to *I worked.*

Similarly, the iterative morpheme in Navajo indicates the repeated character of an event, while its absence does not convey any specific meaning:

(16)	a.	yi-di-lé		b.	**né**-i-di-dlééh
		3.Acc-Pref-handle			Iter-3.Acc-Pref-TI↓:handle
		'He carries it along'			'He repeatedly carries it along'

Still another quasi-grammeme, transitivity decrease, appears e.g. in the Navajo semipassive, accompanying the indefinite nominative pronoun; see examples (7) and (8) above.

Mel'čuk's (2003) first requirement towards quasi-grammemes is that they are regular. Morphemes such as distributive or iterative can be freely added to any verb, in accordance with semantic demands. Considering these morphemes to be derivational, as is sometimes proposed, seems very unnatural: they definitely do not create new lexemes, but are freely added to any verbal meaning. (Note that adding quasi-grammemes entails other changes in the verbs in (15), (16), but this is a different story.)

The second of Mel'čuk's principles is non-obligatoriness of quasi-grammemes. Obligatoriness is the defining feature of grammatical categories: one or another grammeme belonging to the category must always be present in words of the relevant word class. But this does not hold for the morphemes in question. When a certain quasi-grammeme does not appear on a verb this does not qualify this verb semantically in any way. Therefore, there is no sense in postulating zero counterparts in these positions. Only the presence of the specific morphemes is meaningful. This is the crucial difference of quasi-inflection from inflection.

All of the above listed quasi-inflectional positions in the Athabaskan template can only be occupied by one morpheme each. Logically, there can be more than one similar non-obligatory, isolated meaning, forming a natural class. For this reason I believe that two more affix positions can be treated as quasi-inflection, namely, incorporates [12] and enclitics [+2]. Here I limit my discussion to incorporates only. Unlike the four positions discussed above, there are multiple morphemes potentially occurring in position 12. But otherwise it seems that this category is similar, being both regular and non-obligatory. The lack of an incorporate does not bear any specific meaning and thus cannot be considered the zero member of an opposition. Consider the following Upper Kuskokwim examples.

(17) a. ho-ghi-s-dlo
Pref-ghPf-1Sg.Nom-took.Mass/Pl-solid
'I took it (anything mass or plural solid) out'

b. ho-**łats**-ghi-s-dlo
Pref-dirt-ghPf-1Sg.Nom-took.Mass/Pl-solid
'I took some dirt out'

c. ho-**tsa**-ghi-s-dlo
Pref-rock-ghPf-1Sg.Nom-took.Mass/Pl-solid
'I took some rocks out'

d. ho-**tu**-ghi-s-dlo
Pref-water-ghPf-1Sg.Nom-took.Mass/Pl-solid
'I took some water (in buckets) out'

Morphemes meaning 'dirt', 'rocks', and 'water' in these examples are not derivational. They can be freely added to an already inflected verb and thus do not create new lexemes. They also differ from derivational morphemes (and resemble inflectional) in that they form a set, or a dimension, to use the term of Haspelmath 2002: 61. However, this set of meanings differs from an inflectional category: even though each of the meanings is contrasted with the others, the absence of an incorporate does not suggest anything with respect to the referent that is being taken out. For example, it does not suggest that it was not dirt or it was not rocks. The list of possible incorporates is open. Therefore, the set of incorporates does not form anything like a grammatical (inflectional) category.

If this reasoning is correct, incorporates are quasi-inflectional but they are different from the previously examined quasi-inflectionals in one respect: the number of morphemes potentially occurring in a morphological position. One can distinguish between two types of quasi-

inflectional morphemes: isolated, such as the distributive, and clustered, such as incorporates. Another difference between incorporates and isolated quasi-inflectional morphemes is the semantic type: the former are concrete while the latter generally have an abstract meaning.

Authors discussing the borderline between inflection and derivation (for reviews see e.g. Stump 1998: 14–19, Haspelmath 2002: Ch. 4) generally acknowledge the fact that the border is not always clear. It appears that the Mel'čuk's notion of quasi-grammeme (and quasi-inflection) allows one to make such acknowledgement much more precise and substantial as it points to an intermediate but still well identifiable class of morphemes. Mel'čuk (2003: 303) indicated that quasi-grammemes are widely spread in the world's languages. It is very likely that the more morphology a language has, the more significance quasi-grammemes gain in its grammar. Out of 19 prefixal positions in the average Athabaskan template, four are clearly quasi-inflectional and several others are arguably quasi-inflectional, at least on some occasions, see below.

The positions not attributed so far as either purely derivational, purely inflectional, or quasi-inflectional, include five affixal positions. They deserve special mention.

Positions of proclitics [18] and preverbs [17a] in many instances might best be treated as quasi-inflection, though sometimes they might be derivational. The attribution of a preverb as derivational vs. quasi-inflectional is parallel to the distinction between arguments and adjuncts (or adverbials), that is those participants that are predicted by the semantics of the lexeme, and those that are not (actants vs. circumstants in an alternative terminology).

The single inceptive morpheme occurring in position 6 can be used both derivationally and quasi-inflectionally (in future forms).

The mode-aspect suffixes [+1], as they are treated in modern descriptions, look both inflectional and derivational; moreover, they have both functions in one and the same occurrence: the choice of a particular suffix is dependent both on the aspect of the verb lexeme (derivational category)

and on the selected mode (inflectional category). In a broader perspective, it should be emphasized that the mode-aspect suffixes, if the currently received treatment is correct, are exceptional among all Athabaskan affixes not only in being suffixes. As was discussed above, one and the same semantic category is frequently marked in more than one morphological position. But what normally does not happen in Athabaskan is that one and the same affix has two distinct grammatical meanings – this is what is known as flection, as opposed to agglutination. (A special exception is the l- TI, see below, which is, however, historically composite: d- + ɬ-.) Athabaskan languages follow the agglutinative principle: one form – one meaning. The mode-aspect suffixes seem to be flectional, or fusional, since they represent two separate meanings at a time. This fact makes the received interpretation somewhat disturbing. It is also disturbing because it is overcomplicated, and presupposes lots of homophony: very frequently one and the same stem variant is characteristic of aspect A in mode M, and of aspect B in mode N. I hope that the system of Athabaskan tense-aspect meanings will be clarified and simplified in the future, and will be better coordinated with the repertoire of morphological forms.

Finally, let us consider the transitivity indicator [classifier] position [1]. It is the only position not identified by Sapir and Hoijer (1967) as either derivational or inflectional. As was discussed in section 2.2 above, most occurrences of TIs can be easily identified as either inflectional or derivational. The TI position is a typologically very interesting example of an inherently inflectional/derivational category.

Thus among the morphemes belonging to the five "impure" positions, we can further distinguish between those morphemes that pertain purely to one particular function (inflection vs. quasi-inflection vs. derivation), and those morphemes that are again impure in this respect. For example, the ɬ- TI is primarily derivational; when used in constructions like passive or reflexive, the d- TI is typically inflectional, and l- simultaneously refers to both kinds of processes; in the constructions like anticausatives and historical passives (see Kibrik 1996) d- and l- are used derivationally. The inceptive morpheme, in some uses, is derivational, and in others quasi-

inflectional. The same is true of the class of preverbs. These distinctions between positions are summarized in chart (18). Letters I, Q, and D in the left hand column designate the characterization of the particular position as purely inflectional, quasi-inflectional, or derivational, respectively. Letter combinations like Q/D mark the impure positions.

(18)

Q/D	18	proclitic
I	17	(b) Oblique [postpositional object] +
Q/D		(a) preverb [postposition]
D	16	various derivational
I	15	reflexive Accusative [direct object] pronoun
Q	14	iterative
Q	13	distributive
Q	12	incorporate
Q	11	number
I	10	Accusative [direct object] pronoun
I	9	3 person Nominative [deictic subject] pronoun
Q	8	transitivity decrease
D	7	qualifier
Q/D	6	inceptive
D	5	qualifier
I	4	conjugation
I	3	mode
I	2	1/2 person Nominative [subject] pronoun
I/D	1	transitivity indicator [classifier]
n/a	0	root
I&D?	+1	mode/aspect suffix
Q	+2	enclitic

5. Summary of the proposals

In this paper, I have proposed:

5.1. *Inflection and derivation in linguistic theory*

a) to distinguish between the practical and the cognitive aspects of the use of the inflection vs. derivation distinction

b) to separate the definitions of inflection and derivation from the operational criteria that help to characterize particular morphemes as inflectional or derivational

5.2. *Inflection vs. derivation in Athabaskan studies*

c) to question the necessity of the notion of "theme" in Athabaskan grammar and lexicography

d) to explore the possibility of attributing the properties of the "theme categories" to root classes and/or affix strings

e) to replace the "thematic vs. derivational affixation" distinction by the "unproductive vs. productive derivation" distinction

f) to recognize the ternary distinction "inflection vs. quasi-inflection vs. derivation"

g) to test Athabaskan verb form generation against the dynamic model of the following type: root > lexeme > verb form, with the first transition going through two kinds of derivation, and the second through inflection and quasi-inflection

5.3. *Template*

h) to preserve the template as the basic approach toward the description of Athabaskan verb form

i) to make the template more flexible, allowing the partial order of positions and the occurrence of more than one affix in a given position at a time

j) to support the necessity of the template through the analysis of how the arguments' semantic roles are established in the clause

5.4. *Connection between the inflection vs. derivation distinction and the Athabaskan template*

k) to identify the purely inflectional, purely quasi-inflectional, and purely derivational positions

l) to recognize the utter importance of quasi-inflection as a distinct intermediary between inflection and derivation – generally in linguistic theory and specifically in Athabaskan languages

m) to identify the "impure" positions, and to further distinguish between the inflectional, or quasi-inflectional, or derivational, or bifunctional affixes belonging to these "impure" positions

n) to recognize that the mode-aspect suffixes behave very differently from other Athabaskan affixes in being fusional and referring to an inflectional (mode) and to a derivational (aspect) category at the same time; this calls for further inquiry into the meaning of these affixes, and for simplification of their treatment

5.5. *Transitivity indicators*

In addition to the relatively general proposals listed above, I would like to add several comments

on the transitivity indicators, building upon my prior research on this very interesting class of morphemes and simultaneously a template position.

I suggest that we abandon the harmful misnomer "classifier" and adopt the semantically-oriented label "transitivity indicator (TI)", or simply "indicator". It is useful to identify the inflectional and derivational uses of the TIs, and to contrast the productive and unproductive derivational uses of the TIs. If we are able to demonstrate that the TI is usually semantically motivated, this would be an additional argument for the elimination of the notion of "theme", since TIs are generally considered "thematic", that is unpredictable, affixes. The d- TI is mostly inflectional, ł- mostly derivational, and l- refers to both types of phenomena at once.

Chart (5) depicting the process of verb form generation is replicated below as (19), with the indication of TIs and constructions typically representing each stage of this process.

(19)

	Typical TI and morphosyntactic construction representing the given stage of verb form generation:
root	zero; rarely fossilized non-zero TI
↓ non-productive derivation	d-; anticausative
↓ productive derivation	ł-; causative
lexeme (= root + derivational affixes)	
↓ inflection	d- or l-; passive, reflexive
↓ quasi-inflection	d- or l-; iterative
verb form	

The instances of TI doubling provide an example of affix recurrence in one position, typical of other positions of the Athabaskan template.

ABBREVIATIONS IN GLOSSES
Acc[usative position]
An[imate]
Conj[ugation]
Distrib[utive]
ghPf – gh-perfective
Indef[inite]
Iter[ative]
Progr[essive]
Nom[inative position]
Pref – derivational prefix of a meaning irrelevant for the current discussion
Refl[exive]
TD – transitivity decrease
TI↓, TI↑, TI↑↓ – transitivity indicator of decrease, of increase, of increase plus further decrease
zPf – z-perfective

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