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Causatives and Transitivity

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Transitivity increase in Athabaskan languages¹

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1. Introduction

This paper relies on three different traditions — work of the Leningrad typological school² on diathesis typology, famous for its theoretical insights and the broad scope of evidence analyzed; Hopper and Thompson's (1980) recent fruitful theory of semantic transitivity; and the tradition of Athabaskan linguistics with its very refined grammatical and lexicographical analysis. I am trying to integrate here the achievements of all the three approaches.

The core of the Leningrad typological methodology is best expressed in Nedjalkov 1988:xii (reproduction of his early — Nedjalkov 1964:301-2 — claim): it is the cross-linguistic search for “partial coincidence <...> of those meanings that at first glance may appear totally unrelated and occur within the semantic limits of the grammatical form by accident”, as well as registering the typologically attested or unattested types of polysemy of grammatical forms. This empirical form to meaning approach, though not being functional per se, can reveal sometimes more functionally interesting facts than the deductive meaning to form approach. The “Leningrad” standpoint is the basic one in the search for motivation of polyfunctionality of linguistic forms in the present paper. Nedjalkov and Sil'nickij, in an insightful and substantial article (1969:35-7), have found out a whole range of possible polysemies of causative morphemes; the discussion in this paper will provide some parallels to their findings. In the same paper they wrote: “The noted tendencies of expressing specific causative oppositions by means of specific formal oppositions are determined by certain extralinguistic factors which deserve special consideration”. Now it is clear that these

“extralinguistic” factors can be found in the explanatory theory of semantic transitivity.

Hopper and Thompson’s theory of semantic transitivity as a cluster of interrelated semantic components is, to my mind, a very powerful tool for examining derivations of propositional structure in various languages. Semantic components of transitivity, especially closely related to the processes of transitivity increase, are the number of participants, agency, volitionality, affectedness of the patient, and aspect (Hopper and Thompson 1980: 252). In this paper, however, I will use the transitivity parameters from a somewhat different perspective than these authors: I will be mainly interested not in the covariance of parameters, but in their **coexpression**. Typological works affected by Hopper and Thompson’s theory and especially pertinent and/or analogous to the present discussion include Tsunoda 1981, Haiman 1982 and Ichihashi 1991.

Athabaskan languages³ display a verbal morphological category traditionally called “classifier”. This term dating back to the early work by Boas on Tlingit and by Sapir on Athabaskan is a clear misnomer since so-called classifiers do not classify either verb lexical entries or verb arguments — as it was originally supposed — in any reasonable sense. For example, a consistent context for transitivity-decrease classifiers in various Athabaskan languages is the reflexive prefix on the verb that certainly does not produce a new verbal lexeme. The unhappy nature of the term “classifier” is recognized by many Athabaskanists (see Krauss 1969, Cook 1984: 162, Young and Morgan 1987: 117, Thompson 1989: 9, Rice 1989: 439). However, the listed authors still use the term preferring to preserve the continuous tradition. I propose to abandon this harmful term that keeps misleading both newcomers to the field of Athabaskan linguistics and non-Athabaskan linguists. It is generally agreed that if “classifiers” convey some meaning it is transitivity characteristics. Henceforth “classifiers” will be called **transitivity indicators (TIs)**⁴ (this term was used for a similar phenomenon in Ichihashi 1991). I will try to show that this term is completely justified as applied to this group of Athabaskan morphemes.

2. Transitivity indicators

Athabaskan languages generally have a very complex verb morphological structure, the number of positions therein being in many cases more than a dozen. All affixes are prefixed to the stem, and the transitivity marker is

found in a position immediately preceding the stem:

- (1) G 3/A . . . 1,2/A TI Stem
 <————7—6————2—1—0

Other morphological positions represented in (1) and relevant for the present discussion are slots for bound pronominal prefixes bearing the roles of Actor and Goal in the clause⁵ (case alignment in Athabaskan languages is accusative). The TIs take in an inflected verb position number 1, Actor pronominal prefixes — position number 2 (first or second person) or 6 (third person), and Goal prefixes — number 7. This numeration is literally applicable to Navajo, and to other Athabaskan languages with certain reservations.

The TI morphological slot has a four-fold selection of markers. In the following chart the TIs are presented for proto-Athabaskan (as they are reconstructed by Krauss (1969)) and for four languages: Hupa, Navajo, Slave, and Sarcee.

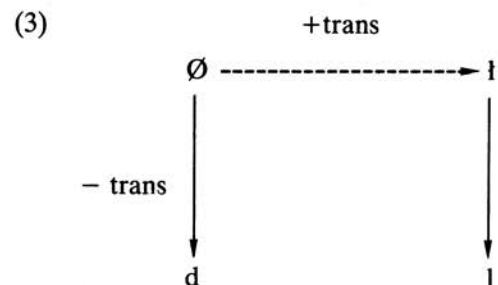
(2)	*	Ø	ɪ	də	ɬə
	H[upa] ⁶	Ø	ɪ	di	ɪ
	N[avajo]	Ø	ɪ	d	ɪ
	Sa[rcee]	Ø	s	d	ɪ
	Sl[ave]	Ø	h	d	(ɪ)

One assumption underlying the following discussion needs to be formulated here. I hypothesize that every verb of a given language has its original, basic, prototypical **propositional structure (PS)** that can be retained or modified in specific verb occurrences. The notion of the propositional structure of the verb includes several semantic characteristics — in the first place, the valence structure and the verb’s semantic class (state/process/action/...). The original propositional structure can be changed in various ways — an argument can be added to it, or eliminated, or the role of an argument can be replaced, or semantic class characteristics can be changed etc. These changes are called **propositional derivations** and within the scope of the present paper (see fn. 4 above) essentially coincide with shifts in semantic transitivity as understood by Hopper and Thompson 1980. The rationale behind the introduction of propositional structure/ derivation terminology is the wish to avoid the discussion and probable redefinition of such terms and notions as voice, diathesis, syntactic relations etc. which would be necessary if they were applied to the material of the present paper.

The morphological category of transitivity indicator in Athabaskan

languages exists just for signalling all kinds of changes of the verb's original PS, or, to put it differently, for signalling semantic transitivity shifts.

The following scheme demonstrates how TIs of Navajo operate. This scheme can be viewed as a basic one for Athabaskan languages in general.



The chart in (3) shows that TIs do not designate high or low transitivity by themselves. They cannot be ascribed any invariant and definite **meaning**. They are precisely **indicators** signalling **shifts** in transitivity — either increase or decrease. This point has already been made by Cook: "It seems more natural, however, to view the classifier as a formative that changes a given (primary, underived) theme to another related (secondary, derived) theme (e.g., from intransitive to transitive), than to view it as a morpheme which has an intrinsic semantic property" (1984:163).

This paper is restricted only to the processes of transitivity increase. We shall look at several specific semantic derivations attested in Athabaskan languages that represent the global process of transitivity increase. All of these processes are united not only by this common semantic trend of transitivity increase (which will be discussed in detail in section 4) but also share a formal property: display a change of TI from $-\emptyset-$ to $-I-$.

3. Pathways of transitivity increase

3.1 Causativization

Causativization is understood here as supplementation of a new agent argument to the original PS resulting in a formation of a single, though derivationally non-elementary PS (see Comrie 1976). In the Athabaskan languages examined the following general constraints on causativization are observed.

1. No morphological causatives can be formed from the initially transitive (Actor-Goal) verbs. This is typologically common — see Nedjalkov and Sil'nickij 1969:25-6 (but of course not universal).

2. Causatives are rarely formed from the agentive (one-place) initial verbs; in fact, the only clear cases of such a derivation are Navajo examples (16.N) and (17.N); therefore, causatives are mainly formed from such non-agentive basic verbs as states, processes and achievements (term from Vendler 1967). All of the examples below are marked for the semantic class of the initial verb as ST[ate], PR[ocess], ACH[ievement], and ACT[ion].

3. Causatives almost always represent the direct physical type of causation (factitive contact causation, in terms of Nedjalkov and Sil'nickij 1969:28ff.; cf. somewhat different typologies of causation in Shibatani 1973:Ch.4, Talmy 1985, Comrie 1985). Generally other semantic types of causation are expressed in Athabaskan analytically by means of special causative verbs. Cf., however, a rare example (6.H) below.

Now consider the examples from the four languages — Hupa, Slave, Sarcee, and Navajo.⁷ It should be noted that arrows in the examples by no means designate derivations (or transformations) from one clause to another. They designate derivations from the original PS (exemplified by the first clause) to the derived PS (found in the second clause).

- (4.H) *hay king nah-∅-s-∅-qot'* ----->
 the stick Aff-3/Aff-TI-bent
 'the stick is bent (originally)'
hay king na:-∅-si-∅-t-qot' ST
 the stick Aff-3/G-Aff-2Sg/A-TI-bent
 'you bent the stick'
- (5.H) *hay chwich te:-∅-∅-lit* ----->
 the wood Aff-3/A-TI-burn
 'the wood burns'
hay chwich te:-∅-s-eh-t(l)it PR
 the wood Aff-3/G-Aff-1Sg/A-TI-burn
 'I burned the wood'
- (6.H) *ch'i-niwing-∅-whoʔn* ----->
 3H/A-Aff-TI-good
 's/he became pretty, good'

Ø-xo-ni-l-who ?n

3/A-3H/G-Aff-TI-good

'it suits him/her'

(Golla 1970:176; Golla in preparation: entry WHO:N)

From Golla's generalizations (1970:76, 176, 201-2) it can be understood that causatives can be derived only from dynamic verbs (processes and achievements). However, example (4.H) does not seem to confirm this claim — the basic verb is a clear state. Golla also indicates that causatives can be derived from what he calls "action theme stems" (1970:204). However, none of the verbs he gives can be unequivocally characterized as having a basically agentive PS (that is, being an action). They are rather experiential achievements and processes ('get hurt, wounded'; 'grow weak, tired'); cf., however, Rice 1991:60.

(7.SI/H) ?iyε we-Ø-gq --->

'the meat is dried'

?iyε we-h-gq

's/he dried the meat'

ST

(Rice 1989:454)

(8.SI) tse dé-Ø-k'q --->

'the wood is burning'

tse dé-h-k'q

's/he burned the wood'

PR

(Rice 1989:455)

(9.SI/S) ts'enj-Ø-dhe --->

's/he woke up'

ts'eyénj-h-the

's/he woke him/her up'

ACH

(Rice 1989:455)

Rice (1989:455; 1991) has shown that in Slave only non-agentive verbs can undergo causativization.

(10.Sa) ná-Ø-Ø-gòn --->

Aff-3/A-TI-dry

'it is drying'

ná-yi-Ø-s-gòn

Aff-3/G-3/A-TI-dry

's/he will dry it'

PR

(Cook 1984:164)

(11.Sa) gwā-Ø-dí-Ø-kò? --->

Aff-3/A-Aff-TI-spread out

'it (cloth) is spread out'

ACH

gwā-yí-Ø-dí-s-kò?

Aff-3/G-3/A-Aff-TI-spread out

's/he will spread it out'

(Cook 1984:164)

There is no information on whether agentive verbs can undergo causativization in Sarcee.

(12.N) diní-Ø-niih --->

Aff:2Sg/A-TI-hurt

'you are in pain'

ni-Ø-di-t-niih

2/G-3/A-Aff-TI-hurt

'it makes you ache' (Young and Morgan 1980d:327, 758)

ST

(13.N) k'éz-Ø-dqqd --->

Aff:3/A-TI-straighten

'it straightened up, stood erect'

kí-Ø-s-é-t-dqqd

Aff-3/G-Aff-1Sg/A-TI-straighten

'I straightened it out' (Young and Morgan 1980d:505)

ST

(14.N) yi-Ø-Ø-béézh --->

Aff-3/A-TI-boil

'it is boiling'

yi-Ø-t-béézh

3/G-3/A-TI-boil

's/he is boiling it' (Young and Morgan 1980d:757, 779)

PR

(15.N) aghaa? Ø-ní-Ø-jool --->

wool 3/A-Aff-TI-move

'the wool arrived (through the air)'

aghaa? Ø-ní-t-jool

wool 3/G-Aff:1Sg/A-TI-move

'I brought the wool' (Young and Morgan 1980d:760, 659)

ACH

(16.N) n-é-Ø-dá --->

Aff-1Sg/A-TI-sit

'I sat down'

shi-ní-ní-t-dá

1Sg/G-Aff-2Sg/A-TI-sit

'you seated me' (Young and Morgan 1980d:658, 239)

ACT

- (17.N) \emptyset -yii- \emptyset -zìh --->
 3/A-Aff-TI-stand up
 's/he stands up'
 yi- \emptyset -yii-sìh [t + z > s] ACT
 3/G-3/A-Aff-TI:stand up
 's/he stands him/her up' (Young and Morgan 1980d:798)

For more Navajo examples see Hoiyer 1948:253, Sapir and Hoiyer 1967:92, Young and Morgan 1980g:355, 361; cf. also the discussion in Rice 1991:59.

It should be emphasized that Navajo $\text{-}t$ TI and its counterparts in other Athabaskan languages should not be viewed as causativity markers (causativizers) per se (as was many times claimed in Athabaskan grammars). Such an idea can seem justified if one judges only by the instances of causativization not taking into account other pathways of propositional derivation. Such transitivity-decreasing processes as reflexivization, passivization, iterativization etc. are always marked by special morphological means — reflexive pronouns, iterative prefixes etc. TIs do not mark specific changes of PS by themselves, they rather accompany PS changes and signal that such a change has happened. In the case of causativization in Athabaskan languages there are no special morphological means to mark causativization: it is expressed with the help of differing valence structure: two arguments (and two pronominal prefixes) instead of one. Thus many Athabaskan verbs giving rise to pairs anticausative — causative can be treated as labile (see Nedjalkov and Sil'nickij 1969:21, Haspelmath this volume) since they contain no specifically causativizing morphemes; anticausative/causative meaning is rendered only by pronominal markers of arguments (it is especially obvious in ex. (4.H), (7.SI/H), (8.SI), (9.SI/S), (10.Sa), (11.Sa), (13.N) - (17.N) above). As for the TIs, they just **indicate** that the derivation has taken place. The function of the $\text{-}\emptyset$ - TI is to signal that the given verb occurrence fits the original PS of the verb; the $\text{-}t$ TI in causative constructions indicates that agent supplementation to the original PS has occurred.

3.2 Possessivization

Across Athabaskan languages a typologically somewhat unusual variety of causative is spread — that is, so-called 'possessives' that are derived perhaps exclusively from states indicating motionless location or existence and designate possessing the object in a certain state. Consider a Hupa example of a possessive formed from an existential/locative state verb

(“primary stative motion” verb in the terminology of Golla 1970:76):

- (18.H) \emptyset -sa- \emptyset -?a:n --->
 3/A-Aff-TI-lie
 'it (a handy object) is lying'
 \emptyset -s-eh- $\text{-}t$ -?a:
 3/G-Aff-1Sg/A-TI-lie
 'I have it lying there' (Golla in preparation: entry LA:)

Sometimes possessive constructions are translated into English with the help of the verb *keep* — cf. a Hupa form derived from the same original propositional structure as the one in (18.H) above:

- (19.H) *ch'i- \emptyset -wi- $\text{-}t$ -?a?*
 3/A-3/G-Aff-TI-lay
 's/he kept it' (ibid.) (ibid.)

Rice (1989:456) indicated that possessives in Slave are made up from verbs meaning “position, either punctual or durational”:

- (20.SI/H) *bet'ádé- \emptyset -?a* --->
 'post extends, sticks up'
yet'ádé- $\text{-}h$ -?a
 's/he has post stuck up' (Rice 1989:455)
- (21.SI/S) *the- \emptyset -da* --->
 's/he sits'
yé-h-da
 's/he has him/her sit' (Rice 1989:456)

In Navajo, possessives also occur as derivatives from the verbs of existential/locative state:

- (22.N) \emptyset -si- \emptyset -dá --->
 3/A-Aff-TI-sit
 's/he is sitting'
bi-sí-ní- $\text{-}t$ -dá
 3/G-Aff-2Sg/A-TI-sit
 'you keep him/her seated' (Young and Morgan 1980d:687, 685)

The latter form was interpreted by my Navajo consultant also as 'you hold him/her down', 'you control him/her to be seated'; the control implied is not necessarily a physical one. It is very likely that the possessive meaning of the forms in question is rather a side effect, typically but not obligatorily

accompanying the inherent meaning that can be expressed as causing an existential/locative state to be maintained, controlling a Goal in a position. Consider the following Navajo example clearly demonstrating that the 'possessive' form implies not the possession of the Goal by the Actor but rather the Actor's control over the maintenance of the Goal's position:

- (23.N) *ni-ziiz Ø-s-é-t-(l)á*
 your-belt 3/G-Aff-1Sg/A-TI-lie
 'I have your belt lying somewhere', 'I control your belt in a lying position'.

According to Golla (1970:76), in Hupa the causatives as such and the 'possessives' are in a complementary distribution depending on the lexical class of the initial verb: the 'possessives' are derived from the verbs of existential/locative state (like 'be'/'lie', 'sit', 'be in a position' etc.) and the causatives from other types of verbs allowing Actor supplementation. At least in some cases causatives in Hupa are formed from the dynamic verbs of movement (processes/ achievements), e.g. *wi-Ø-xil* 'it floats' — *ch'iwi-t-xil* 's/he is ferrying it' (Golla in preparation: entry XE:). This pattern is fairly common for Navajo — cf. (23.N) and (15.N) above. This looks like a very natural distribution: causing object to exist/be in a position means to keep it therein; causing object to move means to move it. Then two processes can be in fact viewed in a unified way as agent supplementation; output differs to the extent that input is different.

Moreover, in many cases in Navajo a great deal of parallelism is observed between the formation of the causatives and the 'possessives'. Cf. the examples (16.N) and (22.N) above. In both of them the same verb stem =*dá* is represented. By the original PS this stem is an achievement — it means 'to sit down', as is exemplified by the perfective form *nédá* 'I sat down' in (16.N) (in this verb the so-called *n*-perfective inflectional paradigm is employed). The perfective variant of this stem, inflected according to the so-called *s*-perfective paradigm, is lexicalized as a special lexical entry designating the secondary state — see the form *sidá* 's/he is sitting' in (22.N). Both the original achievement PS and the secondary state PS produce the derived structures with a supplemented Actor — the causative and the 'possessive', respectively. Note that the transitivized forms in (16.N) and (22.N) retain the *n*- and *s*-type affixes of the underlying verbs. This semantic and morphological pattern is very common in Navajo.

3.3 Agentivization

Agentivization is a propositional derivation not increasing the number of arguments (cf. Nedjalkov and Sil'nickij 1969:37). It is attested in Navajo examples where initially experiential two-place verbs, whenever agentivized, produce agent-patient structures. The experiencer is reinterpreted as the agent. The general valence structure of the verb remains intact — in both cases we deal with two-place Actor-Goal verbs.

- (24.N) *yoo-Ø-ʔ* --->
 3/G:3/A:Aff-TI-see
 's/he sees him/her'
yi-Ø-ní-t-ʔ
 3/G-3/A-Aff-TI-see
 's/he looks at (examines) him/her'
 (Young and Morgan 1980g:420)
- (25.N) *Ø-dist-ní-Ø-ts'ááʔ* --->
 3Sg/G-Aff-2Sg/A-TI-hear
 'you heard it'
Ø-yíní-t-ts'ááʔ
 3/G-Aff:2Sg/A-TI-hear
 'you listened to it' (Young and Morgan 1980d:344, 767)
- (26.N) *yi-Ø-nii-Ø-zíih* --->
 3/G-3/A-Aff-TI-feel
 's/he wants it'
yi-Ø-di-síih [*t + z > s*]
 3/G-3/A-Aff-TI:feel
 's/he gets faith in it' (Young and Morgan 1980d:670, 332)

About the latter stem Young and Morgan (1980d:332) note that when it occurs with the *-t-* TI it can be translated as 'act with the mind'.

3.4 Action perfectivization/patient affection

Hopper and Thompson 1980 have amply shown that such components of semantic transitivity as affectedness of patient and perfectivity of action are very closely interwoven. In the following Hupa example of propositional derivation they can be hardly distinguished.

- (27.H) \emptyset -k'i-wing- \emptyset -yaʔn --->
 3H/A-3Imp/G-Aff-TI-eat
 's/he ate (it)'
 ch'i- \emptyset -neh-l-ya:n
 3H/A-3/G-Aff-TI-eat
 's/he ate it up'

The first verb can be used both in antipassive contexts (with non-specified patient) and with an overt patient NP.

3.5 Action intensification

In the following example the propositional derivation cooccurs with a distinction in aspect.

- (28.N) yi- \emptyset -i- \emptyset -nod --->
 3/G-3/A-Aff-TI-lick
 's/he licks it'
 yi- \emptyset -t-naad
 3/G-3/A-TI-lick
 's/he is licking it'

These two forms are translated in more detail by Young and Morgan (1980g:361) as follows: the first means 's/he is in the act of giving it a (single) lick', and the second — 'he's licking it (a continuum of repeated licks)'. This kind of semantic derivation and the morphological marking accompanying it may seem reverse to the ones predicted by Hopper and Thompson's generalization: the leftmost verb form, unlike the rightmost one, is punctual, and hence is expected to be more transitive. The correlation in TIs is just the opposite. However, I believe that it is not the distinction in punctuality which is relevant here. (As was mentioned above, the punctuality parameter is very salient in Navajo and general Athabaskan transitivity derivation: iterative forms are very consistently indicated as decreased transitivity.) It is rather the intensity of action (Nedjalkov and Sil'nickij 1969:37, Hopper and Thompson 1980:264) which is important here. This parameter is closely related to the two that were discussed previously — agentivization and action perfectivization/patient affectedness.

3.6 Comparative

Golla reports that some verbs designating qualities can produce comparative PSs with the *-t* TI (Golla 1970:77). They can express comparison either with the average norm of this quality (28.H) or between two referents (29.H):

- (29.H) \emptyset - \emptyset -ne:s --->
 3/A-TI-long
 'it is long, tall'
 ʔa- \emptyset -l-ne:s
 Aff-3/A-TI-long
 'it is so long, quite tall'
- (30.H) \emptyset - \emptyset -ne:s --->
 mi- \emptyset -t-ne:s
 as:that-3/A-TI-long
 'it is as long as that'

(Golla 1970:77; Golla in preparation: entry NE:S)

Similar forms are found in Navajo:

- (31.N) yi- \emptyset -tsoh --->
 Aff-3/A-big
 'it (e.g. snowfall) is big'
 bi-lááh ʔá- \emptyset -ní-t-tsoh
 it-beyond Aff-3/A-Aff-TI-big
 'it is bigger than that' (Young and Morgan 1980d:794, 117)

Among the examples considered above, comparatives are the only class of derived verbs with the *-t* TI that are not grammatically transitive, that is, are one-place verbs.

4. Are transitivity indicators arbitrary?

In a number of Athabaskan descriptions it has been argued that TIs are largely lexical and cannot be predicted from verb semantics. E.g., Hoijer (1948) presented a lot of Navajo examples that contradicted, in his opinion, the "transitive" function of the *-t* TI, the "passive" function of the *-d* TI, etc. Athabaskan detransitivizing TIs (Navajo *-d* and *-l* and their counterparts in other languages) mainly operate in the inflection and are apparently productive. As for the *-t* TI that is the main focus in this paper, it is more

engaged in the processes of lexeme formation and its productiveness is more questionable, although it varies across languages (Navajo causativization probably is more regular than that of Hupa; many restrictions on the regularity of Hupa TIs are discussed in Golla 1970). Not risking to say that TIs are productive and not lexical, I would rather argue that they are **motivated and not arbitrary**. Motivation for the use of this and not that TI can be found in far more cases than is usually supposed.

In order to see how arbitrary vs. motivated TIs are, let us consider a couple of examples. From the standpoint of abstract logic, what verb can be less expected to display the high transitivity morpheme than the one meaning 'to sleep'? However, just this verb in Navajo contains the *-t-* TI:

- (32.N) a. *ʔa-Ø-t-hosh*
Ind/G-3/A-TI-sleep
's/he sleeps'
b. *ʔi-Ø-i-t-háásh*
Ind/G-3/A-Aff-TI-sleep
's/he goes to sleep' (Young and Morgan 1980d:481)

Note that this verb is also grammatically transitive, that is, it contains the indefinite pronoun in the Goal slot. The explanation is in the fact that the stem =*ghosh*/=*gháásh* (in (32.N) *gh* > *h* / *t* ____) means basically 'to bubble' (see Young and Morgan 1992:234). That is, sleeping is conceptualized in Navajo as 'causing bubbling', or snoring (cf. Young and Morgan's (1980d:481) remark about the arising of the Navajo term for sleeping as a "colloquialism" relating it to bubbling). Hoiijer (1974:139) has registered a verb base representing the original propositional structure of this stem — i.e. the one displaying the *-Ø-* TI:

- (33.N) *ʔa* [Ind/A] — *yi* [Aff] — *Ø* [TI] — *gháásh*
'sleeping takes place'

The original PS manifested in (33.N) and meaning literally 'something bubbles' gives rise both to the verb represented in (32.N.a) (its more precise meaning is 'he causes sleeping to take place' < 'he causes something to bubble') and the dynamic verbs as in (32.N.b) and in the following example:

- (34.N) *gohwééh ha-Ø-ní-t-háásh*
coffee Aff-3/G-Aff:2Sg/A-TI-bubble
'you bring coffee to a boil' (Young and Morgan 1980d:415)

Thus it is clear that in Navajo the causativized PS derived from the stem

meaning 'to bubble' and expressed by the verbs with *-t-* occurs both with the meanings 'to boil smth' and 'to sleep'. This kind of example displaying the transparency of semantic derivations and the clearness of their morphological traces make the claim that TIs are not a living, motivated and cognitively real mechanism highly doubtful.

Another example is connected with the verb meaning 'to talk, speak':

- (35.N) *yá-Ø-t-tiʔ*
Aff-3/A-TI-talk
's/he talks'

It is a canonic example used to demonstrate that Navajo TIs are desemantized and lexicalized, once the transitivity TI can occur in such an intransitive verb. Cf. Kari's (1976:21) argument: "Certain verbs are associated with a classifier to which no clear function can be assigned. For example, *yátiʔ* 'he speaks' contains a *t*-classifier yet it is in no way a causative". True, the verb in (35.N) is grammatically intransitive since it has no Goal pronoun. However, it is **in some way** causative, as is readily proven by the form

- (36.N) *yá-Ø-Ø-tiʔ*
Aff-3/A-TI-talk
'there is talking'

cited by Young and Morgan (1980g:361). These authors accompany the form with the comment that "*Ø*-Classifier is substituted for *t*- in impersonal types of constructions", thus viewing the form in (35.N) as basic and the one in (36.N) as derived. It seems, however, more justified to suppose that the direction of semantic derivation coincides, as in other cases, with the direction of the morphological derivation. The literal meaning of (36.N) is 's/he causes the existence of talking'. That is, talking and speaking is conceptualized in Navajo as an originally spontaneous, perhaps mystical process (cf. also another verb form displaying the *-Ø-* TI: *hááʔtyátééh* 'to be talked out, freed of a spell or bewitchment'; Young and Morgan 1980g:433) that can be, however, initiated by a human being. Given the cited forms, any other hypothesis would mean imposing European conceptual structure on Navajo verb semantics. The fact that remains to be explained, however, is that the verb in (37.N) is not grammatically transitive (an indefinite pronoun in the Goal position could be expected).

5. Evaluation of results

Let us now evaluate the results of this study against the background approaches mentioned in section 1 above.

In the spirit of the Leningrad typological school it can be stated that we have found out the interesting range of polysemy of the Athabaskan causativity marker (which is in fact, as was argued above, rather an indicator of transitivization). This morpheme *-t-* (and its correlates in other languages) can appear under such different semantic derivations, as possessivization, agentivization, action perfectivization/patient affection, action intensification and comparative. Thus the typological range of Nedjalkov and Sil'nickij 1969:37 can be enriched.

All the propositional derivations analyzed, though presenting a high degree of semantic heterogeneity, share a formal property: all of them are accompanied by the change of TI from *-Ø-* to *-t-*. As I have tried to show above, the *-t-* TI certainly cannot be assigned any invariant meaning. However, it serves one and the same function: it signals a process that finds its particular manifestations in all the derivations in question. What kind of unified process it is, readily becomes clear within the framework of the theory of semantic transitivity by Hopper and Thompson 1980: it is **transitivity increase**. In the specific propositional derivations we looked at, the operation of the following components of semantic transitivity listed by Hopper and Thompson can be observed: causativization and possessivization — number of participants; agentivization — agency and volitionality; perfectivization/patient affection and action intensification — aspect and patient affectedness. The examples of comparatives are less easily interpretable, first because propositional derivation in them applies to the verbs lowest in transitivity — i.e. qualities — and has as its output grammatically intransitive verbs. However, the two-place comparatives like (30.H) and (31.N) can be related to such a transitivity component as the number of participants (process analogous to the formation of English verbs like *outpoise*, *outnumber*); one-place comparatives as in (29.H) can be partially explained in terms of agency and affirmation components of semantic transitivity, listed by Hopper and Thompson 1980.⁸

In the Athabaskanist tradition of semantic and grammatical analysis numerous occurrences of "classifiers" are treated as (at least synchronically) arbitrary and unmotivated. Probably not all but many such instances could be eliminated if more appropriate techniques of description

and explanation were used. Many failures to explain the usage of this and not that TI in a given verb form result from two factors: attempts to assign an invariable meaning to TIs; attempts to judge about a verb's meaning from its English translation or from the standpoint of abstract logic. As for the first factor, TIs definitely don't have any meaning at all (in the classical understanding of the term "meaning"), not to speak about invariant meaning; they just signal all possible propositional derivations. As for the second, Athabaskan (and presumably all non-Standard-Average-European languages) frequently conceptualize situations of reality in a way that is very foreign to the native speakers of European languages and is hardly a priori predictable. Moreover, situations that seem to us very similar (like e.g. going and running) can be conceptualized in a completely different manner for some cultural, historical or whatever reasons, or simply by chance. Let us suppose that such seemingly similar situations give rise to verbs with different TIs. A conclusion about asementicity of TIs derived from this fact would be at least groundless. The assumption about unmotivatedness of form should be the last hypothesis considered by a linguist.⁹

6. Conclusions

Athabaskan languages, though presenting significant variation among them (e.g. Navajo unlike Slave allows causatives from agentive verbs), demonstrate a uniform range of transitivity increase pathways, as well as a common way of signalling them in the verb form. Athabaskan languages are strikingly sensitive to all kinds of changes applied to the initial PS of verbs. Even slight transitivity increases are signalled in a special morphemic slot called transitivity indicator. The Athabaskan system of signalling transitivity differs from those found in some other languages (see Hopper and Thompson 1982) in that it signals not **degrees** of transitivity but **changes** in transitivity — either increase or decrease. For example, the *-t-* TI indicates not high degree of transitivity, but the *process of transitivization*, no matter what the starting and the final levels of transitivity are.

Evidence presented above permits us to suggest the following hypothesis. In Athabaskan languages different semantic classes of verbs allow application of different transitivizing derivations. Thus, qualities when transitivized produce comparatives; existential/locative states — possessives; processes/achievements, as well as one-place states (other than existential/

locative) and actions — causatives; two-place experiential states (like 'see', 'feel') — agentivized structures; and two-place actions — perfectivized/patient-affected structures. This kind of lexico-semantic distribution clearly exists at least as a tendency. Finding out whether it can be assigned a more precise status, as well as explaining it is a matter of future research.

NOTES

1. This paper is a part of a larger study conducted by the author on transitivity derivation in Athabaskan languages. The topic of the present volume **caused** the author to mechanically separate the transitivity increase part of the project from the transitivity decrease part. The Athabaskan study is, however, in its turn a constituent of a typological work by Mira Bergelson and the present writer on propositional derivation (see Bergelson and Kibrik 1991). I owe a lot to Mira Bergelson for understanding of transitivity shifts as they are presented in this paper, as well as some specific analyses.

I would like to express my gratitude to Robert Van Valin, Leonard Talmy and David Zubin who discussed with me some of the topics of this paper in Buffalo in November 1991. Special thanks are due to Willem de Reuse whose insightful remarks improved both the contents and the style of this paper significantly. Also I am grateful to Bernard Comrie, Leonid Kulikov and, especially Maria Polinsky, for their important notes and criticisms. Needless to say, I alone bear responsibility for all the wrong ideas and treatments.

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2. Although there is no city called Leningrad anymore I feel that referring to this school — at least to its past activities — we should preserve its original name as being an inherent part of history, like e.g. the name of the Leningrad blockade.
3. Athabaskan languages are (some were) spoken in three separate areas of North America: in the Northwest of the continent — in Alaska and western Canada; on the Pacific coast of Northern California and Oregon; and in the Southwest of the United States. I draw here examples from all of these territorial groups of Athabaskan languages. Significant genetic variety is also presented by the sample of Athabaskan languages cited here since for example Hupa and Navajo are as genetically different as Athabaskan languages can be (see Krauss and Golla 1981:68).
4. In a larger typological study (see fn.1 above) another term — propositional derivation markers/indicators — is used. It is motivated by the data from Kartvelian languages where a single morphological category serves to express transitivity derivations as well as supplementation of "indirect objects" to the initial PS. Within the Athabaskan material it would be an unnecessary complication to use the aforementioned terminology.
5. Actor and Goal are understood here as semantic hyperroles underlying the accusative case alignment. Actors are the arguments most salient in the situation (agents/experiencers of two-place verbs plus all arguments of one-place verbs) and Goals are the most affected arguments (basically, patients of two-place verbs).

6. Initials of language names, as shown in this chart, serve in the numbers of the examples below to indicate the language from which the given example is drawn. The numbers of Slave examples from the Hare or Slavey dialect (see Rice 1989) include also capitals H and S after a slash, e.g. (7.SI/H).
7. Examples in this paper are mostly borrowed from other authors; all such examples are supplied with the indication of source. However, some Hupa forms and clauses were elicited in the author's field work in Hoopa, California in October 1991. All Navajo examples were checked with a consultant in Tucson, Arizona, in January 1992; as a result many details were corrected and refined and some examples were added. I am very grateful to my consultants Calvin and William Carpenter (Hupa) and Irene Silentman (Navajo), as well as to Victor Golla and Eloise Jelinek for their invaluable help in arranging my fieldwork.

Examples from Slave are not provided with glosses (as they were absent in the source work — Rice 1989) but still are apparently understandable for the reader. Glosses for Sarcee forms are taken from Cook 1984, and those for Hupa and Navajo compiled by the author.

Abbreviations in glosses: A[ctor], G[oa], H[uman], Imp[ersonal], Ind[efinite], Aff[ix]. Only those morphemes that are relevant for the present discussion are provided with detailed glosses. Numerous affixes, as well as differences in stem shape, are not explained. Slash connects the person-number characteristics of a pronominal morpheme and its role. All examples are cited in the overt phonemic representation; a colon connects the glosses of morphemes that are segmentally indivisible. Examples are written in the existing practical orthographies.

8. I have to mention that while estimating the explanatory force of Hopper and Thompson's theory very high and finding the set of transitivity components they presented absolutely correct, I do not agree with their attempt to look for a motivation of transitivity in discourse. Transitivity semantic components are rather determined by off-line cognitive processes of conceptualizing reality than by on-line discourse processes. For some argument for this point see DeLancey 1987.
9. The system of Athabaskan TIs presented in (3) is generally viewed as basic for all Athabaskan languages. However, the whole picture is a bit more complicated. At least in some languages doubling of TIs is possible. For example, a detransitivized form with the *-d-* TI can undergo further transitivization. There is no space here to go into this interesting problem in detail, but consider the derivational chain of Hupa "themes": *-Ø-je:w* 'tar, smear' > *-di-je:w* 'stick together' > *di-..-di-je:w* 'be sticky' (lit. 'cause sticking together') (Golla 1970:86; Golla in preparation: entry JE:W). In Navajo not only *-d-* verbs can be transitivized but further detransitivization is possible; in this case the chain of derivation can be represented as *-Ø- > -d- > -td- > -ld-* (see Haile 1950:118); moreover, *-l-* verbs can undergo transitivization: *-Ø- > -l- > -tl-*, e.g. in *yiyoo-t-l-woł* 'he is causing it to run along' (Young and Morgan 1992:885).

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