Argument Structure of the Hocąk (Winnebago) Clause

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December 2002

1. Introduction

The notions predicate and argument in mathematics and logic have been fruitfully applied in linguistics to describe a basic type of syntactic relations called government in terms of traditional grammar. The verb is taken as the predicate of the clause opening one or more syntactic slots for noun phrases which serve as argument(s) of the predicate. The notion of a predicate – argument relation applied to the structure of a clause accounts for the fact that verbs lacking their arguments are felt to constitute incomplete clauses. A minimal requirement for a complete clause designating a proposition is to have at least one predicate often a finite verb plus one or two noun phrases filling its argument positions.

Verbal predicates designate typified situations that involve up to three central participants. On the cognitive level of representation, situations are of course much more complex. Usually, more participants are involved in the cognitive representation of a specific situation than are actually expressed in the corresponding linguistic representation. Languages and their speakers classify situations and this includes that they impose a certain perspective on a situation with only a few core participants. The structural correlate of the linguistic classification of situations and the imposition of a certain perspective on the situation type is a) the verb and b) its complements and adjuncts. The complements of the verb fill the argument positions the verb provides. These are the central participants of the situation type compared to the peripheral participants of the same situation type that may be realized as adjuncts. The distinction between complements and adjuncts reveals one aspect of the categorizing activity of speakers. Certain participants are considered to be relevant and important elements of a certain type of situation, others are considered to be peripheral.

The present paper aims to explore the argument structure of the Hocąk clause. Hocąk is a Siouan language of the Mississippi Valley group closely related to Chiwere (Otoe, Missouri, and Iowa). The term Hocąk is the traditional one and now official name of the self denomination of this tribe. The Hocąk tribe is better known as Winnebago since this was the term of reference first used by the neighboring Algonquian tribes and later the term of reference in the literature.

Starting from the argument structure of the basic non-derived verbs (cf. section 2) and their inflectional characteristics, I shall discuss first the rather valence increasing grammatical operations such as causativization (cf. section 3), the instrumental prefixes (cf. section 4), the locative applicatives (cf. section 5), the instrumental applicative (cf. section 6), and the benefactive applicative (cf. section 7). Section 8 is dedicated to the discussion of the so-called external possessor marking in Hocąk. Hocąk has two grammatical means to indicate an additional possessive relation between two different participants of a situation. The first is actually a systematic polysemy of the benefactive applicative, i.e. the benefactive participant can be interpreted systematically in most cases as the possessor of the undergoer in a situation. The second case is the morphological marking of the possessive relation between the actor and the undergoer in a situation. External possessor marking is neither a valence increasing nor a valence decreasing mechanism, but the expression of an additional relation – possession – between two core participants of a situation. The last sections deal with grammatical processes which tend to be rather valence decreasing operations cross-linguistically. However, it will be shown that most of these operations are valence decreasing only in the sense that one argument position of the verb is filled by some indefinite/ impersonal pronoun or an incorporated noun. Intransitivization is a concomitant effect of these processes. Reflexivization (cf. section 9) is a real intransitivizing process, but the others are not. The third person plural transitive undergoer marker and the homophonous indefinite undergoer marker (cf. section 11) fill the undergoer argument position and cannot be interpreted as a real grammaticalized detranitivizer. The same holds for the third person actor marker discussed in section 10. This form has a definite and an impersonal interpretation and cannot be reasonably interpreted as a detransitivizer and passive marker. Noun incorporation is a viable process in Hocąk too. The incorporated noun fills the patient or instrument argument of a verb such that this position is no longer available for other participants (cf. section 12).

1.1   The semantic and syntactic description of arguments

The relation between the predicate and its argument(s) is usually described in terms of semantic roles and/or grammatical relations. In principle, it is the verbal predicate which specifies the semantic relation of the argument(s) in a clause. For instance, with regard to the verb *rúuc* 'to eat sth.' it is the EATER and the EATEN FOOD that are the semantic roles of

the core participants. From a cognitive point of view, other participants are necessarily involved in the eating situation. For instance, there are instruments such as a fork, a knife, a plate, hands, teeth, etc. that are used in a human eating situation. These participants are not central to the prototypical eating situation, hence they are not complements of the verb 'to eat' but may be added as adjuncts.

Typological research on semantic roles has shown that languages and their speakers categorize predicate specific semantic roles into more general semantic roles which are traditionally termed agent, patient, instrument, receiver etc.[1] in case theory. These semantic roles are, however, not language specific notions. They are defined as language independent functional notions that serve as *tertium comparationis* for language comparison. The notions are not arbitrarily chosen, though. Cross-linguistic research has revealed that these roles are grammaticalized in different ways and to various degrees in the grammars of the languages. In addition, it has been shown that languages even further generalize these roles thus subsuming semantically similar roles under two or three macro-roles. The concept of very general macro-roles was first proposed by Foley & Van Valin 1984 within role and reference grammar[2]. It was hypothesized that there are two macro-roles, actor and undergoer that subsume the more specific agent-like and the patient-like roles just mentioned. Recently, Lehmann et. al. 2000a have proposed a third macro-role, the indirectus, a participant which is indirectly affected by the situation designated by the verb, but less so than the undergoer. The indirectus may subsume specific roles such as recipient and reversed recipient, benefactive, sympatheticus, and the experiencer (cf. Lehmann et. al. 2000a:19). The postulation of macro-roles is motivated by the fact that semantically similar arguments of a verb are encoded formally in the same fashion. E. g. the nominative marked subject of English active voice verbs conflate all kinds of agent-like specific semantic roles, and the same is true for the direct object that is assigned the accusative case. A reason for the postulation of the indirectus is e.g. the fact that the dative case marked indirect object conflates all kinds of indirectly affected participant roles (cf. Lehmann et. al. 2000a:149). However, even if macro-roles may coincide with grammatical relations, they are not identical. Grammatical relations can be identified on the basis of certain morphological coding properties in the clause and the grammatical behavior

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[1] Cf. Fillmore 1968, 1977; Dik 1978, 1997; Foley & Van Valin 1984, Van Valin 1993, Lehmann et. al. 2000a, 2000b, and others. For an overview of the emergence and development of the concept of semantic roles and the most important semantic roles and their definitions, cf. Helmbrecht 1998.

[2] But see also Dowty 1991, and Lehmann et. al. 2000a.

across clause boundaries (cf. Van Valin & LaPolla 1997:242-309). Grammatical relations are even less sensitive to semantic roles than the postulated macro-roles. This can easily be seen in English passive clauses. The nominative marked subject in a passive clause is semantically the undergoer, i.e. the grammatical relation subject conflates actor and undergoer (and even the indirectus) which demonstrates that the assignment of the nominative in English is not controlled by the semantic role of the participant. Since there is no evidence in Hocąk – at least on the level of the simple clause - that hints at the existence of grammatical relations in Hocąk, I won't discuss grammatical relations here further. The possibility of the existence of grammatical relations in Hocąk will be taken up again in section 10 when the question will be examined whether the third plural actor marker may be analyzed as a passive marker. If it would turn out that there is a passive in Hocąk this would be a strong index that we have to analyze participant roles and their encoding in Hocąk in terms of grammatical relations. But this is not the case.

A further indication for a rather semantically controlled coding of arguments is the semantic distinction of intransitive arguments. Hocąk has a so-called split S marking pattern[3]; i.e. the argument of an intransitive verb is marked in one way, if the predicate designates an activity, and marked in another way if the event is inactive or stative. The coding of the intransitive actor is identical to the coding of the actor in a transitive predicate, and correspondingly, the coding of the inactive intransitive undergoer is identically to the coding of the transitive undergoer. This marking pattern of predicate - argument relations is largely semantically determined. However, this does not mean that there is a choice between active/ inactive marking of intransitive arguments. That intransitive verbs are active or inactive is conventionally fixed, i.e. a feature of the lexicon. This includes that the classification of verbs as active and inactive is sometimes arbitrary. For instance, the rather inactive process of sleeping is treated as an activity, the verb *ną́ą* 'to sleep' takes the actor series of pronominal prefixes.

For the analysis of the argument structure of the Hocąk clause I will adopt the concept of macro-roles assuming that there are two of them, namely actor and undergoer. This corresponds nicely to the facts of the morphological encoding of intransitive and transitive clauses. There are two series of pronominal affixes, an actor series and a undergoer series. Intransitive active situations require the actor series, intransitive inactive/ stative situations require a pronominal marker of the undergoer series. In transitive clauses, the agent-like

participants are represented by a pronominal marker of the actor series, and the patient-like participants are represented by a marker from the undergoer series. A problem arises with regard to ditransitive clauses expressing transfer situations or with three argument verbs derived by means of a benefactive applicative. Here the recipient or the benefactive are represented in the same way as the patient thus employing two pronominal marker of the undergoer series. If there were a third series of pronominal markers as it is the case in other North American Indian languages, one could postulate a third macro-role, the indirectus. Since indirectus roles and undergoer roles are not formally distinguished with regard to different sets of pronominal markers in Hocąk, I will disregard the indirectus for the description of the argument structure of the Hocąk clause assuming that there are only two macro-roles, actor and undergoer, while the latter subsumes also the roles of the indirectly affected participant.

1.2　The identification of arguments in Hocąk

One of the most important criteria to identify arguments of a predicate is their obligatoriness. Noun phrases which cannot be omitted without producing an incomplete clause are arguments, otherwise they are adjuncts. Adjuncts are not governed by the verbal predicate. In a clause such as *Peter caught the rabbit with a trap* the verb *to catch* obligatorily requires two arguments which are filled by the noun phrases *Peter* and *the rabbit*. The third noun phrase in this example *with the trap* is an adjunct, it can be left out without destroying the completeness of the clause. From a semantic point of view one can say that the participants *Peter* and *the rabbit* are inherent parts of the event designated by the verb *to catch*. A human or animate agent as well as an animate or inanimate moving patient are implied in the concept of catching. The instrument *with the trap* is not a part of the verbal meaning. Nothing is specified in the semantic of *to catch* about the instrument by means of which something is caught. The noun phrases *Peter* and *the rabbit* are hence obligatory with regard to the semantics of the verb and with regard to its distributional (syntactic) properties. However, the semantic obligatoriness of arguments does not always coincide with syntactic obligatoriness, i.e. semantically implied participants may sometimes be syntactically omitted, or oblique noun phrases encoded like adjuncts may be syntactically obligatory. This is obvious e.g. in English

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[3] Cf. Dixon 1979, 1994.

passive clauses which usually omit the agent noun phrase. Semantically, an agent is implied, but syntactically this agent is no longer obligatory.

The possible mismatch between syntactic and semantic argument hood is dealt with in the present investigation in the following way. Priority is given to the syntactic (distributional) criterion of obligatoriness. Tests such as the omission of potential argument filling expressions are applied. In addition, there are a few morphosyntactic operations – mostly verbal derivations - in Hocąk which reveal the syntactic argument structure of a verb indirectly. For instance, the second type of external possessor marking (cf. section 8.2) as well as the reflexive marking are allowed only for transitive verbs. The syntactic conditions of these and the other verbal derivations will be addressed in the main body of this paper. It is also possible that there are labile verbs which can be used intransitively and transitively without any morphological or syntactic modification. Unfortunately, this possibility requires further research.

There is a peculiar difficulty in Hocąk verbs to identify arguments. Arguments of the verb are obligatorily indicated by means of pronominal prefixes in Hocąk. These are not real agreement affixes, since free personal pronouns and lexical noun phrases with which they could agree can always be omitted. It is the pronominal prefixes which fill the argument slot[4]. Up to three pronominal prefixes can appear on the verb in order to indicate three different arguments. However, the third person singular is always marked zero. In this case, the omission of a noun phrase in the clause does not work as test for argument hood, since the omitted noun phrase is still represented as zero in the verb. In order to prove argument hood one has to avoid third person singular arguments all together which is sometimes a kind of hard, particularly with regard to direct objects that naturally tend to be third persons singular. There are also other semantic roles which usually reject speech act participants as arguments, e.g. the instrument role.

1.3   The scope of the investigation

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[4] This is a morphosyntactic property Hocąk shares with other so-called pronominal argument languages. The concept of pronominal arguments was first introduced in linguistics by Jelinek 1984. Her hypothesis developed in this publication is not relevant for the present investigation of Hocąk though.

Predicate - argument relations can not only be found in verbs governing their argument(s) but also in adpositions governing their complement. Adpositions, however, do not play a role in Hocąk. Since Hocąk is a strict verb final language one would expect postpositions governing nominal complements used e.g. for locative adjuncts and the like. There are no such morphemes which could unambiguously classified as postpositions, though. It is a preferred strategy of Hocąk to integrate "oblique constituents" by means of subordinated predicates and clauses. Hocąk has no morphological case marking and hence no "oblique" case markers. But there are also no adpositions. The scope of the present investigation is therefore restricted to the domain of verbs. All grammatical processes which cause changes in the argument structure of non-derived and derived verbs are the subject of this investigation. Such changes may either increase or decrease the number of arguments of a verb, or they may add some meaning components to the verb resulting in a change of the semantic role of its arguments.

1.4   The data

The bulk of the data for this investigation were collected with the help of Hocank consultants in Wisconsin by means of elicitation. Other relevant sources are the grammatical descriptions by Susman 1943, Lipkind 1945, and Miner 1992b, and the lexical studies by White Eagle 1988, Miner 1992a, and Zeps 1996.

2. Verb classes

There are at least four different classes of plain non-derived verbs with regard to the number and semantic type of arguments: intransitive active verbs, intransitive inactive/ stative verbs, transitive verbs and ditransitive verbs, cf. the summary in Figure 1.

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Figure 1: Principal verb classes in Hocank

Plain (non-derived) verbs

intransitive   transitive   ditransitive

active   inactive/ stative
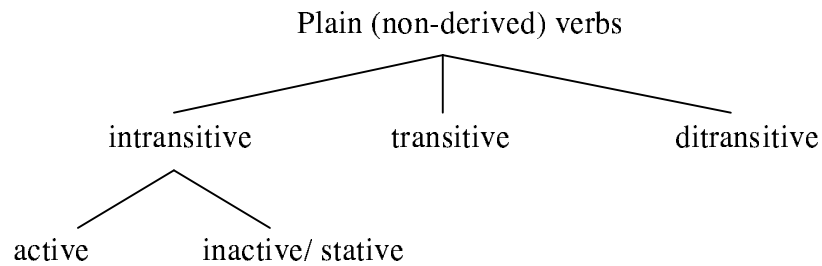
Transitive and intransitive active verbs can be further subdivided into a group of verbs inflected by means of the first conjugation, and another group inflected by means of the second conjugation. Since the choice of the two conjugations is phonologically conditioned, this distinction won't be considered further in the reminder of this paper. In addition, the sometimes quite complex morphophonemics of the verbal inflection is treated in the present paper only in so far as it is relevant for the understanding of the morphological operations and the argument structure of the verb[5].

The class of intransitive active verbs includes all verbs designating movements, body positions and body actions, cf. the examples in E 1.

E 1   *híí*   'to arrive, to get there'
       hiirá   'to bathe, to swim'
       nąąžį́   'to stand'
       hikšá   'to smile'
       hikorohó   'to get ready, to get dressed'
       etc.

All these verbs imply a human or animate actor. Morphologically they are distinguished from intransitive inactive/ stative verbs by requiring the actor set of person markers either of the first or of the second conjugation. The paradigm of the active intransitive pronominal prefixes (first conjugation) is given in E 2.

[5] For information on the morphophonemics of the verbal inflection, the reader is referred to the detailed description of this aspect of the Hocąk morphology in Lipkind 1945:25-27; Marten 1964; Helmbrecht in prep.)

E 2   Paradigm of the active intransitive verb *šgáac* 'to play'

	sg	du	pl
1incl		*hį-šgác*	*hį-šgaj-wí*
1excl	*ha-šgác*		*ha-šgaj-wí*
2	*ra-šgác*		*ra-šgaj-wí*
3	*Ø-šgáa*[6]		*Ø-šgáaj-ire*

The class of intransitive inactive/ stative verbs comprises all verbs designating properties such as colors, dimensions, values, etc., unintentional processes, and results of processes, cf. the examples in E 3.

E 3   *šį́*   'to be fat'
        pį́   'to be nice, to be good'
        nąąwó   'to swell'
        šišré   'to break, to be broken'
        hokižác   'to be puzzled'
        etc.

Morphologically these verbs are distinguished from the active intransitives in that they take the undergoer series of personal affixes, cf. the paradigm in E 4. Note that there is no distinction between first and second conjugation in the undergoer series of pronominal prefixes.

E 4   Paradigm of the inactive/ stative intransitive verb *š'áak* 'to be old'

	sg	du	pl
1incl		*wą́ąga-š'ák*	*wą́ąga-š'ák-wi*
1excl	*hį-š'ák*		*hį-š'ag-wí*
2	*nį-š'ák*		*nį-š'ag-wí*
3	*Ø-š'áak*		*Ø-š'áag-ire*

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[6] The zero sign in the paradigms here is introduced for reasons of a better and more transparent exposition of the morphological structure of the inflectional paradigms. The question whether there is indeed a zero or rather nothing has to be examined further. A third singular person category lacks a morphological reflex on the verb in each case. This suggests that there is indeed no zero morpheme. However, the third singular anaphoric function of this zero form rather suggests that a third singular zero morpheme should be assumed. I prefer to leave this question open here for further research.

There is a large group of verbs which should be classified as inactive/ stative intransitive verbs on semantic grounds. The peculiarity of these verbs is that they can be inflected only for either animate or inanimate third persons. Since the third person singular actor and undergoer is generally zero marked, and the third person plural suffix *–ire* does not distinguish between actor and undergoer, the active/ inactive distinction is neutralized in these verbs. In other words, the active/ inactive distinction in intransitive verbs exists only for verbs allowing a first and second person intransitive argument. Note further that the split between first/ second person versus third person with regard to the active/ inactive marking pattern leads to lexical oppositions such as *šišré* versus *xuuxré* 'to break, to be broken' (cf. the examples in E 3 and E 5) depending on the person category of the single argument. The second one is possible only for third persons. Some examples for verbs which allow only third person subjects are given in E 5.

E 5	*roocų́*	'to become ripe (3rd person only)'
	túuch	'to be cooked (3rd person only)'
	xuuxré	'to break, to be broken (3rd person only)'
	etc.

The vast majority of transitive verbs show some kind of morphological derivation, plain underived transitive verbs are less frequent. Transitive verbs designate actions which are instigated and conducted by an intentional and controlling actor on a more or less affected undergoer, cf. some examples in E 6. Morphologically these verbs require a pronominal prefix of the actor and one of the undergoer series. Since third person singular actor and undergoer is marked zero, the verbs in E 6 could also be translated as *honį́* 'he/she hunts it', *ru'ą́* 'he/she carries it' and so on[7]. Note that the plain verbs express a complete proposition, but do not constitute a complete utterance. A declarative suffix such as *-ną* or *-šąną* is required in each case.

E 6	*honį́*	'to hunt sth., to look for sth.'
	ru'ą́	'to carry, to lift sth.'
	honą́c	'to borrow sth.'
	etc.

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[7] Note that there is no infinitive category in the Hocą̱k verb.

Plain underived ditransitive verbs are really rare. I found only two or three instances of such a verb, e.g. *hok'ṹ* 'to give sth. to someone' and *wahá* 'to show sth. to so.'. It is therefore doubtful whether one can speak of a proper subclass of Hocąk verbs. That *hok'ṹ* 'to give sth. to someone' is really a three place verb can be seen in E 7a-b[8].

E 7   (a)   *woonį́k'ųųną*   'I gave them to you' or 'I gave you to them'
            / *wa- ho- nįį-   k'ų- ną*/
            3pl.U-ST-1->2-give-Decl
      (b)   *woínąk'ųųną*   'You gave them to me' or You gave me to them'
            / *wa- ho- hį-   ra-   k'ų- ną*/
            3pl.U-ST-1sg.U-2sg.A-give-Decl

Hocąk, like Lakhota and other Siouan languages, has a portmanteau pronominal prefix *nįį-* indicating a first person acting on a second person. In addition, the *wa-* prefix is a 3pl.U form which is used only with transitive verbs. There is no rule which says that maximally two arguments may be pronominally indicated on the verb which is sometimes the case in head marking languages.

There is a remarkable uncertainty with regard to the undergoer series of pronominal affixes. In the examples in E 7a-b they indicate the patient and the recipient and it can only be inferred from the discourse context which one of the undergoer prefixes refers to which semantic role. Therefore, there are two possible translations of these expressions. The default interpretation is always the first one, since speech act participants are usually not the object of a giving event. The third person plural undergoer pronoun *wa-* may refer either to animate or inanimate entities, the latter are much more common objects of giving. This uncertainty with regard to the assignment of semantic roles is systematic, if there are two undergoer pronouns and can be found also in benefactive applications (cf. section 7 below). The possibility of the pronominal prefixes of the undergoer series to indicate the patient and the recipient role is an argument in favor of describing them in terms of the macro-role undergoer in the sense of Foley & Van Valin 1984. This generalized patient-like macro-role undergoer subsumes

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[8] The following abbreviations are used in the glossing of the examples: A = actor, U = undergoer, Pat = patient, Rec = recipient, Ben = benefactive applicative, Instr = instrument applicative, Loc = locative applicative, INSTR = instrumental prefix, Refl = reflexive, Recip = reciprocal, Poss = possession, Def = definite article, Indef = indefinite article, 1, 2, 3 = first, second, third person, 1->2 = first person acting on a second person, sg/ pl/ du = singular/ plural/ dual, incl./ excl. = first person inclusive/ exclusive, ST = part of verbal stem, Decl = declarative suffix, PN = proper name marker, Sub = subordinator.

several distinct semantic roles even the ones called indirectus (cf. Lehmann et al. 2000a) formally discerned in other languages e.g. by a dative case marker or a special series of pronominal affixes.

Some remarks on verbal stems are due before I begin with the discussion of the various possible morphological manipulations of the argument structure of verbs in Hocąk. The verbs in the Hocąk lexicon are morphologically transparent. There are numerous forms which begin with one of the locative or instrumental applicatives such as *ha-*, *ho-*, and *hi-* (cf. section 5 and 6 below), or with one of the eight instrumental prefixes such as *boo-*, *nąą-*, *mąą-*, *taa-*, *gi-*, *ra-*, *ru-*, and *wa-* (cf. section 4 below). This does, however, not mean that these are productive derivations of the one or the other type. Even if the morphological behavior looks as if it is a productive derivation, the semantics of the verb and the argument structure do often not show the expected behavior. In this case, the form has to be treated synchronically as a single verb stem, even if it is possible to analyze the form diachronically as a derivation. I will illustrate this with an example. There is e.g. a transitive verb *hiperés* 'to know sth./ someone' which is morphologically transparent. It is historically presumably a derivation of *hi-* 'with (instrumental applicative)' plus the verb *perés* 'to be clear'. The latter is still used as a free intransitive inactive verb. The *hi-* prefix normally adds an instrument argument to the verb thus increasing the valence. No such process can be recognized synchronically in the verb *hiperés*, except that it is transitive compared to *perés* that is intransitive. An additional instrument argument cannot be identified on the basis of the semantics of the verb. The morphophonemic rules, however, associated with the instrumental applicative *hi-* apply in the same way in the inflection of *hiperés* as in any other "real" productive derivation with *hi-*. The likely historical derivation of *hiperés* has become lexicalized. From a synchronic point of view, this verbs has to be treated as a single non-derived verb. Similar cases abound in the Hocąk lexicon.

3. Causatives

A causative construction typically consists of a predicate with two or three arguments that have been termed causer, causee, and patient (if there are actually three arguments). Semantically, the causer forces the causee to do something or is the causal source that a state of affairs comes into being. Structurally, causative constructions can be formed analytically by means of auxiliaries or morphologically by means of verb derivations (less often by

inflection). Lexical oppositions representing the causative argument structure such as *kill* versus *die* exist too.

In principle, it should be possible to form causatives from intransitive as well as from transitive verbs resulting in argument structures as given in Figure 2.

Figure 2: Argument structure of causative formations
      (a)   [Causer – Causee - Verb$_{intr}$ + CAUSE]
      (b)   [Causer – Causee – Patient – Verb$_{tr}$ + CAUSE]

Typologically, the most variation with regard to argument encoding can be found in the causee, since the causee is at the same time the undergoer of the causation and the agent of the event designated by the verb.

Hocąk causative formation is analytical. Hocąk has four forms such as *=híi, gigí, šíi,* and *reehí* that are used to various degrees to form causative constructions. The first one of these *=híi* [9] 'to make, to do' is the most frequently used form; it is a cliticized auxiliary appearing after the main verb. However, *=híi* does not only form causative construction, but – as can be expected of the most grammaticalized causative marker in a language - functions also as a transitivizer. The transitivizing function can be observed almost exclusively in causative constructions based on intransitive inactive/stative verbs, cf. the examples in E 8 - E 10 a-b.

E 8   (a)   *cąąt'į*   'to be visible, observable'
        (b)   *cąąt'į=hii*   'to make sth. visible'
        (c)   *cąąt'į=waháaną*   'I make them visible'
              /*cąąt'į= wa-   haa-   ną*/
              visible=3pl.U-1sg.A.cause-Decl

E 9   (a)   *hikirúse*   'to be twisted (3rd person inanimate only)'
        (b)   *hikirúse=hii*   'to twist something'

E 10   (a)   *cųųšgúnį*   'to be gone, to be empty'
        (b)   *cųųšgúnį=hii*   'to take it away (from someone)'
        (c)   *cųųšgúnį=nįį-ną* 'I take it away from you'
              /*cųųšgúnį=nįį- hii-   ną*/
              empty=   1->2-cause-Decl

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[9] There is a homophonous verb *hii* 'to arrive, to get there' that is used for complex predicate formation in Hocąk too. It occupies the same position after the main verb, but has different meanings, e.g. it is sometimes used to indicate durative aspect. Both verbs can be confused only in third persons, because they follow different conjugation patterns.

The arguments of the transitivized/ causativized constructions are both pronominally marked on =*hii.* This is illustrated in E 8c. Note that =*hii* is inflected irregular, the /h/ drops and the stem vowel is changed to a long /a/ for the first person actor. The undergoer is the 3pl.U *wa-*.

In E 10c, the transitivization/ causativization introduces two new arguments, the transitive patient and the recipient[10], i.e. the person from whom something is taken. As is usually the case in Hocąk a recipient, or benefactive, and here in E 10c the reversed recipient takes precedence over the patient argument with regard to marking, because of the prototypical high position of this participant on the empathy hierarchy. It is more likely that the recipient etc. is marked pronominally, since recipients are more likely speech act participants than transitive patients. Otherwise, it is principally possible to have both arguments marked by pronominal affixes of the undergoer series. Obviously Hocąk neither belongs to the group of so-called "primary object" languages nor to the group of "direct object" languages in terms of Dryer's syntactic typology (cf. Dryer 1986)[11].

As can be expected with regard to verbal derivations, *híi* is not fully productive. There are intransitive inactive verbs such as *šižre* 'to break, to be broken' that do not allow a derivation on *hii.* The reason may be that these verbs are regularly transitivized by other means such as of one or more of the instrumental prefixes (cf. section 4 below).

The prototypical causativizing function of =*hii* can best be observed with intransitive active verbs. The intransitive agent is forced to conduct the action by the causer thus becoming a causee, cf. the illustrating examples in E 11a-b and
E 12a-b. With most of verbs of coming and going (except the progressive series of these verbs)[12] – the addition of the causative auxiliary produces meanings of sending, cf.
E 13a-b.

E 11 (a)   *hikšá*   'to laugh, to smile'
       (b)   *hikša=híi*   'to make someone laugh, smile'

E 12 (a)   *keré*   'to leave'
       (b)   *kere=híi*   'to make someone leave, to send someone away'

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[10] Actually it is a reversed recipient termed *Emittent* in Lehmann et. al 2000a:100ff.
[11] Primary object languages are languages which code the indirect object (i.e. the recipient) in ditransitive clauses in the same way as the direct object (i.e. the patient) in transitive clauses. Direct object languages are hence languages that encode the direct object in transitive and ditransitive clauses in the same way.
[12] Hocąk has a set of twelve systematically organized verbs of coming and going that distinguish movement towards speaker and away from speaker, towards a place one belongs to, or has been recently and away from this place, and progressive aspect. They can be grouped together as a subclass of verbs of motion on semantic grounds, but also because they behave similar with regard to some morphological derivations.

E 13 (a) *gúu*   'to start returning'
       (b) *guu=híi*   'to send back someone/something'

With transitive verbs, the addition of *=hii* produces verbs with a three argument frame including the causer, the causee, and the patient, cf. the example in E 14.

E 14   *Petergá Paulgá hųųcrá gųųchį́įnạ*   'Peter made Paul shoot the bear.'
         /Peter-gá   Paul-gá   hųųc-rá   gųųc- hį́į-   nạ/
         P.-Prop.N P.-Prop-N   bear-Def shoot-cause-Decl

Since 3sg arguments are always marked zero, the coding properties of the three arguments are not visible in E 14. The rules of argument marking can be inferred from the additional example in E 15. The causer and the causee are always marked pronominally on the causal auxiliary *=hii*. The patient is obligatorily marked on the main verb. The causee who is the actor of the main verb can be marked there too, but this is optionally. Thus the causee may be marked twice in a complex predicate phrase, cf. the schema in Figure 3.

E 15   *hį(nạ)gúc=nįhį́įnạ*   'he made you shoot me'
        /hį-   (rạ)-   gúc=   nį-   hį́į-   nạ/
        1sg.U-(2sg.A)-shoot=2sg.U-cause-Decl

Figure 3: Person inflection in causative formations
        [Pat – (Agent$_i$) - Verb$_{tr}$ [Causee$_i$ – Causer –Verb$_{CAUSE}$]]

The other verbs, *gigí* 'to let someone do sth., to allow someone to do sth.' and *sií* 'to tell someone to do sth', are used to form causatives to a lesser degree. They are not used with inactive/ stative intransitive verbs since they require the causee to have some control over the performance of the action. There is no control of the argument in inactive/ stative verbs. Therefore, *gigí* 'to let someone do sth., to allow someone to do sth.' is only possible with intransitive active and transitive verbs. The rules of argument coding are the same as in *=hii*. The causer is the actor of the causative verb, the causee the undergoer, and the patient (if present) is marked on the subordinated verb of the complex predicate, cf. the examples in E 16 and E 17.

E 16   *hịgúc nịgigíireenạ*   'they let/ allowed you to shoot me'
       /hị-   gúc   nị-   gigí- ire-   nạ/
       1sg.U-shoot 2sg.U-let- 3pl.A-Decl

E 17   *nịgúc hịšiíreenạ*   'they told me to shoot you'
       /nị-   gúc   hị-   šii- íre-   nạ/
       2sg.U-shoot 1sg.U-tell-3pl.A-Decl

The causee who is at the same time the undergoer of the cause verb and the actor of the subordinated verb may be optionally marked on the subordinated verb as actor, cf. the examples in E 18 and E 19. Note that the primary stress of *gigụs* 'to teach' would move one syllable to the right, if the causee/ agent would not be marked.

E 18   *wa(ra)gígụs nịịgígiinạ*   'I let/ allow you to teach them'
       / wa- (ra)- gígụs nịị- gígi-nạ/
       3pl.U-2sg.A-teach   1->2-let- Decl

E 19   *wa(ra)gígụs nịịgígiinạ*   'I told you to teach them'
       /wa- (ra)- gígụs nịị- gígi-nạ/
       3pl.U-2sg.A-teach   1->2-let- Decl

      The last of the four causal auxiliaries is *reehí* 'to cause', cf. the example from White Eagle (1988:12) in E 20.

E 20   ... *hoihú reehí-gi gišarašarax-nạạ- nạ*
       ... swing cause-if rattle-   would-Decl
       ... it would rattle if one shakes it.

It appears sometimes in causative constructions, but it does not seem to be a productive means to this end. I could not elicit any productive causative constructions with this form. In E 20, *reehí* certainly transitivizes the intransitive verb *hoihú* 'to swing' deriving the meaning 'to shake sth. (= cause to swing sth.)'. Diachronically, *reehí* might be analyzed as a combination of *ree* 'to go, to start going' plus causative *híi*.

4. Instrumental prefixes

Instrumental affixes of the type to be discussed in the present section are not uncommon among North American Indian languages, but they are particularly common in Siouan

languages, certainly being a property of the proto language. Hocąk has a set of eight different prefixes which are formally subdivided into two groups, the instrumental prefixes having a long vowel, and the ones having a short vowel. Semantically, these prefixes add an instrumental meaning to the verb in the sense that the action designated by the verb is accomplished by means of some instrument (body part or artifact), by force, or a special type of instrumental movements. The instrumental prefixes can be glossed semantically as in E 21.

E 21   Semantics of instrumental prefixes

Long instrumental prefixes		Short instrumental prefixes	
boo-	'by shooting, by blowing, by force'	*gi-*	'by striking'
mąą-	'by cutting'	*ra-*	'with the mouth, with the teeth'
nąą-	'by foot'	*ru-*	'by hand'
taa-	'by fire, by heat'	*wa-*	'by pressure, by pushing'

The majority of verbs beginning with an instrumental prefix in the Hocąk lexicon are transitive verbs. This fact suggests that these prefixes have a transitivizing function. And indeed, if one considers the productive cases of word formation with these prefixes, one can quickly find cases where the transitivizing function is obvious. In E 22a-b and E 23a-b, an intransitive inactive verb is transitivized by means of the instrumental prefix *boo-*. The resulting verb is a regular transitive verb. The semantics of the derivational relation between the root and the derived form is less obvious in E 24a-b. The intransitive inactive verb *t'ée* 'to die, to be dead' can be derived by *boo-* too. The resulting verb is transitive, but the meaning deviates from what can be expected.

E 22   (a)   *sįnį́*   'to be cold (weather)'
          (b)   *boo-sįnį́*   'to blow sth. cold'

E 23   (a)   *séep*   'to be black'
          (b)   *boo-sép*   'to extinguish at a distance, blow out (as a lamp)'

E 24   (a)   *t'ée*   'to die, to be dead'
          (b)   *boo-t'é*   'to hurt someone/ sth. as with a blow'

By far the majority of verbs with a instrumental prefix do not show a derivational relation between an intransitive (inactive) verb root and a derived stem as the examples presented in E

22 - E 24. The main reason is that there is – from a synchronic point of view - simply no free independent verb root which is the base for the derivation. For instance, there are transitive verbs such as *booŠárac* 'to poke sth. away', *boosíc* 'to sweep clean sth.', *booŠgáp* 'to knock over sth. by running into it' etc. whose derivational counterpart is not an independent verbal root. There is no independent **Šárac, *síc,* and **Šgáp*. This observation can be made with all other instrumental prefixes. Most of the derivations on instrumental prefixes in the Hocąk lexicon have therefore to be treated as historically lexicalized derivations. Sometimes even the semantics of the instrumental prefix is no longer visible.

The basis of the derivation with instrumental prefixes may be a verbal root which appears in other derivations, but does not exist as a free word. This is the case e.g. in E 25a-c. The base forms do occur in other derivations with instrumental prefixes (not given here) and seem to be quite productive there. The roots of the derivations in E 25 occur as inactive intransitive verbs in the lexicon with the suffix *–re*. This suffix looks like a detranisitivizer, because there are a number of verbs with it in Hocąk which have a somewhat passive-like translation. But in fact *-re* is a lexically fixed no longer productive suffix which perhaps had this passivizing or detransitivizing function once historically.

E 25	(a)	*boo-Šíp*	'to shoot sth. down'	< *Šiibré*	'to fall down'
	(b)	*boo-ŠíŠ*	'to break sth. by a blow'	< *siiŽré*	'to break, to be broken'
	(c)	*boo-xúx*	'to break sth. in pieces'	< *xuuxré*	'sth. brittle breaks, is broken'

That derivations with instrumental prefixes do not always derive transitive verbs can be illustrated with *taawús* 'to be dried by heat' which is an intransitive verb based on another intransitve inactive verb *wúus* 'to be dry', cf. E 26a.

E 26	(a)	*taawús*	'to be dried (by heat)'	< *wúus*	'to be dry'
	(b)	*boosų́*	'to tip over'		
	(c)	booxárac	'gayser'		

The derivational base form does not exist as a free independent word or does exist but with a totally different meaning. The verb *boosų́* 'to tip over' in E 26b has a corresponding form *sųųré* 'to be tipped over' in the lexicon, but no independent form **sų́ų* with a comparable meaning. The basis of the derivation **xárac* in E 26c does not exist at all as an independent word. These examples also demonstrate that words with a instrumental prefix need not be

transitive verbs, but may be intransitive (cf. E 26b), or may designate a nominal concept (cf. E 26c).

5. Locative applicatives

There is a group of three prefixes, *ha-* 'on it', *ho-* 'in it', *hi-* 'with it' that occupy the same structural slot in the morphology of the verb. They are termed locative prefixes by Lipkind (1945), Susman (1943), and Miner (1992b) according to the traditional practice among Siouanists. This term is to some extent a misnomer, at least for the last prefix *hi-* that has nothing to do with local relations. *hi-* is a instrumental applicative and will be treated separately in the subsequent section.

The locative applicatives *ha-* and *ho-* are derivational prefixes that add a new locative argument to the argument of the derived verb; *ha-* means 'on sth', *ho-* means roughly 'in, inside, within sth.'. The function of the locative applicatives is illustrated in E 27 and E 28.

E 27 (a) *t'ą́ap*   'to jump down, to step down (as from a chair)'
      (b) *hat'ą́p*   'to jump on sth.'
      (c) *homįgra haat'ą́pšąną*   'I jumped on the bed'
           /*homįk-ra   ha- ha-   t'ą́p- šąną*/
           bed-   Def on.it-1sg.A-jump-Decl
      (d) *hanįtą́pšąną*   I jumped on you'
           /*ha- nįį- tą́p- šąną*/
           on.it-1->2-jump-Decl

In E 27a-d, the active intransitive verb *t'ą́ap* 'to jump' receives an additional locative argument indicating the place where the movement of the actor ends, i.e. the actor is brought in a local relation to another entity. In English such supplementary information is usually given by means of oblique prepositional phrases. That the actor and the place 'on sth.' are indeed arguments of the verb *hat'ą́p* is demonstrated in E 27d where both entities are speech act participants, i.e. pronominally marked by non-zero forms. If there is no pronominal but a lexical noun phrase filling the argument position as in E 27c, this noun phrase may have an optional locative enclitic *ejá* 'there' which is a very general local deictic marker. In terms of relational grammar, one might analyze this derivation as a promotion of an oblique locative object to direct object status. However, the non promoted oblique (locative) object may be marked by *ejá*, but the locative argument promoted to direct object may be marked by *ejá* too.

It is clear that *ejá* cannot be analyzed as a local or locative oblique case marker, and it seems to be better not to speak of a promotion to a higher grammatical relation.

The prefix *ho-* 'in sth.' works in a parallel fashion, cf. the examples in E 28a-c. The difference is that it is much harder to find reasonable locative arguments which are not third person singular. With the verb *hikí* 'to wake up' for instance it is impossible to imagine a pragmatic reasonable place argument which could be a speech act participant.

E 28   (a)   *hikí*   'to wake up'
         (b)   *hohikí*   'to wake up in some place, the place one wakes up"
         (c)   *honąną́ hoyaákįįną*   'I woke up in the bedroom'
             /honą-   rą́   ho-hi- ha- kį-   ną/
             bedroom-Def in- ST-1sg.A-wake.up-Decl

In a recent paper by Craig & Hale 1988 on relational preverbs in some American Indian languages, it is tacitly assumed that the derivation by locative applicatives in Hocąk is a productive process. This, however, is at best misleading. The locative applicative *ha-* can be used productively with only a small subset of verbs in Hocąk, mostly intransitive verbs designating movements and bodily positions. *ha-* is not possible with the set of intransitive verbs of coming and going which is surprising, since they seem to be the natural target for locative applicatives from a semantic point of view. In addition, *ha-* is not possible with almost all transitive verbs. I could not elicit productive derivations on *ha-* with plain non derived transitive verb stems. One clear exception to this rule is *wahų́* 'to pour, spill sth. (liquids)' which has a derived form *hawahų́* 'to pour sth. (liquids) on sth.' There might be other derivations of this type, but if so, they are exceedingly rare.

The same holds for transitive verbs which are derived with instrumental prefixes (cf. 4 below). Productive derivations with one of the instrumental prefixes such as *boo-, nąą-, mąą-, taa-, gi-, ra-, ru-, wa-*, result in transitive verbs. I found no productive derivations of the type *[*ha-* [INSTR + verb]$_{tr}$]. This does not mean that there are no morpheme combinations of the type [*ha-* + INSTR + verb] in the lexicon of Hocąk. But in every case, the stem of the *ha-* derivation turns out to be either not a productive derivation with an instrumental prefix, i.e. the [Instr + verb] stem is a lexicalized stem with an idiomatic meaning, often also intransitive, or there is no derivational (i.e. systematic) relation between the [Instr. + verb] stem and the derived form on *ha-*, i.e. the *ha-* derivation has become lexicalized itself with an idiomatic meaning.

The latter case can be illustrated with e.g. the verb *rat'ék* 'to bruise, mark by biting' beginning with an instrumental prefix *ra-* 'with mouth, by biting'. This verb is lexicalized, there is no independent root *-t'ek*. There is also a form *harat'ék* with the rather idiomatic meaning 'to slur words'. There is certainly no derivational relation between both of them.

The former case can be illustrated with *waǧép* 'to turn up earth with the shovel, to plow'. This transitive verb is a productive derivation of *ǧéep* 'to remove a layer' plus the instrumental prefix *wa-* 'by pressure'. However, the derivation on *ha-*, *hawaǧép* "to plow' has the same meaning and argument structure as *waǧép*, it has therefore to be treated as a lexical variant in the lexicon of Hocąk. This is not an exception. There are numerous words in the lexicon which begin with *ha-* and do not show any locative meaning 'on it' nor can they be identified as productive derivations. In the majority of cases they have to be treated as separate stems in the lexicon.

A last observation with regard to *ha-* derivations can be made. There are occasionally cases where *ha-* seems to have a transitivizing function, cf. the examples in E 29 and E 30.

E 29   (a)   *nąąjík*   'to stretch out one's legs'
       (b)   *hanąjík*   'to put pressure on sth. with feet and legs'

E 30   (a)   *nąxgų́*   'to hear sth., to understand'
       (b)   *hanaxų́*   'to listen to sth., to obey'

The semantic result of the derivation in E 29b is not only the 'stretching out of the legs on sth.' but also the effect of 'putting force on sth.' by this movement. The whole event is from a semantic point of view more transitive[13]. The same can be observed in example E 30b, where the 'locally directed hearing' implies an intentional act on the side of the actor which increases the transitivity of the expression.

What has been said about *ha-* holds in principle also for *ho-*, although it is much more difficult to find a common denominator for the function of *ho-*. As said above, *ho-* adds a locative argument to the verb if it is used productively, cf. the examples in E 28a-c. I have to stress the fact that productive derivations of this type are not frequent. Another productive example would be the intransitive active verb *nązí* 'to stand' which becomes *honązí* 'to stand in sth.' which is the regular expression for 'to wear sth. (clothing)'

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[13] In the sense of transitivity as a prototype with central and peripheral instances as described by Hopper & Thompson 1980.

A related function of *ho-* is to derive words which designate the place where the action of the verb takes place. For instance, the intransitive active verb *waší* 'to dance' becomes *howaší* 'dancing arena', i.e. where the dancing takes place. It also designates the Pow-wow, the traditional dancing and gathering events of the Hocąks. Another example of this derivation is *rucgús* 'to store sth.' which becomes *horucgús* 'silo', i.e. the place where sth. is stored. The locative applicative *ho-* may also designate 'the time when sth. happens'. Compare e.g. the example *hocįjinera* 'birthday' that may be translated literally as 'the time when someone is born'. One result of the derivation of such nominal concepts is the reduction of the valence of the original verb often producing words which are translated by nouns in English. However, these words are often ambigue, they may be used as heads in noun phrases, and at the same time they may be used as verbs in predicate position. It would therefore be misleading to term this operation as a nominalization.

A third function of *ho-* is to derive words which designate the result of the action of the verb, e.g. there is a transitive verb *rusgíc* 'to tie sth., to tie sth. up' that becomes *horusgíc* 'knot', i.e. the thing which is tied up. Another example is *wagáx* 'to write, to make marks' which becomes *howagáx* 'design, drawing'.

A fourth function of *ho-* is to derive words designating abstract concepts, e.g. *homąšją́* 'strength, power' from *mąąšją́* 'to be strong'.

The restrictions in productivity with regard to *ho-* derivations seem to be arbitrary. One cannot properly delimit the productivity of *ho-* by referring to special verb classes as was the case with *ha-*. *ho-* appears with intransitive active and inactive verbs, as well as with transitive verbs. Sometimes *ho-* adds a new lokative argument preferable with active intransitive verbs of movement and position (but again, it is not allowed with the verbs of coming and going), sometimes it derives nominal concepts designating locations and abstract concepts thus reducing the semantic valence of the verb. As with *ha-*, there are also examples where *ho-* seems to have a transitivizing function. The intransitive verb *rušg'é* 'to get juice by squeezing, to drip' becomes *horušg'é* 'to sprinkle sth.'

There are also many lexical pairs where *ho-* does not seem to make a difference, this is the case e.g. in *nąąšóx* 'make noise with the feet' which has approximately the same meaning as *honąšóx* . Another example is *rukšáp* 'to break sth. apart by pulling with the hands' which has approximately the same meaning as *horukšáp*.

By far the majority of lexical entries in the lexicon beginning with *ho-* do not show any traces of a productive derivation in terms of argument structure or in terms of the

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meaning of the words. That they may be analyzed as *ho-* derivations diachronically remains to be shown. Synchronically, they have to be treated as lexical entries of their own right.

6. Instrumental applicative

From a morphological point of view, the instrumental applicative *hi-* patterns with the lokative applicatives *ha-* and *ho-* discussed in the preceding section. *hi-* has the same morphological position and like *ha-* and *ho-* undergoes heavy morphophonemic changes depending on the adjacent morphemes. From a syntactic point of view, *hi-* adds an instrument argument to the verb. Since instruments are always inanimate entities (and never speech act participants) there is never a pronominal reflex of the instrument argument in the verb form. *hi-* derivations are never possible with intransitive inactive verbs, e.g. there is no form **hišišré* derived from *šišré* 'to be broken, to break'. *hi-* always requires a human or animate actor, i.e. only transitive or intransive active verbs allow a *hi-* derivation. In E 31, an example is given that illustrates the *hi-*derivation with the intransitive active verb *hikí* 'to wake up'. Waking up is not really an intentional action, but with the instrumental applicative, the meaning changes somewhat. The coffee is taken as the means to get awake, the whole action is consequently interpreted intentional.

E 31   Intransitive active verb
    (a)   *hikí*   'to wake up'
    (b)   *hihikí*   'to wake up with sth.'
    (c)   *nįįtášjak hiyáakįįnạ*   'I wake up with coffee, I use coffee to wake up'
             /*nįįtášjak hi-   hi- ha-   kį-   nạ*/
             coffee   with.it-ST-1sg.A-wake.up-Decl

E 32 gives an example of a *hi-*derivation with a transitive verb. Note that the actor and the undergoer are pronominally marked on the verb, the instrument argument has no pronominal reflex. The NP 'a gun' can be dropped, but then an instrument is implied which has been already mentioned in the preceding contexts.

E 32   Transitive verb
    hiižúk wiiyáagucšạnạ   'I shot them with a gun'
    /*hiižúk wa-   hi-   há-   guuc- šạnạ*/
      gun   3sg.U-with.it-1sg.A-shoot-Decl

The semantic role of the instrument argument is strictly instrumental, *hi-* does not allow metaphorical extensions of the argument that are often associated with instrumental case markers or adpositions. For instance, the English preposition *with* (the same holds for German *mit* 'with') allows manner adjuncts, comitative adjuncts, and vehicle adjuncts expressing the tools for transportation[14]. All these extensions are not possible with *hi-* in Hocąk. In E 33a-c, it is shown that tools of transportation such as vehicles cannot be complements of the *hi-* applicative. Instead, the type of actions , e.g. 'sitting in it' (cf. E 33c), associated with the vehicle has to be expressed; syntactically this part is a subordinated clause.

E 33   No *hi-* derivation for transportation tools
     (a)   *hikiwáre*   'to travel, to look around'
     (b)   **hirarúti hiyaákipataaną*   'I travelled with (my) car'
            / *hirarúti hi-   hi-   ha-   kípata-   ną*/
                 car   with-ST-1sg.A-travel.1sg.A-Decl
     (c)   *hirarúti homįánąk yaakípataaną*
            /*hirarúti homį-há-   nąk   hi-   ha-   kípata-   ną*/
              car   sit-   1sg.A-Prog ST-1sg.A-travel.1sg.A.-Decl
            'I travelled with my car (lit. I travelled sitting in (my) car)'

A similar restrictions holds for manner adjuncts. In English and German, they may be expressed by optional prepositional phrases in a clause such as *mit Eile*, 'with a hurry', *in a rush,* etc. This is not possible in Hocąk, cf. the examples in E 34. If a movement is made in a rush, this adverbial information has to be expressed as a separate subordinate clause, cf. E 34a. This is a general strategy of Hocąk which can be observed with other types of "oblique constituents" as well. Note that the subordinate verb *hikųhé* 'to hurry' is not inflected for the person of the actor. If the actors of the matrix verb and the subordinate verb are co-referential, the subordinate verb need not be conjugated, but may optionally be so.

E 34   No *hi-*derivation for manner adjuncts
     (a)   *hikųhé hakeréeną*   'I left in a rush (lit. I left hurrying)'
            /*hikųhé ha-   keré- ną*/
            hurry   1sg.A-leave-Decl
     (b)   **hikųhé yaakeréeną*   I left in a rush'

Accompanying entities and comitatives cannot be expressed by *hi-* either, cf. the examples in E 35 and E 36. In E 35, the inanimate entity 'with a cup of coffee' accompanying the actor of

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[14] Cf. Lehmann et al. 2000b.

the clause needs to be expressed by an adjoined subordinate clause expression the action

associated with the cup. The same is true for persons accompanying the actor of the clause, cf.

E 36. In principle, Hocank has two possibilities to express a comitative relation. Either the

two actors are coordinated in one NP by means of a coordinating conjunction –ánąga 'and', or

a subordinate clause with a verb such as hakižú 'to be together' has to be used. The comitative

participant is integrated into the state of affairs of the sentence by means of a subordinated

clause.

E 35   No *hi*-derivation for inanimate accompanying entities
    (a)   *wamįnąk nįįtúšjak horacgá harukós hamįąnąkšąną*
          / wamįnąk nįįtúšjak horacgá harukós ha- mį- há- nąk-šąną/
          chair   coffee   cup   holding on.it-ST-1sg.A-sit- Decl
          I sit on a chair with a cup of coffee (lit. I sit on a chair holding a cup of coffee).
    (b)   *..... hi-mįának-šąną*

E 36   No *hi*-derivation for comitative, i.e. accompanying persons
    (a)   *wągížą warukóžižą hakižú jiiną*
          / wąk-hižą warukós- hižą hakižú jii- ną/
          man- Indef policemen-Indef be.together 3sg.A.arrive-Decl
          A man came with a policeman.
    (b)   *..... hi-jii-ną*

I have the impression that *hi*-derivations are much more productive in Hocąk than the locative

applicatives discussed in section 5. However, there are many active intransitive and transitive

verbs in the lexicon which do not allow a *hi*-derivation for no obvious reason. Sometimes it

can be assumed that initial *hi-* of such verb stems (that may be a instrumental applicative

historically, but is lexicalized now, or they may be reinterpreted as containing the

instrumental applicative, although they do not) prevents another *hi*-derivation. Furthermore,

the verbs of coming and going do not allow a *hi*-derivation without exception. In such cases,

Hocąk speakers use a general instrumental verb *hi'ų* 'to use' and form a subordinate clause, cf.

the example in E 37.

E 37   "Oblique" marking of instrumental noun phrases if no *hi*-derivation is possible
    (a)   *hiižų́k hi'ų nąąkikaraaną*   'I hunted with a gun (lit. I hunted using a gun)'
          /hiižų́k hi'ų nąą- ha- kikara-ną/
          gun   use.it ST- 1sg.A-hunt- Decl
    (b)   *.....hinąąkikaraaną*

The intransitive active verb *nąąkíkara* 'to hunt, to go hunting' cannot be derived by *hi-*, instead a subordinated verb has to be used to integrate the instrument into the sentence. That *hi'ų* 'to use' is a verb and not an oblique instrumental case marker can be concluded from the fact that this verb can be optionally inflected for the person category of the actor as any other subordinated verb.

7. Benefactive applicative

Hocąk has a very productive benefactive applicative *gi-* that increases the argument frame of the verb by one. Semantically, the new argument may sometimes be a sympatheticus (cf. Lehmann et al. 2000a:12ff), i.e. a participant which is indirectly affected by the state of affairs designated by the verb that is often expressed by what has been termed dativus ethicus, cf. for instance the examples in E 38 and E 39. Much more frequently the new participant has benefactive relation to the state of affairs designated by the verb, cf. the examples in E 40 and E 41.

E 38   Sympatheticus interpretation of the *gi-* argument
        hicawį-gi-t'é   'widower, (lit. his wife died to him and he was affected by that)'
        wife-Ben-die

E 39   Sympatheticus interpretation of the *gi-* argument
        (a)   *hikšá*   'to laugh, to smile'
        (b)   *gihikšá*   'to laugh at so.'
        (c)   *hagiíkšaaną*   'I laughed at him'
               /ha-   gi-   híkša-ną/
               1sg.A-Ben-laugh-Decl

There are two meaning nuances of the benefactive role in Hocąk[15]. Dependent on the semantics of the verb and the discourse context, the action designated by the verb can be interpreted as being instigated in favor of (or 'in behalf of') the benefactive participant or as being instigated instead of the benefactive participant. Accordingly, the derived form in E 40a could also be glossed 'to cry instead of someone' which is pragmatically unlikely in this case. There are, however, verbs such as *gimąní* 'to walk for someone' which are more likely to be

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[15] Both meaning nuances are formally distinguished in Lakhóta. There are two different so-called dative series of pronouns, the first one meaning 'on behalf of' the second one meaning 'instead of', cf. Boas & Deloria 1941:87; Helmbrecht 1998:169-174.

interpreted as 'to walk instead of someone'. Pronominal marking of the arguments is – with the exception of the 3pl –*ire* – always prefixal preceding the *gi-*, cf. E 40b.[16] .

E 40   *gi-* with intransitive active verb
    (a)   *giǧák*   'to cry for someone'
    (b)   *hįgiǧágireeną* 'they cried for me'
           / *hį-*   *gi-* *ǧák-* *ire-* *ną*/
           1sg.U-Ben-cry- 3pl.A-Decl

The *gi-*derivation is possible with intransitive active (cf. E 40) and with transitive verbs (cf. E 41). Transitive verbs with *gi-* become three place verbs with the actor (actor series of pronominal affixes) and the benefactive (undergoer series of pronominal affixes) usually marked pronominally. The patient is third person singular in the overwhelming number of cases and remains zero. However, it is in principle possible to elicit forms with three pronouns if the patient is a speech act participant showing that the preference for the primary object marking is not grammaticalized in Hocąk.

E 41   *gi-* with transitve verbs
    (a)   *harukós*   'to hold sth.'
    (b)   *hagirúkos*   'to hold sth. for someone'
    (c)   *mąąshírojįną hanįgítukosšąną*
           / *mąąshírojį-rą* *ha-nį-*   *gí-* *tukos-*   *šąną*/
           hammer-   Def ST-2sg.U-Ben-1sg.A.hold-Decl
           'I hold the hammer for you.'

The argument structure of benefactive derivations with intransitive active and transitive verbs can be schematically summarized as in Figure 4.

Figure 4: The argument structure of benefactive derivations I.

    (a)   Actor   Verb(intransitive) Benefactive (Sympatheticus)
    (b)   Actor   Verb(transitive) Patient   Benefactive

However, the derivation with *gi-* is systematically ambigue in Hocąk in that the benefactive can be interpreted in almost all cases as the possessor of the patient. This type of external

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[16] Information of the morphological structure of the Hocąk verb, in particular with regard to the position of the pronominal affixes in relation to the other affixes can be found in Susman 1943:104-110, and Helmbrecht in prep.

possessor marking is most obvious with intransitive inactive verbs which will therefore be treated below, but is always present with the other verb classes too.

8. External possessor marking

The term external possessor marking refers to possessive constructions that are not confined to one noun phrase but transcend constituent boundaries. In European languages, possession is typically expressed by complex noun phrases consisting of a genitive attribute (possessor) preceding or following the head noun (possessum). In English, both possibilities are realized. In *Peter's car*, the genitive attribute *Peter's* precedes the head noun *car*, in *the car of the government*, the genitive attribute *of the government* follows the head noun *the car.* There are of course other types of constructions which are used for the expression of possessive relations. Adjectives in attributive function may express the possessor as in *the govenmental car*, or nouns functioning as determining constituent in nominal compounds may express the possessor. The latter construction is less good in English but very productive in German, cf. e.g. *das Regierungsauto* 'the government car'. All constructions mentioned so far have in common that they are confined to a noun phrase with the possessum expressed as the head noun and the possessor expressed as a modifier of the head noun. Possession in these constructions is not an instance of a predicate – argument structure.

This is different in Hocąk (and many other languages). Here, possession is largely expressed verbally, i.e. either by verbs designating (and predicating) possession, or by special markers on the verbal predicate. In both cases, the possessor is an argument of the verb (as well as the possessum) and morphologically marked there, i.e. the syntactic expression of possession is a matter of a predicate argument - structure and not restricted to the noun phrase, hence the terminology: the possessor is marked external to the noun phrase. Before I shall discuss the two strategies of external possessor marking in the subsequent sections, some further introductory remarks on possession marking in Hocąk are due.

The various construction types used for possession marking (in a wide sense) in Hocąk are dependent on the animacy of the possessor and the ontological class of the possessum. If the possessor and the possessum are inanimate what is usually the case in part-whole relations, both nouns are simply juxtaposed in one noun phrase without any further marking. Recall that Hocąk has no nominal case marking at all, hence there is no genitive case marker nor a genitive marking particle or adposition. This holds also for part-whole relations with

animals where the possessor is animate, e.g. in the *leg of the dog* and the like. If the possessor is human and the possessum not a pet animal or a kin, the verb *haníi* 'to own sth.' has to be used. The verb *haníi* is also used with body parts, but a different strategy is possible here too. A different verb *nihíi* 'to have as a pet' has to be used if the possessum is an animal (close to the household), and another verb *híi* 'to have as kin'[17] if the possessum is a socially close person such as a friend or a kin person.

The possessive constructions in which *haníi* can be used are given in E 42b-c. E 42c gives an example of its usage as verbal predicate comparable to the usage of English verbs of possession such as *to have sth.*, or *to possess sth.* It is inflected like a normal transitive verb in Hocąk.

E 42   Verb of possession: *haníi*
    (a)   *haníi*   'to own sth., to possess sth., to have sth.'
    (b)   *wažątíre haaníina*   'my car'
            / *wažątíre ha- ha-   níi-   ra*/
              car   ST-1sg.A-have-Def
    (c)   *wažątíreižą haaníiną*   'I have/possess a car'
            / *wažątíre-hižą ha- ha-   níi-   ną*/
             car-   Indef ST-1sg.A-have-Decl

In E 42b, *haníi* is at first glance used like the possessive pronoun in the English translation. The differences are crucial though. The possessor is marked with a pronominal prefix of the actor series to begin with. In addition, the possessum may have a pronominal reflex in *haníi* too. If the possessum is plural the 3pl.U prefix *wa-* appears on *haníi*. From a structural point of view, the Hocąk "genitive construction" in E 42b resembles more a subordinate clause than a English type possessive noun phrase. Subordinated clauses in Hocąk are nominalized by the definite article *–ra* that obligatorily appears after the last constituent of the subordinated clause, i.e. in almost all cases on the verb.

8.1   A non-actor is possessor of undergoer

There is another way to express possession than using the verb *haníi* as mentioned above, and this alternative way is often given preference in discourse. The benefactive argument

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[17] This verb is conjugated in exactly the same way as the causative verb *=híi* 'to cause' mentioned in section 3 above. This suggests that they are not homonyms but that the

introduced in the argument frame of the verb can be systematically interpreted as the possessor of the undergoer, i.e. either possessor of the undergoer of the intransitive (inactive) verb or the possessor of the undergoer of the transitive verb. The first possibility is illustrated in E 43a-b, where the intransitive inactive verb *šišré* is derived by the benefactive applicative *gi-*. The resulting verb can have two interpretations, in the first one 'sth. is broken for him' the added argument is interpreted as being affected by the breaking, in the second one, the benefactive argument is interpreted as the possessor of the undergoer 'his is broken'.

E 43   *gi*-derivation with intransitive inactive verbs
    (a)   *šišré*   'to break, to be broken'
    (b)   *gišišré*   'sth. is broken for him'/ 'his is broken'

With transitive verbs, i.e. the second possibility, two interpretations are systematically available. The added argument is either the benefactive of the action, or the possessor of the patient of the action. This is illustrated in E 44a-c. The action is conducted in favor of the benefactive who in turn may be taken as the possessor of the patient.

E 44   *gi*-derivation with transitive verbs
    (a)   *hi'é*   'to find sth.'
    (b)   *higi'é*   'to find sth. for someone'
    (c)   *wažątírera hįįgí'eeną*   'he found the car for me'/ 'he found my car'
          / *wažątíre-ra   hi- hį-   gí-   'e-   ną*/
          car-   Def ST-1sg.U-Ben-find-Decl

The systematic interpretation of the benefactive as possessor is, however, not possible with the *gi*-derivation of intransitive active verbs. Here, only the benfactive meaning is available, cf. the example in E 45a-c. If the possessor of the 'younger brother' is someone else *haara* 'my kin' (< =*híí* 'to have as a kin') has to be inflected for another person category. If *haara* 'my kin' drops in E 45c the translation would be 'the younger brother cried for me'. The argument introduced by *gi-* cannot be interpreted as possessor.

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possessive usage could be a metaphorical extension of the causal usage, or vice versa.

E 45   *gi*-derivation with intransitive active verbs
  (a)   *ǧáak*   'to cry'
  (b)   *giǧák*   'to cry for someone, to yell for someone'
  (c)   *hiisųk haará hįgiǧákšąną*   'my younger brother cried for me'
        /*hiisųk   haará   hį-   gi- ǧák- šąną*/
        younger.brother my   1sg.U-Ben-cry- Decl

The possibilities of external possessor marking by means of the benefactive applicative *gi-* are

summarized in Figure 5.

Figure 5: The argument structure of benefactive derivations II.

Undergoer	Verb(intransitive)	Benefactive Possessor of Undergoer	
Actor	Verb(intransitive)	Benefactive	
Actor	Verb(transitive)	Patient	Benefactive Possessor of Patient

The possessor interpretation of the benefactive in the first and the third line of Figure 5 can be

blocked by explicit possessor marking of the undergoer noun phrase and the patient noun

phrase. An example is given in E 46. The 2sg possessor of 'the car' contrasts with the 1sg

benefactive in the verb, hence the 1sg benefactive can no longer be interpreted as the

possessor of the patient noun phrase.

E 46   *wažątírera hašįnįną hįįgíʼeeną*
        /*wažątíre-ra   hašįnįną hi- hį-   gí- ʼe-   ną*/
         car-   Def your   ST-1sg.U-Ben-find-Decl
        'he found your car for me/ *he found my car'

8.2   The actor is possessor of undergoer

The second type of external possessor marking in Hocąk is indicated by the prefixes *kara-/ k-*

'one's own'. The choice between both forms that are functionally equivalent is determined by

the conjugation type of the verb. Verbs that require the second conjugation take *k-*, verbs that

require the first conjugation take *kara-*. In both cases the result is a verb of the first

conjugation.

The prefix *kara-/k-* can be used only with transitive verbs. In general, it designates that the transitive actor possesses the transitive undergoer. Since *kara-/k-* are possible only with transitive verbs they represent a highly reliable test for transitivity (syntactic valence) of verbs in the Hocąk lexicon. There are, however, also cases where *kara-/k-* seems to have itself a transitivizing function, cf. E 47a-b.

E 47   Transitivizing function of *kara-/k-*
    (a)   *nąąžį́*   'to stand, to stand up'
    (b)   *nąą-kára-žį*   'to stand up for his own'

An example of the typical function of *kara-/k-* is given in E 48a-c. The transitive verb *gigų́s* 'to teach someone' changes its meaning to 'to teach one's own' with *kara-/k-*, cf. E 48b. It is indicated that the undergoer of the transitive verb belongs to the actor. This relationship can be one of possession in the narrow sense, i.e. inanimate and animate entities may be in the possession of the actor, or it can be one of social closeness such as kinship relations or friendship.

E 48   A possesses U in transitive verbs: *kara-/k-*
    (a)   *gigų́s*   'to teach someone, to council someone'
    (b)   *karagígų s*   'to teach one's own'
    (c)   *nįįkją́k waakáragigų sšąną*   'I taught my children'
           /*nįįkją́k wa- ha- kára- gigų s-šąną*/
           child   3pl.U-1sg.A-A.poss.U-teach- Decl

The external possessor marker *kara-/k-* can be used with plain non-derived transitive verbs, but also with verbs that have received their second argument by way of some derivational processes. If verbs are transitivized by means of one of the instrumental prefixes (see section 4 above), *kara-/k-* indicates that the patient is possessed by the actor, cf. E 49a-b.

E 49   (a)   *booxúx*   'to break sth. by striking'
    (b)   *boo-kára-xux* 'to break his own by striking'

If the verb has received a new (second) argument by means of one of the locative applicatives (cf. section 5 above), *kara-/k-* refers to this newly introduced argument, i.e. it indicates that the actor owns the place with regard to which the action is instigated. An example with the verb *hat'ą́p* 'to jump on sth.' is given in E 50a-c. The clause in E 50c illustrates that the place

(locative) of the action which is the new argument is the possessum of the second person actor.

E 50 (a) *hat'ą́p*   'to jump on sth.'
     (b) *hakarat'ą́p*   'to jump on one's own'
     (c) *waarúcra harakárat'ą́pšąną*
          /*waarúc-ra ha-   ra-   kára-   t'ą̨p- šąną*/
          table-   Def on.sth-2sg.A-A.poss.U-jump-Decl
          You jumped on your table.

Ambiguities and uncertainties about the interpretation of *kara-/ k-* arise with ditransive verbs and verbs that have received a third argument by means of some derivation. Both undergoer arguments are marked on the verb (if they are not 3sg) by pronominal prefixes of the undergoer series. As was already mentioned in section 2 above, there may be some uncertainty about the correct assignment of the semantic roles patient and recipient to the two undergoer pronouns. I assume that in these admittedly extremely rare cases in actual discourse animacy plays a decisive role, i.e. the human participant is assigned the recipient role, since this role is prototypically human, and consequently, the inanimate participant is assigned the patient role, since transitive patients are prototypically inanimate. The same uncertainty extends now to the usage of the external possessor marking with *kara-/k-*. The transitive patient may be interpreted as being possessed by the actor as well as the recipient, cf. the examples in E 51a-c. The verb *hok'į́* 'to give sth. to someone' has three arguments, the actor, patient and recipient, the latter two are expressed by pronouns of the undergoer series. As was already said it may be uncertain which one of the two undergoer participants is patient and recipient respectively, but this is not a problem here. The semantics of the two undergoer arguments make it clear that the "candies" are the patient (the object of giving) and the "children" are the recipient. A similar uncertainty holds with regard to *kara-/ k-*, either the patient or the recipient may be interpreted as possessed by the actor.

E 51 *kara-/ k-* in ditransitve verbs
     (a) *hok'į́*   'to give sth. to someone'
     (b) *ho-kara-k'į́*   'to give sth. (his own) to someone (his own)'
     (c) *nįįkją́gra tanįžu kirikíriš wookárak'ųųną*
          /*nįįkją́k-ra tanįžú kirikíriš   wa- ho- kára-   k'ų̨- ną*/
          child-Def sugar   striped (=candy) 3pl.U-ST-A.poss.U-give-Decl
          He gave the candy to his children./
          He gave his candies to the children.

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The same ambiguity exists also for the verb *hožú* 'to put sth. in sth.' which has also three arguments. The expressions in E 52b and E 52c are from different Hocąk speakers, the former preferred the goal argument (i.e. the container) to be interpreted as possessed, the latter preferred the transitive patient (i.e. the papers) to be interpreted as possessed.

E 52 (a) *hožú*   'to put sth. in sth.'
      (b) *waákaražuuną*   'I put them in my (container)'
           /*wa- ho- há- kara- žu- ną*/
           3sg.U-ST-1sg.A-A.poss.U-put.in-Decl

      (c) *waagáxra waxupą́ną waákaražuuną*
           /*waagáx-ra waxupą́- ra wa- ho- há- kara- žu- ną*/
           paper-   Def suitcase-Def 3sg.U-ST-1sg.A-A.poss.U-put.in-Decl
           I put my papers in the suitcase.

The same uncertainties arise in verbs which have an additional benefactive argument, here the transitive patient as well as the benefactive may be interpreted as possessed. All these cases are, however, rare and are rather problematic instances of elicitation than real problems of grammatical structure.

9. Reflexive/ reciprocal marking

Hocąk has a reflexive marker *kii-* which indicates coreference of the actor and the transitive patient, i.e. the prototypical meaning of a reflexive. There is in addition a reduplicated form *kiiki-* that indicates that the two participants of the action are actor and patient to the same degree, i.e. the prototypical reciprocal meaning.

Reflexivization is usually seen as a detransitivizing operation, not necessarily in terms of a strict syntactic transitivity, but from the point of view of transitivity as a prototype notion (cf. Hopper & Thompson 1980). The action is less transitive, because the patient who is the goal of the action is the same as the actor, i.e. there is only one true independent participant. Reflexive verbs are therefore grammatically often treated as detransitivized verbs in one way or the other in the languages of the world.

In Hocąk, the reflexive prefix *kii-* can, in principle, be used with every transitive verb if its semantics allows such a derivation, i.e. it must be possible that the action is exerted on an animate or human patient who happens to be the same participant as the actor. The reflexive marker *kii-* is hence not possible with the transitive verb *ru'ą* 'to carry sth., to lift

sth.', because it is pragmatically not possible to lift or to carry oneself. The same holds for the transitive verb *hoki'į́* 'to imitate sth./ someone'. This verb cannot receive a reflexive meaning, because it is pragmatically impossible to imitate oneself. However, this verb may receive a reciprocal meaning by adding *kii-* such that it becomes *hokikǐ'į* 'to imitate each other'. Note that in this case, the single *ki-* has reciprocal meaning which shows the close relationship between both forms. The middle syllable /*ki-*/ in *hoki'į́* is part of the stem.

Further, the reflexive *kii-* derivation is generally not possible with intransitive active and inactive verbs. There are no such reflexive formations such as 'sth. breaks by itself' **kiišížre* or 'sth is cooked for oneself' **kiitúc*.

An example for the typical use of *kii-* is illustrated with the verb *hajá* 'to see sth.' in E 53a-c. After the *kii-* derivation the verb is inflected like a intransitive active verb and requires the pronominal prefixes of the first conjugation. If reflexive *kii-* (that is always shortened to *ki-* in non-initial position) is reduplicated, a reciprocal relationship between the participants involved is indicated, cf. E 53d.

E 53 (a) *hajá*   'to see sth.'

          (b) *hakijá*   'to see oneself'

          (c) *haakícaaną*   'I see myself'

                /ha-ha-   kí- ca- ną/

                ST-1sg.A-Refl-see-Decl

          (d) *ejá haakíkicawiiną*   'We see each other there (in the mirror)'

                /ejá ha- ha-   kíki- ca- wi- na/

                there ST-1excl.A-Rec- see-pl-Decl

The reflexive marker *kii-* can appear also with derived transitive verbs such as transitive verbs with an instrumental prefix (cf. E 54a-b), or with transitive verbs which show some other kind of derivation such as the external possessor marker *kara-/k-* (cf. E 55a-c).

E 54 (a) *nąąt'é*   'to hurt someone by foot'

          (b) *nąąkít'e*   'to hurt oneself by foot'

E 55	(a)	*ružą́*				'to wash sth'
	(b)	*kuružą́*				'to wash one's own'
	(c)	*wažątírera waakúružąąną*				'I wash my (own) cars.'
		/*wažątíre-ra*	*wa-*	*ha-*	*kúružą-*	*ną*/
		car-	Def	3sg.U-	1sg.A-wash.own-	Decl
	(d)	*hakikúružąąną*				'I wash myself.'
		/*ha-*	*ki-*	*kúružą-*	*ną*/	
		1sg.A-	Refl-	wash.own-	Decl	

As is often the case in the Hocąk lexicon, otherwise productive derivational means are frequently found in words where they are fossilized as part of the stem. This holds for the reflexive marker *kii-* too. In these cases, the addition of *kii-* results in verbs with a morpheme sequence *kiki-* which can be interpreted reflexive or reciprocal. For instance, in the transitive *hiki'ó* 'to touch sth', the *ki-* form in the middle is part of the stem and cannot be interpreted as a reflexive marker. If the *ki-* is added as in *hikikí'o* a polysemous verb emerges. The first meaning is – as one expects – 'to touch oneself', the second meaning is the reciprocal meaning 'to touch each other', and the third meaning is 'to touch sth. repeatedly'. Reduplication in Hocąk can be utilized to indicate frequentative, thus the addition of *ki-* may simply be interpreted as a mere reduplication of the middle syllable of the stem. In this case here, the reduplication of the reflexive marker *kii-* cannot be employed to distinguish between reflexive meaning and reciprocal meaning as demonstrated in E 53c-d.

There are also verbs that can take *kii-* but can receive only a reciprocal meaning, of course for semantic reasons. Such a verb is given in E 56a-b.

| E 56 | (a) | *hat'ą́p* | 'to jump on sth' |
| | (b) | *hakit'ą́p* | 'to jump on each other' |

Note here that the reflexive marker *kii-* is interpreted as reciprocal which again demonstrates the close semantic relationship between both forms. The semantic extension from reflexive to reciprocal is conceptually easy, the polysemous encoding of reflexive and reciprocal meanings is therefore widespread among the languages of the world.

10. Third person plural *-ire* as a passive marker ?

The third person plural marker *–ire* can be used anaphorically to refer to a group of already mentioned individuals, but it can also be used for an unspecific and indefinite group of actors.

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In this case the number distinction is neutralized, it does not matter anymore whether the indefinite actor is a single participant or a group of participants. The impersonal use of *–ire* is similar to the impersonal use of English *they*. If I say e.g. in English *they stopped him before he entered the construction site with his car* then it is likely that it was only one person who gave John the signal to stop. This inference is likely on the basis of our world knowledge. But this information is not important in this utterance, therefore the impersonal *they* was used. The alternative way to background the actor in this utterance is simply using a passive clause such as *John was stopped before he entered the construction site with his car*. It is the backgrounding of the actor what impersonal subjects and passive clauses have in common. A Hocąk clause like the one in E 57 with a definite and an impersonal reading of *–ire* has therefore two possible translations in English, one employing the definite and impersonal usage of *they*, the other employing the passive construction.

E 57   *Johnga hojįíneenạ*
        /*John-ga hojį̇- íre- nạ*/
         J.-   PN beat.up-3pl.A-Decl
        They beat John up.
        John got beaten up.

It is common knowledge in historical linguistics that passive constructions may develop out of impersonal passives, often on the basis of an original third person plural marking. Since there is no grammaticalized passive construction in Hocąk, it is worth looking whether the impersonal pronoun *–ire* could be analyzed as an incipient passive marker. There are some examples which hint to this direction. The verb *cųų* 'to have many, to give birth' is inflected for the third person plural actor *–ire* in the expression for 'birthday', i.e. the time when someone is born' cf. E 58a. The undergoer pronoun refers to the person who is born, hence the actor suffix must refer to the person who gave birth which cannot be a 3pl group. The same problem of interpretation is met in the definition *hocųįnera* 'birthday' in White Eagle's dictionary given in E 58b. Compare also the examples in E 59a-b with the verb *giwé* 'to sting (of bees)' which are translated by means of a passive in English.

E 58   (a)   *honįcųįňera*
               /*ho- nį̇- cųų- ire- ra*/
               Loc-2sg.U-give.birth-3pl/Pass?-Def
               'your birthday (lit. 'time when you were born')'

        (b)   *Hąąprá hižą́ ejá cųųíregi*

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/hạạp-rá hižą́ ejá cụụ- íre- gi/
day- Def Indef there give.birth-3pl./Pass?-Sub
'The day that he/she was born' (White Eagle 1988:46)

(c) (*Maryga*) *nįkjágra jóop wacụ́ụ́nạ*
/(*Mary-ga*) *nįkják-ra jóop wa- cụ́ụ́- nạ/*
 M.- PN child- Def four 3pl.U-give.birth-Decl
'(Mary) she has four children. '

E 59 (a) *heezik giwéireenạ*
/*heezik giwé-ire-nạ/*
bee sting-3pl./Pass?-Decl
'One of the bees stung him' (White Eagle 1988:14)

(b) *ke hirarakikaranįgiži heezik nįgiwéirekjạreenạ*
/*ke hira-ra- kikara- nį- giži heezik nį- giwé- ire- kjạre-nạ/*
 Neg ST- 2sg.A-take.of.self-Neg-if bee 2sg.U-sting-3pl- Fut- Decl
'If you aren't careful, you will get stung by bees.' (White Eagle 1988:14)

Examples such as the ones in E 58 and E 59 lead Miner (cf. Miner 1992b) to the conclusion that –*ire* has also a passivizing function. This is, however, too far fetched. First of all, as I said above, -*ire* can be used impersonally which implies that number distinctions are neutralized. If an actor is irrelevant and unimportant to the expression of an event its number is it too. In the case of the birth and birthday, it is the person born who is relevant, not the identity of the mother. The impersonal usage of -*ire* simply means that someone gave birth to the undergoer, it is not necessary to refer to a passive interpretation of -*ire*. Since *cụ́ụ* is a normal transitive verb, the actor (mother) can be brought in in the regular way, cf. E 58c.

The same holds for the verb *giwé* 'to sting'. Again, the nature of the actor is strongly implied in this verb (i.e. there are quite specific selectional restrictions for the semantics of the actor in *cụụ* 'to give birth' and in *giwé* 'to sting'). And again, it is the undergoer of stinging who is more relevant to the speakers than the insects which are usually not individualized and counted. The impersonal reading of –*ire* seems therefore appropriate, and no passive interpretation is necessary. I assume that it is a special feature of the semantics and pragmatics of both verbs discussed here that they force a backgrounding of the actor. The way to impersonalize the actor and neutralize the number category of the actor is to use -*ire*.

There is, however, more evidence that –*ire* should not be analyzed as an incipient passive marker. It is not possible to elicit pairs of clauses which exhibit a passivization relation. Consider the examples in E 60a-b. The first one (E 60a) has a definite and a

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indefinite/ impersonal reading such as 'they (mentioned already) borrowed the book',
'someone borrowed the book' and 'the book was borrowed'.

E 60 (a) *waagáxra honącíreeną*
/ *waagáx-ra honąc- íre- ną*/
book- Def borrow-3pl./Pass?-Decl
'they borrowed the book/ someone borrowed the book/ the book was borrowed'

(b) **Peterga waagáxra honącíreeną*   '*the book was borrowed by Peter'
/ *Peter-ga waagáx-ra honąc- íre- ną*/
P.- PN book- Def borrow-3pl./Pass?-Decl

If the clause in E 60a would be a passive clause, it should be possible to add an oblique actor
phrase to the clause. This is not possible, there is no way to attach a noun phrase expressing
the actor, cf. E 60b. There is no possibility to interpret *Peter-ga* as actor, the actor is always
the 'third plural' or the 'someone' of the pronominal suffix *-ire*.

11. Third plural patient marker *wa-*

The third person plural prefix *wa-* is prototypically used to indicate the person category of the
transitive patient. It is a pronoun of the undergoer series. Its reference is not restricted with
regard to animacy, i.e. it may refer to 3pl inanimate, animate, and human referents. Its
obligatory occurrence, however, interacts with the definiteness of the anaphoric target noun
phrase, i.e. if the lexical patient noun phrase is definite and plural, *wa-* is obligatorily used. If
the noun phrase is not definite, *wa-* may be dropped. This rule is illustrated in E 61. The first
clause E 61a shows that *wa-* is used together with the definite noun phrase *wažątírera* 'the
cars'. Note that *wa-* is the only marker of plurality in this clause. If the patient noun phrase is
not definite, *wa-* is usually dropped, cf. E 61b. *wa-* becomes obligatory if the noun phrase is
again marked definite with the article *–ra*, cf. E 61c.

E 61 (a) *wažątírera waajáaną*   'he sees the cars'
/ *wažątíre-ra wa- haja-ną*/
car- Def 3pl.U-see- Decl
(b) *wažątíre jóop hajaaną*   'he sees four cars'
/ *wažątíre jóop haja-ną*/
car four see- Decl
(c) *wažątírejobra waajaaną*   'he sees the four cars'
/ *wažątíre-joop-ra wa- haja- ną*/

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car-   four-Def 3pl.U-see-Decl

As is the case with all the pronominal prefixes of the undergoer series, they are somewhat
ambiguous in three place verb (e.g. ditransitive verbs) with regard to the semantic role of the
two undergoer arguments. In ditransitive verbs of giving, they may either refer to the patient
or to the recipient. The same is true for 3pl.U *wa-*, as is shown in E 62. The clause in E 62b
has two readings depending on the assignment of the semantic role to *wa-*. In the first case,
wa- refers to the transitive patient, in the second case, to the recipient or location. *wa-* covers
the same range of undergoer roles as all the other undergoer pronouns, except that it is not
allowed with intransitive verbs. Intransitive inactive and active verbs do not take *wa-* which
makes this form of personal inflection a reliable test for transitivity in the lexicon of Hocąk.

E 62   (a)   *hožú*   'to put sth. in sth.'
       (b)   *kóokra woorážuuną*
              /*kóok-ra wa-   ho- rá-   žu-   ną*/
              box-Def 3pl.U-ST-2sg.A-put.in-Decl
              You put them into the box
              You put it in the boxes

It has occasionally been claimed that *wa-* has also a detransitivizing or intransitivizing
function[18], and there are indeed some examples which allow this conclusion. One of these is
warúc 'to eat', cf. the examples in E 63. The transitive verbal root *ruuc* 'to eat sth.' (cf. E 63a)
may receive the *wa-* prefix (cf. E 63b), deriving an intransitive active verb. That *warúc* is not
a transitive verb with a 3pl.U can be seen from the following examples in E 63c-d. No lexical
noun phrases expressing the transitive patient ('meat', 'apples') are possible here, there is no
agreement relation between *wa-* and the noun phrases in these cases

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[18] Cf. Lipkind 1945:17. He called *wa-* a modal prefix which is definitely a misnomer. There is
no modal meaning associated with this prefix.

E 63 (a)   *kšée ruuc-šą́ną*   'he eats an apple'
     apple eat-Decl

   (b)   *warucną́kšąną*   'he is eating (sitting)'
     /wa-   ruuc-ną́k-   šąną/
     3pl.U-eat-   be.sitting-Decl

   (c)   ** waną́ warucną́kšąną*   '*he is eating meat'
     / waną́ wa-   ruuc-ną́k-   šąną/
     meat 3pl.U-eat-   be.sitting-Decl

   (d)   **kšee-rá warucną́kšąna*   '*he is eating apples'

There are some other cases in the Hocąk lexicon which are analog to the *warúc* example, e.g. *wa'ų́* 'to be' (< *'ų́ų* 'to do, to make sth.'). However, the usage of *wa-* as a detransitivizer is as far as I can see not a productive process. If it is used with plain or with derived (e.g. instrumental prefixes) transitive verbs, it fills the undergoer argument slot and may in every case be interpreted as agreeing with an optional lexical noun phrase.

The general characterization of the productive usages of *wa-* does not mean that there are no intransitive verb stems in the lexicon which begin with *wa-*. Indeed, there are plenty of them, but in all these cases the roots cannot be identified as free transitive verbs. Often, the root does even not exist as a independent word at all. For instance, *wašošé* 'to be brave' is an inactive intransitive verb, but there is no independent **šošé* which could be analyzed as the transitive basis of this derivation. Many cases which are glossed in Zeps' dictionary (cf. Zeps 1996) as intransitive such as *wahokų́* 'to minister, to preach' or even as nouns such as *wagigų́s* 'teacher' and *wahokų́* 'minister' are in fact transitive verbs with a patient pronoun, cf. *hokų́* 'to preach someone' and *gigų́s* 'to teach someone'.

The fact that many nouns (words expressing nominal concepts in the translation) in the Hocąk lexicon begin with *wa-* was taken as evidence for the detransitivizing function of this prefix (cf. Lipkind 1945:17). This conclusion is justified if there is a set of (plain or derived) transitive verbs which can be turned to intransitive verbs by means of *wa-*. I have argued that this is rarely the case. However, it was also claimed that *wa-* has also a nominalizing function which is a different claim. Here it would be necessary to have a set of verbs (transitive or intransitive) which may be turned into nouns (words designating nominal concepts)[19]. In order to qualify as nouns, the words derived by *wa-* should fulfil the criterion a) not to be able to receive verbal inflection (person inflection) and hence b) not being able to be used as clausal predicate without any auxiliary support. These criteria are not fulfilled in e.g. by *wagigų́s* 'teacher' and *wahokų́* 'minister' mentioned above. However, there are many words on *wa-*

which could be analyzed as nouns. One of these would be *waagáx* 'paper, book, journal' which is derived from transitive *wagáx* 'to write sth'. The deriving *wa-* could be glosses in this case as 'thing, something' leading to a literal translation 'the thing/ something one writes'. Another example would be *warocų́* 'anything ripe such as corn, pumpkins, vegetables etc.' which is derived from *rocų́* 'to be ripe, to ripen'. The literal translation of *warocų́* would be 'the thing/something ripened'. The amount of nouns which are derived in this way are not too numerous in the dictionary. It is not clear to me, whether this type of derivation is productive and to what degree. A brief glance into Zeps' dictionary reveals that the majority of words beginning with *wa-*[20] are lexicalized to some degree no longer showing a derivational relation between the base form, i.e. the verbal root and the derived form. The discussion so far can be summarized as follows: if one would not like to propose two or three different but homonymous *wa-*, one is obliged to describe *wa-* as a polyfunctional prefix. First of all, the really productive usage of *wa-* is its being a 3pl pronominal prefix indicating the transitive patient. By far less productive (if at all) is the usage of *wa-* as intransitivizer (only a few instances) and as nominalizer (probably more productive than as intransitivizer).

The nominalizing function of *wa-* seems to be much more evident with regard to the prefixes *woo-*, *waa-*, and *wii-*. Susman (1943:44f and 72f) and Lipkind (1945:25f) analyze these prefixes as contractions of *wa-* plus the stem initial syllables *ho-*, *ha-*, *hi-* which can be synchronically either one of the locative/ instrumental applicatives (cf. section 5 and 6 above) or simply a syllabic part of the stem which happen to be phonetically identical to the locative prefixes, cf. Figure 6. The contracted forms with the long vowel thus arise (/h/ regularly drops in these intervocalic positions) from the prefixation of *wa-* to a verb with one of these locative or instrumental applicatives or from the prefixation of *wa-* to a verb that begins with a syllable homophonous to these applicatives. This rule is productive and it is therefore correct to analyze the contracted prefixes *woo-*, *waa-*, and *wii-* as derived prefixes.

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[19] For the problem of identifying nouns in Hocąk cf. Helmbrecht 2002.

[20] I am not talking about the derivations with the instrumental prefix *wa-* 'by pressure, by pushing' that can easily be distinguished from the 3pl.U/ Indef U. pronoun *wa-* with regard to the pronominal inflection type. Words with the instrumental prefix *wa-* always take the second conjugation.

Figure 6: Morphophonemic contractions with 3pl.U/ Indef. prefix *wa-*.

3pl.U/ 'Indef.'	combined with stem initial form or locative/ instrumental applicative	contracted form
wa-	+ *ho-* 'in'	*woo-*
	+ *ha-* 'on'	*waa-*
	+ *hi-* 'with'	*wii-*

The Zeps dictionary glosses many of these formations as nouns, more on semantic grounds than on distributional analyses. One might argue that these types of noun formation are the results of the nominalizing function of *wa-*. However, there are some observations which shed some doubt on such a simple solution. First of all, there are formations on *woo-* which have no derivational basis on *ho-*. If these cases were numerous, one would rather have to posit a proper single non-derived *woo-* prefix instead of assuming a secondarily derived prefix [*wa-* + *ho-*]. For instance, there is a form *woogų́s* 'creation' but no derivational basis *hogų́s.* Another example is *wooxé* 'grave' which has no derivational basis *hoxé.* Furthermore, many derivations on *woo-* that are glossed as nouns in the Zeps dictionary – probably based on semantic grounds – can also be used verbally, i.e. can receive verbal inflection and do therefore not fulfil one of the criteria for noun hood mentioned above. For instance, *woogų́s* 'creation' can be personally inflected and used as a verbal predicate, cf. E 64a-b. Another example is given in E 65a-b. However, there are also examples of derivations which fulfil the criteria for noun hood, this is e.g. the case in *wooxé* 'grave', cf. E 66a-b.

E 64 (a)   *woogų́s*   'creation'
       (b)   *woorágųsšąną*   'you have created things/ sth.'
                / *woo-*   *ra-*   *gųs-*   *šąną/*
                sth./them- 2sg.A-create-Decl

E 65 (a)   *woohą́*   'kettle, stew, soup'
       (b)   *wooráhąąną*   'you boiled them'
                / *woo-*   *ra-*   *hą-*   *ną/*
                sth./them-2sg.A-boil-Decl

E 66 (a)   *wooxé*   'grave'
       (b)   * *woo-rá-xe*   'you bury them in it'

The functional and distributional properties of the derivation on *waa-*, *woo-*, and *wii-* cannot be discussed here in an appropriate and satisfying fashion an goes beyond the scope of the

present paper[21]. What can be said with regard to the argument structure is this. The intransitivizing and nominalizing function of *wa-* has been largely over estimated in the previous literature. As I tried to show, cases which show an unambiguous derivation of intransitives verbs from transitive ones, and nouns from verbs are not very numerous. It was claimed that this holds for the derivations with simple *wa-*, as well as for the derived prefixes *waa-*, *woo-*, and *wii-*. It was shown that at least for some *woo-* derivations, there is no reduction of the argument frame of the underlying verb observable. It is this reduction of the number of arguments one would expect from a detransitivizing or nominalizing morpheme. This effect is however not as prevailing as one would assume on the basis of the grammatical glosses in the Zeps dictionary. That the *wa-* prefix has to be glossed as 'something, thing, stuff' in many cases suggests that we have a similar polysemy as in the third plural actor suffix *–ire*, namely a definite 3pl and an indefinite/ impersonal reading (without a number specification) in one form.

12. Noun incorporation

Noun incorporation is a valence reducing process. The verb is combined on the phonological and morphological level with a noun filling the patient, instrument, and locative (preferably in this order) argument slot of the verb. This morphosyntactic process can be very productive, e.g. in Nahuatl and other polysynthetic languages. In Hocąk productive noun incorporation is possible only to a limited degree. There are numerous mostly monosyllabic nouns designating general concepts such as water, metal, wood, and other substances, body parts such as arm, mouth, head, etc., natural phenomena such as fire and artifacts such as boat etc. which are used to form compounds with verbs. If the resulting expression can be used as verbal predicate – and this is the case in practically all cases – than one can speak of noun incorporation.

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[21] The reader is referred to Helmbrecht 2002 and in prep.

The relevant property of noun incorporation within the present exposition of the argument structure of the Hocąk verb is that the incorporated noun fills an argument of the verb. In Hocąk nouns can fill the patient argument of a verb, the instrument argument of a verb and the locative argument of a verb. E 67 and E 68 are examples of the incorporation of the noun *ną́ą* 'wood' filling the patient argument. Note that *ną́ą* 'wood' does not fill the instrument argument introduced by the instrumental applicative *hi-* in E 68b. This is the case, however, in E 69c where the body part term *šaak* 'fingernails' occupies the instrument argument of *higicáš*.

E 67 (a)   *ružíp*   'to carve with a sharp knive'
      (b)   *nąą-rúžip*   'to shave wood for kindling'
            /wood-carve/

E 68 (a)   *wacgís*   'to cut sth. with a knife using pressure, to saw sth.'
      (b)   *nąíwacgis*   'a saw, one saws wood with it'
            /*nąą-hí-wacgis*/
            wood-Instr-saw

E 69 (a)   *cáaš*   'to tap, to make a tapping sound'
      (b)   *gicáš*   'to knock, to type sth.'
      (c)   *šaagígicaš*   'to type with the fingernails'
            /*šaak-   hí- gicǎš*/
            fingernails-Instr-type

The locative argument of the verb *hožú* 'to put sth. in sth.' is filled with an incorporated noun in E 70a-b. That the incorporated noun has indeed argument status can be demonstrated as in E 70c. If the locative argument is added to the clause as a free noun phrase an unacceptable clause emerges. A clause such as the one in E 70d with a free nominal locative argument would be perfectly fine.

E 70 (a)   *'iižú*   'put in the mouth' (< *'ii* 'mouth' + *hožu* 'to put sth. in sth.')
      (b)   *wanį́ 'iiyážu*   'I put meat in the mouth'
            /*wanį́ 'ii-   yážu*/
            /meat   mouth-1sg.A.put.in
      (c)   * *'iiéja wanį́ 'iiyážu*   *'I put meat in the mouth'
            /*'ii-   éja wanį́ 'ii-   yážu*/
            mouth-there meat mouth-1sg.A.put.in
      (d)   *'iiéja wanį́ hoažú*   'I put meat in the mouth'

It has been observed that incorporated nouns may eventually fuse with the incorporating verb is such a way that they form a new concept together with the verb functioning more like a nominal classifier for a new nominal argument than filling the argument position itself. Such a

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process would imply that a free lexical noun phrase may fill the argument position of the noun-verb compound which was filled by the incorporated noun historically. The fact that the incorporated noun no longer fills this position can be interpreted as the result of the stronger grammaticalization of the incorporated noun. I could not find cases in Hocąk that illustrate this process. Even if one takes complex words which could be assumed to be an instance of such a grammaticalization, it quickly turns out, that the incorporated noun indeed fills the argument position. An example is given in E 71a-e. The verb *gihí* 'to pick sth.' is often used with the incorporated noun *háas* 'berry' such that one could hypothesize a closer connection than just a productive noun-verb compound. If the incorporated noun would be grammaticalized to a kind of nominal classifier, clauses such as the ones in E 71d-e should be possible. However, they are not, i.e. the noun still occupies the patient argument of the verb *gihí*.

E 71 (a) *gihí*   'to pick sth.'
      (b) *haasrá wagihí*   'to pick berries'
           /*haas-rá   wa-   gihí*/
           berry-Def 3pl.U-pick
      (c) *haasgíhi hahiwiiną*   'we went to pick berries' (White Eagle 1988:9)
           /*haas-gíhi ha-   hi- wi-ną*/
           berry-pick 1excl.A-go-pl- Decl
      (d) **kšerá haasgihíiną*   'he picked apples'
      (e) **haazišucke haas-   ha-   gihii-ną*
           raspberries berries-1sg.A-pick-Decl
           I picked raspberries (lit. I berry-pick raspberries)

There is a principle restriction with regard to noun incorporation in Hocąk. Intransitive verbs of motion cannot incorporate a noun designating the instrument of the motion such as the vehicle, or animal. The verbs have to provide an argument position for the instrument of moving in order to be capable of incorporating a noun in Hocank. Since motion verbs are not licensed to receive an instrument argument position (by means of a *hi-* derivation, cf. section 6 above) they cannot incorporate a noun filling this slot.

13. Conclusions

Starting from the argument structure of the plain verbs, the major morphological mechanisms of the verb to manipulate the argument structure of the clause have been illustrated. Among them are processes that increase the valence of the plain verbal stems, others reduce the

valence of the verb and a third group reorganizes the arguments of the verb or adds secondary relations between the core participants (possession). It turned out that Hocąk is a language that prefers the strategy to integrate oblique participants into the clause either by means subordinate verbs or clauses, or by means of applicatives and other verbal derivations. In addition, it has been demonstrated that these processes are better described in terms of semantic roles, i.e. in terms of the semantic macro-roles actor and undergoer than ion terms of grammatical relations. No evidence could be adduced that there is a passive construction available in the Hocąk syntax. A final decision whether the Hocąk syntax employs grammatical relations has to wait for the investigation of the complex clause.

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