Inverse languages

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Inverseness may be broadly characterized as a variety of structural organization in which a transitive, non-reflexive predication is specially marked in case a first or second person referent corresponds to a nonsubject logical role. This work seeks to bring greater clarity to the understanding of inverse languages by furnishing evidence for three points.

First, an inverse system is to be distinguished from the inverse language type. Individual systems differ in degree of adherence to this type, depending largely upon their conformity to head-marking (Nichols 1986).

Secondly, there is no single formal behavior or set of formal behaviors found in every inverse language. For instance, not every inverse language evinces verbal direction markers or theme signs signaling the opposition of direct and inverse voices of the verb. The conformity of a language to the inverse type does not depend on its exhibiting this, or indeed, any other overt property.

Rather, and thirdly, the inverse type appears to arise from a unique variety of structural organization whose primitives reside in ontological statuses (as opposed to grammatical or thematic relations). These ontological-level primitives are explained, and evidence for their grammatical reality is cited from over a half dozen genetically unrelated inverse languages.

1. Introduction

A variety of structural organization called inverse (or direct-inverse) has been attributed to many languages. Comprehensive descriptions have been furnished for various Algonquian languages, where inverse behavior is well...
recognized. Plains Cree illustrations are furnished in (1a–j) (from Wolfart and Carroll 1973: 70, 72 and Dahlstrom 1986: 43, 53).

(1a) Ni- wāpam -āw
    1 see SAP-SG
    ‘I see him.’
(1b) Ni- wāpam -āw -ak
    1 see SAP-SG 3PL
    ‘I see them.’
(1c) Ki- wāpam -āw
    2 see SAP-SG
    ‘You (SG) see him.’
(1d) Ki- wāpam -āw -ak
    2 see SAP-SG 3PL
    ‘You (SG) see them.’
(1e) Ki- wāpam -āwaw
    2 see 2PL
    ‘You (PL) see him.’
(1f) Ki- wāpam -āwaw -ak
    2 see 2PL 3PL
    ‘You (PL) see them.’
(1g) Ni- wāpam -ik
    1 see INVERSE
    ‘He sees me.’
(1h) Ni- wāpam -ikw -ak
    1 see INVERSE 3PL
    ‘They see me.’
(1i) Ki- wāpam -ik
    2 see INVERSE
    ‘He sees you (SG).’
(1j) Ki- wāpam -ikw -ak
    2 see INVERSE 3PL
    ‘They see you (SG).’

Usually, the telltale indication that one is dealing with an inverse system is the fact that verbs of transitive, non-reflexive predications are marked with a special morpheme, or assigned to a special paradigm, in case an argument denoting a speech act participant, an SAP (first or second person) referent, corresponds to a nonsubject core argument or logical role. For instance, in
(1), a suffix -ik(w) consistently appears in all forms in which a non-SAP (third person) logical subject combines with an SAP logical nonsubject, whether first or second person.

The formal manifestations of inverseness vary cross-linguistically, some languages being more thoroughgoing in the described patterning than others. For instance, in the Jyarong (Tibeto-Burman) transitive paradigm, cited in (2) (from DeLancey 1981b: 86), a prefix u- consistently appears in all predications in which a non-SAP (third person) logical subject co-occurs with an SAP logical nonsubject, whether first or second person. Likewise in the partial Koryak (Chukotko-Kamchatkan) transitive agreement paradigm in (3) (from Comrie 1980: 65), an inverse marker, a prefix ne-, appears in 3:SAP forms. However, in neither Koryak nor Jyarong does verb marking precisely distinguish inverse (3:SAP) from noninverse predications, since in both languages, the inverse marker appears not only in 3:SAP forms, but also in 3:3 predications in which the logical subject is nonsingular (see (2e), (3i)). Moreover, in Koryak, the system distinguishes between categories of SAP referents; 2:1 forms, such as (3d), are formally inverse.

(2a) To-a-Verb-n 1:2sg
(2b) Verb-ŋ 1sg:3
(2c) To-Verb-u 2sg:3
(2d) Verb-u 3sg:3
(2e) U-Verb 3du, pl:3
(2f) To-u-Verb-n 3:2sg
(2g) U-Verb-ŋ 3:1sg
(2h) Ka-u-Verb-ŋ 2:1sg

(3a) Verb-n 'Thou V him.'
(3b) Verb-new 'Thou V them.'
(3c) Verb-tkə 'You V him/they.'
(3d) Ne-Verb-mək 'You V us.'
(3e) Verb-nin 'He V him.'
(3f) Ne-Verb-mək 'He/they V us.'
(3g) Ne-Verb-gi 'He/they V thee.'
(3h) Ne-Verb-tok 'He/they V you.'
(3i) Ne-Verb-n 'They V him.'

Another point of variation is the marking of noninverse predications. In some languages, such as Jyarong and Koryak, the inverse alone is marked. However, the Plains Cree examples in (4) (from Wolfart and Carroll
1981: 69) evince a clear opposition (obscured in 1 above) of suffixal stem markers or theme signs, ‘direct’ -ā and ‘inverse’ -iko.

(4a) Ni- pēh -ā -nān -ak
    1 wait DIRECT 1PL 3PL
    ‘We await them.’

(4b) Ni- pēh -iko -nān -ak
    1 wait INVERSE 1PL 3PL
    ‘They await us.’

Wolfart and Carroll ascribe the Plains Cree theme alternation to a ‘grammatical category of direction’ (1981: 68; emphasis in original). Direction entails a hierarchical ranking of person statuses whereby, in (4), ‘we’ (first + second) outranks ‘they’ (third), irrespective of the logical roles which each of these statuses may represent. Moreover, according to Wolfart and Carroll, ‘Direct and inverse verb forms refer to opposite events’.¹

In some inverse languages, an independent nominal corresponding to an inverse transitive subject is assigned oblique marking. This is illustrated in Lummi (Salishan) in (5) (due to Jelinek and Demers 1983: 168, a work whose analysis differs considerably from that presented here). (In Lummi, it is noteworthy that not only is the inverse suffix assigned in 3:SAP predications, but also, 3:3 predications may be assigned inverse marking – or may not – making them effectively reversible, as illustrated in (5). More will be said about reversibility in section 3.)

In other languages, both direct and inverse transitive subjects may be case marked, as shown in the Nocte (Tibeto-Burman) examples in (6) (due to DeLancey 1981a: 641, according to whom, in 1:2 forms such as (6a), ‘agreement is for 1st person plural’). In yet other languages, there may be distinct direct and inverse paradigms for person-encoding affixes within the verbal complex. This is illustrated in (7a,b) (due to Grimes 1985: 150) from Mapudungun or Mapuche, a language of Chile. The examples in (7) are striking owing to the absence of any element specific to the encoding of direction, since in (7b), there is no specific inverse morpheme.

(5a) xēi -t -s co
    know TRANSITIVE 3 the

¹ In this respect, direct–inverse contrasts with active–passive, since a predication’s alternate active and passive forms express equivalent – rather than converse – propositional content (e.g. Max kisses Mary vs. Mary is kissed by Max). For further discussion see below, section 2.4.
Inverseness has been attributed to a number of languages sweeping a broad area from northeastern Asia eastward and southward across North America. Apart from Algonquian languages – the best-described instances of the inverse type – inverse patterning has also been identified in Chukotko-Kamchatkan (Palcoisiberian) (Comrie 1980); Wakaskan (Whistler 1985); Tanoan (Kiowa-Tanoan) (Whistler 1985, Comrie 1990, Klaiman 1991b, Klaiman in press); Apachean (Whistler 1985, Jelinek 1985, 1990) and certain other Athapaskan languages (Thompson 1990b); as well as, tangentially, Cherokee (Scancarelli 1987a). Some other languages to which inverseness has been attributed include: Chepang (Tibeto-Burman) (Thompson 1990a) and several other Tibeto-Burman languages (DeLancey 1981b); Kamaiurá (Seki 1990) and other Tupi-Guarani languages (Payne 1990);2 some Australian languages (Heath 1976); and a number of others (Silverstein 1976; 1980: 10ff.; DeLancey 1981a: 641ff.; DeLancey 1981b; Rhodes 1987; Thompson 1990b; Klaiman 1991b).

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2 I am indebted to Doris Payne for calling my attention to these two works.
Researchers have not reached a consensus on analyzing inverse languages. They have defined inverseness and characterized inverse behavior in a variety of ways, including the following:

(i) An opposition built on whether the agent or patient of a transitive verb is higher in animacy (Comrie 1980, Silverstein 1980);
(ii) An alternation of subject vs. object agreement in the verb (Thompson 1990a);
(iii) A system for marking the topicality of nonagents relative to agents (Thompson 1990b, Grimes 1985);
(iv) A mechanism for marking the identity or non-identity of natural viewpoint and natural starting-point (DeLancey 1981a);
(v) A passivization rule conditioned by the relative animacy ranking of a construction's arguments (Rhodes 1976; and nearly all writers on Tanoan languages, exceptions being Whistler 1985 and Klaiman 1989, 1991b, in press);
(vi) A rule of subject-object reversal (Perlmutter and Rhodes 1988);

This variation in views is probably due to the variability in the formal manifestations of inverseness. In the present work, support is offered for three generalizations concerning the inverse language type.

First, it is necessary to distinguish between the inverse type and systems manifesting the type. Languages may manifest inverse patterning to a stricter or lesser degree.

Secondly, there is no unique formal behavior or set of formal behaviors found in every inverse language. Consequently, the conformity of a language to the inverse type does not depend on its exhibiting any particular overt property.

Rather, and thirdly, the degree of a language's adherence to the inverse type largely depends on its conformity to head-marking (Nichols 1986), a structural parameter responsible for the morphosyntactic organization that supports inverse behaviors.

In this paper, the validity of the first of these assertions has already been suggested by the preceding discussion. It and the second assertion will be substantiated in section 2, which concerns variability within the inverse language type. The third assertion, alluding to a relationship between the inverse type and head-marking, is further explored in sections 2 and 3. Finally, some problem systems in which inverseness interacts with other structural patterns are considered in section 4.
2. The inverse type

Although, as suggested in the preceding section, inverse systems manifest some variability in formal properties, earlier research has noted 'the appearance of a cluster of traits' suggesting 'an underlying typological feature' (Jelinek 1990: 228). In order to grasp this feature, it will be productive to allude to a recent model of typological description, the head-/dependent-marking parameter (Nichols 1986). 3

The head-/dependent-marking parameter is based on a distinction in ways in which the relations of arguments and predicators may be marked: on the predicator, i.e. the head of a phrase or clause; or on the argument, i.e. a non-head or dependent. For instance, at the level of clause relations, predicators are verbs, dependents are their arguments and adjuncts. In a dependent-marking language, the relations of arguments to predicates tend to be marked on the dependents, i.e. on nominal and pronominal arguments, by any of various means, such as case marking. On the other hand, in a head-marking language, it is the verbs that bear the markers of the syntactic roles of their dependents. This is illustrated by the following Tzutujil (Mayan) example (based on Nichols 1986: 61):

(8) X- Ø- kee- tij tzyaq ch’ooyaa7
   ASPECT 3SG 3PL ate wardrobe rats
   ‘Rats ate the clothes.’

Inverse systems evince a preponderance of head-marking, not dependent-marking, behaviors, but this fact, in and of itself, is not what is special and peculiar to the inverse type. Whether head- or dependent-marking, a system may, in theory, select from a variety of alternative means for signaling the logical and/or syntactic relations of core arguments (subjects and objects) to transitive verbs. To illustrate, consider the English examples below, noting the alternation in the logical and syntactic roles of the first and second person core arguments, which are italicized.

[Note on parameter definitions]

3 In the main text, the term 'parameter' is used following Nichols (1986: 101): '... the distinction of morphological marking patterns [i.e., head- vs. dependent-marking – MHK] is a typological parameter chosen specifically because of its apparent stability, and its consequent potential contributions to historical linguistics'. An alternative model is the argument type parameter proposed by Jelinek (1984, 1985, 1990). For some discussion of the argument type parameter in comparison with head-/dependent-marking, see Scancarelli (1987b) and Klaiman (1991b, ch. 4).
(9a) *We waited for them* an hour.
(9b) *They waited for us* an hour.

In these examples, predicate-argument relations are signaled by a combination of means: the alternation in word order, strictness of the order of major sentential elements being a feature of the language illustrated; the alternation in overt forms of the arguments, case distinctions being characteristic of pronominals in the illustrated language; and the relational marker *for*, which is part of the lexical verb in these examples.

Strategies such as these can be used for signaling predicate-argument relations not only in dependent-marking languages like English, but in head-marking languages as well. For instance, according to Nichols, the relative order of the verbal prefixes in (8) distinguishes the relations of the arguments to the predicate.

What is peculiar about inverse languages is how rarely they evince such means of signaling predicate-argument relations. Consider again the Plains Cree examples (4a,b), repeated here for convenience as (10):

(10a) Ni- pêh -â-nân -ak
   1 wait DIRECT 1PL 3PL
   *‘We await them.’*
(10b) Ni- pêh -iko-nân -ak
   1 wait INVERSE 1PL 3PL
   *‘They await us.’*

In Plains Cree, as in many inverse systems, at most one prefix of person occurs on the verb, and its shape is invariant regardless of the argument’s logical or syntactic role. It is true that a verb may bear more than one suffix of number, but as (10a,b) show, the shapes and mutual ordering of such suffixes are, likewise, invariant. Moreover, independent nominals, if present, cannot be assigned syntactic roles on the basis of word order, since word order in Plains Cree (and in many inverse languages) is free. Nor do independent nominals bear case or other markers of their syntactic roles. Apart from the alternation of theme signs, there is no overt indication in (10) as to which clause actant is to be understood as acting on which. In fact, aside from the alternation of theme signs, there is no variation in the shapes of these examples at all, converse though they are in propositional content.

It will be shown later (section 3) that some inverse languages do, to a limited extent, rely upon word order and case marking for encoding predi-
cate-argument relations (and, to the degree that they do so, deviate from strict adherence to head-marking). But understanding the structural character of its stricter manifestations seems crucial to gaining insight into the inverse type.

How, then, does an inverse system such as Plains Cree get across the fundamental actant roles in transitive predications? In the balance of this section, we address this question by looking at four generalities of the inverse language type, in order: sensitivity to core argument ontological ranking (2.1); systematicity (2.2); directionality (2.3); and transitivity (2.4).

As the discussion proceeds, it will become evident that these properties, typical though they are of inverse languages, correlate with no particular formal behavior or set of formal behaviors. This finding is elaborated on in section 2.5.

2.1. Ontological salience

Inverseness is based on a ranking of arguments (or properly, argument referents) according to a factor here termed ontological salience. An argument’s ontological salience depends on its referent’s centrality to the concerns of the speaker/hearer, either in relation to the universe of objects in general, or in relation to the situation of the discourse.

For instance, in the earlier Algonquian example (10a), the logical subject ontologically outranks the logical object, because in a typical speaker/hearer’s mental universe, a set of participants that includes the speaker and/or hearer has greater prominence than a set that does not. By the same token, in (10b) the logical object ontologically outranks the logical subject.

In Klaiman 1991b, and here, an ontologically higher-ranked argument in a predication (e.g., ‘we/us’ in (10a,b)) is referred to as an ontological subject; a less-ranked argument (e.g., ‘they/them’ in (10a,b)) as an ontological object.4

4 (10a,b) illustrate alternate linkings of ontological statuses (ontological subject and ontological object) with the two core arguments of a transitive predication, the logical subject and the logical object. Ditransitives, predications assigning three core logical relations—subject, object, and indirect object—are another matter. In some inverse languages, the pattern of direct and inverse marking reveals that when a predication is ditransitive, its logical indirect object, rather than its logical direct object, comprises a core argument. One language in which this has been reported is Navajo (Jelinek 1990: 231). Another instance is Southern Tiwa. In ST ditransitives, the marking of direction (direct/inverse) is sensitive to the ontological relations of logical subjects and indirect objects, but not logical objects. However, in direct predications, person indexing (agreement), in contrast to direction marking, evidently takes into account all three logical statuses (see Rosen 1990; and see the main text, section 4 below).
In general, and with qualifications to be discussed shortly, the ontological ranking of participants in a situation denoted by a transitive verb can be ascribed to a natural hierarchy, shown below in (11). Although sometimes referred to as a scale of potentiality of agency (Dixon 1979), most writers refer to this well-known scheme as the animacy hierarchy.

\[
\begin{array}{ccccccc}
\text{1st person} & \text{2d person} & \text{3d person} & \text{proper noun} & \text{human noun} & \text{animate noun} & \text{inanimate noun} \\
\end{array}
\]

The significance of (11) is not limited to inverse systems. Rather, various natural language phenomena recur to some version of this hierarchy. (For discussion see, \textit{inter alia}, Dixon 1979; Silverstein 1976, 1980; and, for a study of ontological salience in a single language, see Klaiman 1984 on Korean.)

In general, in systems governed by an animacy hierarchy, person categories represent statuses of natural salience relative to the speaker-hearer pair in a typical discourse situation. Thus in (11), the leftmost three statuses represent categories of natural discourse salience more than they do categories of person per se (see Wierzbicka 1981: 63ff.).

Moreover, it is important to note that (11) is, at best, a schematic approximation of how ontological salience is determined in languages. For instance, some languages deviate from (11) in regard to the relative ranking of first and second persons. For example, second person outranks first in many Algonquian systems (see fn 9). Alternatively, in some languages, singulars may outrank nonsingulars within the third person category (see again examples (2) and (3)).

Moreover, some systems embody person categories not included in (11). For instance, crucial to the organization of most Algonquian inverse systems is a category for third persons which are remote physically or psychically from the situation of the discourse – the fourth person (or \textit{obviative}).

Obviation is discussed below (section 3). As will be observed, the presence or absence of an obviative has an important bearing on a seemingly unrelated property of some inverse systems, that of reversibility. In inverse systems generally, predications cannot ordinarily be encoded in both direct and inverse shapes. For instance, in Plains Cree, it is impossible for the predication expressed in (10a) to be formulated in an inverse form, or conversely, for the predication expressed in (10b) to be formulated in a direct form.

\[\text{On the origin of this term, see} \text{Dahlstrom (1986: 145, fn. 1);} \text{Weaver (1982: 22).} \]
But in some inverse systems, certain predications are reversible – their verbs may assign either the direct or the inverse form. Generally, reversibility is confined to predications in which both core arguments belong to the system’s lowest ontological salience ranking. For example, in Lummi, illustrated earlier in (5), the lowest ontological salience category is third person, and it is only 3:3 predications which can be encoded alternately through the direct (5a) or inverse (5b) form of the verb.6

In an instance such as (5), ontological subject and object assignments are not determined by a scale along the lines of (11), but rather by the relative salience or import ascribed by the speaker/hearer to the core arguments in the context of speaking. But this is merely the principle underlying the ontological salience scale (11) itself. Ontological salience always is driven by the relative importance attributed by the speaker/hearer to core argument referents.

To conclude, (11) is to be construed as suggesting a basis for determining ontological salience – not as an output condition, or a template to which all inverse systems literally adhere.

2.2. Systematicity

A second generality is that inverseness involves the transitive predications of a language, or some well-defined subset thereof. The opposition of direct and inverse has scope over all predicates in a well-defined lexical domain, and in this sense is systematic.

Nonetheless, the domain in question may differ from language to language. Generally, for a verb to participate in the alternation, it must be transitive. In numerous languages, moreover, at least one of its core arguments must be animate.

In some languages, both core arguments must be animate. This holds in most Algonquian languages, since direct/inverse alternations are confined to one subcategory of predicates, the Transitive Animate class.

In some languages, there is a distinction between predications assigning at least one third person core argument and predications assigning only first and

6 In Algonquian languages such as Plains Cree, it is the obviative or fourth person that represents the lowest ontological status, and correspondingly, 4:4 predications may be reversible (see below, example (23)). Some writers have acknowledged that alternate direct and inverse forms of reversible predications are not interchangeable in context, but differ in their discourse functions. Still, surprisingly little has been written about precisely how the two are conditioned. However, for one study which alludes more than casually to the discourse functions of direct–inverse alternates, see Kroskrity (1990) on the Tanoan language Arizona Tewa (AT).
second person (SAP) arguments. In the terminology of Algonquianists, predications of the former class are non-local; of the latter, local.

Local predications do not necessarily participate in the direct/inverse alternation. In Tanoan languages, for instance, all local predications are formally either direct or inverse – precisely which of these two categories is assigned depends on the language.\footnote{A similar situation occurs in Lummi, earlier illustrated in (5). In Lummi, local predications ordinarily are formally direct (as in the a-examples of (12)–(13)), not inverse; hence the nonexistence of the b-examples. ((12) and (13) are due to Jelinek and Demers 1983: 168.)}

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(12a) \[\text{x̌i} \ -t \ -oŋəs \ -sən\]
know TRANSITIVE SAP 1
'I know you.' (DIRECT)

(12b) ---
'I know you.' (INVERSE)

(13a) \[\text{x̌i} \ -t \ -oŋəs \ -sxʷ\]
know TRANSITIVE SAP 2
'You know me.' (DIRECT)

(13b) ---
'You know me.' (INVERSE)

In other languages, local predications are formally aligned neither with the direct nor the inverse category. For instance, in Apachean languages, the direct/inverse alternation is encoded strictly by an alternation in shapes of

\footnote{For instance, in Arizona Tewa (AT), local predications are formally inverse (Kroskrity 1985); while in the related Picuris, they are formally direct (Zaharlick 1982). There are more complicated restrictions on the domain of direct/inverse alternations in some non-Tewa Tanoan languages. See below, section 4.}

\footnote{In Lummi, according to Jelinek and Demers (1983) and Jelinek (1990), it is possible, in theory, for a predication with an SAP logical subject to occur in either the direct or inverse form, as respectively illustrated in (i) and (ii) below (from Jelinek 1990: 239; cf. examples (5a,b) in the main text.) However, Jelinek and Demers (1983: 173) point out that instances resembling (ii) are marked, serving 'to identify first- and second-person agents emphatically'.}

(i) \[\text{ʔaŋ} \ -t \ -ŋəs \ -sən\]
hit TRANSITIVE SAP 1
'I hit you.'

(ii) \[\text{ʔaŋ} \ -t \ -ŋ \ -sxʷ \ 'ə \ čə \ nək*\]
hit TRANSITIVE INVERSE 2 OBL DETERMINER 1
(same gloss) (rendered by Jelinek, 'You were hit by me. ')

On some related behaviors in Nootkan (Wakashan), see Whistler (1985).
third person pronominal affixes yi- and bi-. Since neither of these can be assigned in a transitive predication unless the other core argument is non-SAP (third person) (Shayne 1982: 381), it follows that any predication with an SAP core argument, including any local predication, is excluded from the direct/inverse domain of the language.

On the other hand, in some inverse languages, both local and nonlocal predications participate. For instance, in Plains Cree, the language illustrated in (10), a local predication may be formally direct or inverse, depending on which participant, first or second person, is depicted as acting on which.9

It deserves note that in some systems, whether or not specific inverse marking occurs in local predications, the shapes of agreement markers for first and second person sometimes diverge from those assigned in nonlocal predications (an instance is the prefix opo- in Kamaiurá, example (27d)). Also, in some inverse systems, local predications may assign portmanteau agreement morphemes whose shapes vary depending on directionality (2:1 vs. 1:2). This occurs, for instance, in Arizona Tewa (AT) (for details, see Kroskrity 1985 or Klaiman 1991b, Klaiman in press).

2.3. Directionality

As indicated in 2.1, inverseness presupposes a grammaticalized opposition of predications into two classes: those in which the denoted event proceeds in the direction indicated by the arrow in (11) vs. those in which the event proceeds inversely to the direction of the arrow. As also noted in section 1, Wolfart and Carroll (1981) associate the overt expression of this opposition with a category of direction. This category is encoded by alternations of direct vs. inverse verbal voice. However, the formal strategies of this encoding may differ somewhat from language to language.

Since in Plains Cree (as in many Algonquian languages), second person ontologically outranks first, local forms in which second person acts on first are formally direct, as in (i) below; while local forms in which first person acts on second are formally inverse, as in (ii). (The examples are from Wolfart and Carroll 1981: 73.)

(i) Ki- wápmí -ini
   2   see   DIRECT 1SG
   'Thou seest me.'

(ii) Ki- wápmí -iti -n
   2   see   INVERSE 1SG
   'I seest thee.'
In some systems, the direct is encoded by a specific morpheme (see e.g. (10a) in Plains Cree). But in other systems (e.g. Nocte; see example (6)), the inverse category alone is marked, the direct being assigned zero marking.

We presently know of no system in which an inverse category assigns zero in contrast with an overtly marked direct category. However, and as noted earlier in connection with Mapudungun (example (7)), inverse behavior may occur in the absence of morphology specific to either inverse or direct, being encoded by an alternation in shapes of person-encoding affixes on the verb. The same holds of Apachean languages, which will be illustrated here with data from Navajo.

As mentioned in 2.2, in Apachean languages, only 3:3 predications evince directionality, the respective direct and inverse markers being the third person pronominals yi- and bi-. Some 3:3 predications may assign either. However, the examples below represent predications in which only one of the two may be assigned.

The basis for the yi-bi- alternation is a version of the ontological salience hierarchy whereby animates outrank inanimates and furthermore, among animates, higher animates outrank lower. If a 3:3 predication assigns one animate and one inanimate core argument, the former ontologically outranks the latter. This is the reason the direct form yi- is assigned to the exclusion of the inverse form in (14a). Conversely, where a higher animate logical object is outranked by a lower animate logical subject as in (15b), the inverse form bi- is assigned to the exclusion of the direct. ((14) is due to Witherspoon 1980: 5 and (15) is due to Creamer 1974: 34.)10

These examples are noteworthy in that in Navajo, the direct form (15a), in the reading 'The baby kicked the man', is no less nonsensical than is the inverse (14b) in the reading 'The water drank the girl' (even though, from an anglophone standpoint, only the latter seems nonsensical – see Witherspoon 1977, 1980 for a discussion).

(14a) At'tééd tó yodląą' girl water drank
     ‘The girl drank the water.’
(14b) *Tó at'tééd bodląą’ water girl drank
(15a) *Awée’chi’i diné yi-ztał baby man kicked
(15b) Diné awée’chi’i bi-ztał man baby kicked
     ‘The baby kicked the man.’

10 The word orders illustrated are typical, but variations are possible. See Frishberg (1972).
Also note, as these examples show, that direction is encoded by the opposition of third person pronominal forms *yi-* and *bi-*. Thus in Navajo (and other Apachen languages), a specific inverse morpheme is lacking.

Similarly, in Arizona Tewa (AT), a Tanoan language, there is no specific inverse morpheme. AT intransitive verbs assign agreement affixes of a particular paradigm (in glosses below, 'Set I'); while transitive verbs (when declarative and non-reflexive) index ontological subjects by assigning agreement affixes of either of two distinct paradigms. Affixes of one paradigm ('Set II' in glosses below) are assigned just in case the logical subject is not outranked by the logical object on a scale of person categories 1st > 2d > 3d. This is illustrated in (16a) (due to Kroskity 1985: 313). Otherwise, affixes of the other paradigm ('Set III' in glosses below) may be assigned, as shown in (16b) (1985: 311). (In principle, either Set II or Set III may be assigned if both core arguments are third person; the third person is the minimal ontological salience category for the system – see examples (18a,b) below.)

(16a) Né'í kwiyo dó- tay
this woman 1SG-Set II know
'I know this woman.'

(16b) Hé'i sen -di 'u wó:- kʰggen -'án
that man OBL you 2SG-Set III help COMPLETIVE
'That man helped you.'

As (16a,b) show, AT has no morpheme specific to direct or inverse. Rather, the person indices assigned by the verb are portmanteau morphemes, simultaneously indexing the ontological subject’s person as well as the predication’s direction. Putting it another way, the assignment of Set II forms is isofunctional to direct marking, while the assignment of Set III forms is isofunctional to inverse marking.

Interestingly, as illustrated in (16b), in case an independent nominal referring to the logical subject is present, the markedness of Set III (inverse) forms is confirmed by the obligatory assignment of an oblique suffix ∗-di/-di.11

In this respect, AT resembles Lummi where, likewise, independent nominals representing inverse logical subjects receive oblique marking (see example

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11 An effect of this is that word order – specifically, the order, with respect to a transitive verb, of independent nominals corresponding to that verb’s core arguments – turns out to be freer in inverse than in direct predications. For details, see Kroskity (1990) and Klaiman (in press). Also see below, section 3.
AT and Lummi differ, however, in that the latter, but not the former, has a specific inverse morpheme.

It should be noted that the oblique marking of nominals representing inverse logical subjects has caused some previous writers to doubt that either of these languages has an inverse voice (as contrasted, e.g., with a passive). This raises a question: what distinguishes inverse from other types of voice variation, such as passive? 2.4 addresses a very central issue in this regard.

2.4. Transitivity

The final general property of inverse systems is transitivity. This is a significant characteristic, since it distinguishes direct-inverse behavior from alternations such as active-passive, ergative-antipassive, and the like. Such alternations generally entail detransitivization. For instance, virtually without exception, a transitive (two-argument) predication, when passivized, becomes intransitive (Shibatani 1985: 839; Keenan 1985).

By contrast, an inverse predication, like the corresponding direct, is formally transitive.

Since tests for transitivity differ from language to language, there is no one behavior common to all inverse constructions which demonstrates their transitivity. In the earlier illustrations from Plains Cree (10) and Mapudungun (7), the formal transitivity of the inverse (the b-examples) is supported by the fact that the verb indexes two arguments, the same number indexed in the direct (cf. the a-examples).

In other systems, e.g. Lummi, an overt index of transitivity (such as -t in examples (5a,b)) may appear in both inverse and direct forms, confirming the transitivity of the former.

Yet elsewhere, case behavior furnishes evidence of transitivity. This holds e.g. in Nocte (example (6)), where a special case, the ergative, accrues (albeit inconsistently; see DeLancey 1981a: 642) to logical subjects of transitives, whether the predication is direct in form (6a) or inverse (6b).

In Apachean languages, illustrated in (14) and (15), the transitivity of inverse (and of direct) forms can be inferred from the alternating bi- and yi-morphemes' status as object markers — within the verbal complex, the position in which they occur corresponds to that of object pronominals (see Shayne 1982 for details).

In some languages, one can infer that inverse forms are transitive by their formal contrast with detransitives. For instance, in the Algonquian language Algonkin, direct and inverse alternates, such as (17a,b), contrast formally
with detransitives, such as (17c). (These examples are due to Henderson 1971: 39; '4' in glosses refers to the obviative or fourth person, a category further discussed in section 3.) Note that, in this particular set of examples, the detransitive turns out to be formally direct, not inverse. (See Henderson for additional details and examples.)

(17a) O- wāpam -ā -n
3 see DIRECT 4
‘He sees the other.’

(17b) O- wāpam -iko -n
3 see INVERSE 4
‘The other sees him.’

(17c) Wāpam -ā
see DIRECT
‘He is seen.’

Similarly, in the Tanoan language AT, illustrated in (16a,b), the detransitive contrasts formally with the inverse. Whereas the inverse assigns agreement markers from Set III, a detransitive assigns agreement markers from a distinct paradigm, the intransitive paradigm, or Set I. (18a–c) (from Kroskrity 1985: 309) respectively illustrate direct, inverse, and detransitive forms.

(18a) Hē’i sen nē’i ’enū mān- khwëdi
that man this boy 3SG-Set II hit
‘That man hit this boy.’ (DIRECT)

(18b) Nē’i ’enū hē’i sen -di ’ō:- khwëdi
this boy that man OBL 3SG-Set III hit
‘That man hit this boy.’ (INVERSE)

(18c) ’e:-p’up’i:le na- ’owidi -ti:
child-newborn 3SG-Set I bathe DETRANSITIVE
‘The newborn child was bathed.’

Note that the inverse (18b) does not coalesce in person-indexing, or agreement marking, with the detransitive (18c). Not only do the paradigms differ, but detransitives such as (18c) are susceptible to marking with a special morpheme -ti, while inverse forms are not.

Apart from offering a principled basis for distinguishing inverse marking from other varieties of verbal voice, the present section has also suggested that case behaviors may vary in inverse systems. Some implications of this will be elaborated on below, section 3.
2.5. Inverse properties: Summary

Sections 2.1–2.4 have identified certain general properties of inverse systems: sensitivity to ontological salience; systematicity; directionality; and transitivity. As shown, there is great variability in the formal strategies whereby different inverse languages evince these properties.

In fact, we know of no one formal behavior or set of formal behaviors to which all inverse systems conform.

For instance, as discussed above, inverse languages vary as to the marking of independent nominals for case. In some languages, such as Lummi and AT, independent nominals representing transitive (logical) subjects are assigned oblique marking in inverse predications; in others, such as AT and Nocte, verbal person-indexing or agreement markers alternate shapes in a caselike manner, being organized into direct and inverse paradigms; while in yet others, such as Algonquian languages, there is no alternation whatsoever in case forms of core arguments, be they represented by independent nominals or encoded as person-indexing (agreement) markers on the verb.

As also noted earlier, inverse languages may or may not have morphemes specifically marking direction, i.e. direct and inverse. And while inverse languages tend to have core nominal indexing, or agreement marking, on the verb, we have seen that there is some variation in specific patterns from system to system.

Given the dearth of formal behaviors in terms of which inverse systems might be universally characterized, it seems unlikely that the study of formal properties alone can furnish a basis for defining and accounting for variation within the inverse type. What, then, is the nature of the typological feature underlying inverseness, alluded to at the outset of section 2?

Nichols observes (1986: 112), 'Head-marking systems are faced with the problem of indicating just which clause actant stands in which of the relations marked on the verb - a problem unknown to dependent-marking languages, in which each noun bears a mark of its own function in the clause'. She mentions a number of 'possible solutions to this impasse', including developing a rigid word order for nominals; having verbal inflection index actant roles; and allowing a restricted degree of case marking on nominals themselves.

Among languages of the head-marking type, inverse languages are distinctive in the infrequency with which any of the above strategies is resorted to. In this regard it is worth emphasizing, without belaboring the point, that in an inverse language, it is far from atypical to observe that agreement or
person-indexing markers coalesce in form regardless of a core argument’s syntactic status, be it intransitive subject, logical subject of a direct, or logical object of an inverse. Each of these is respectively shown in the a, b and c examples of (19), illustrating Plains Cree (Algonquian), and (20), illustrating Picurí (Tanoan). ((19) is due to Wolfart and Carroll 1981: 29, 64, and (20) is due to Zaharlick 1982: 37, 41, 40.) Each example includes a prefix indexing the person of a core argument, and in each set of instances, the shape and positioning of this prefix is uniform, hence uninformative as far as the encoding of predicate-argument relations is concerned.

(19a) Ni- tapi -n (nī̂ya)  
1 sit 1SG I  
‘I sit.’

(19b) Ni- wāpam -āw (nī̂ya) atim  
1 see DIRECT (I) dog  
‘I see the dog.’

(19c) Ni- wāpam -ik (nī̂ya) atim  
1 see INVERSE (I) dog  
‘The dog sees me.’

(20a) ‘a- me -’ān  
2SG go PAST  
‘You went.’

(20b) Sŏnene ‘a- mŏn -’ān  
man 2SG see PAST  
‘You saw the man.’

(20c) ‘a- mŏn -mia -’ān sŏnene -pa  
2SG see INVERSE PAST man by  
‘The man saw you.’

These examples underscore Nichols’ observation that encoding the core arguments’ relations to a predicate can be a special problem in a head-marking system – we would add, particularly so in an inverse system.

Inverse systems are special in that they recur to some version of the ontological salience hierarchy (11) in conjunction with the category of direction, i.e. the opposition of direct vs. inverse voices in the verb, for encoding the predicate-argument relations of core nominals in transitive predications. As we have seen, such a strategy works fairly successfully as long as the arguments of a given predication represent distinct ontological statuses. Although a difficulty can arise in the case of local (i.e., SAP:SAP)
predications, this can be overcome, provided first and second persons represent nonequivalent ontological statuses (see again fn. 9 and the discussion of Plains Cree in 2.2). Alternatively, as noted earlier, some systems encode predicate-argument relations in local predications by means of special 1:2 and 2:1 forms (to be sure, this borders on case marking, the effect of which is to compromise the system’s conformity to head-marking – a matter on which more will be said below).

However, one class of predications poses a more serious difficulty: 3:3 predications. In the following section, we examine how the difficulty they represent for inverse patterning is addressed in different systems.

3. Reversibility and obviation

In 2.1, it has been observed that under some circumstances, both the direct and inverse forms of a predication may be grammatical. As also noted there, the potential for this increases when a predication’s core arguments each belong to the system’s minimal (or nearly minimal) ontological salience ranking.

For instance, in Apachean languages, where the domain of direct/inverse patterning is 3:3 predications, it is possible, in principle, for both core arguments of such a predication to have equivalent ontological salience. In such an instance, the predication is reversible, as illustrated by the Navajo examples in (21) (due to Witherspoon 1980: 5).

(21a) tįį’ dzaanéez yį- ztaf
horse mule DIRECT kicked
‘The horse kicked the mule.’

(21b) Dzaanéez tįį’ bi- ztaf
mule horse INVERSE kicked
‘The horse kicked the mule.’

The reversibility of 3:3 predications poses a special challenge from the standpoint of identifying the relation of each core argument to the predicate. In Navajo, this can be especially troublesome since this language (like many inverse languages) tolerates considerable freedom in sentential word order (see fn. 10), and since independent nominals representing core arguments are not case marked.

In Navajo, as in some other inverse languages, the problem of encoding
core argument relations in reversible predications is addressed by a feature special to inverse systems. It consists of an extension in the system of person categories – a fourth person. As noted in 2.1, Algonquianists generally refer to this category as the obviative. Essentially, it encompasses third person core referents of lesser centrality to a speaker’s concerns (at a particular point in a discourse), as contrasted with third person core referents of greater centrality.

The Navajo fourth person nearly always has animate, usually human, reference. Formally, it is a pronominal. Its shape varies according to the direction (3:4 vs. 4:3) of the predication. Illustrations are (22a,b) (due to Jelinek 1990:229). (Here, of the two core referents, ‘the horse’ is treated as the more salient.)

(22a) ḫii’ ha- ztał
horse 4 kick
‘The horse kicked him/her/it (unspecified other party).’

(22b) ḫii’ ji- ztał
horse 4 kick
‘He/she/it (unspecified other party) kicked the horse.’

It follows that, although reversible (3:3) alternates such as (21a,b) are tolerated, the likelihood of a Navajo predication being framed in a reversible shape is reduced, effectively, by recourse to the fourth person.

Algonquian languages also have fourth persons, or obviatives, but unlike Apachean languages, they do not allow for 3:3 predications even in principle. Rather, predications are subject to a general restriction of assigning at most one third person (or as termed by Algonquianists, proximate) core argument. Any other non-SAP core argument in the predication must be fourth person (obviative). Since third person arguments (proximates), by definition, outrank fourth persons (obviatives) in ontological salience, the effect of obviation is to nearly eliminate indeterminacy in identifying predicate-argument relations.

Interestingly, however, the possibility of reversibility still arises, though it is restricted to predications in which both core arguments are fourth person. Illustrations are (23a,b) in Plains Cree (due to Dahlstrom 1986: 54). It should

12 Some Algonquianists even assert the possibility of a fifth person, although its status is in doubt (see Wolfart 1978).

13 To be sure, fourth person (obviative) marking also has other significant functions, particularly in discourse-level reference tracking. On this see, inter alia, Jelinek (1990) on Navajo and Goddard (1984) on Fox (Algonquian).
be noted, however, that 4:4 predications such as these are uncommon. This is presumably because, in most discourse contexts, it would be peculiar for the predicate to have no foregrounded, or ontologically salient, argument.

(23a) Wāpam -ē -yi -wa
    see    DIRECT 4 4sg
    'The other, sees the other.'
(23b) Wāpam -iko -yi -wa
    see    INVERSE 4 4sg
    'The other sees the other.'

Inverse systems which lack a fourth person may evince one or more alternate strategies of encoding core nominal-predicate relations. Essentially, there are three possibilities. The first is word order restriction, while the other two are case strategies. Of these, one consists of variation in the shapes of bound pronominals, or agreement markers, according to the logical relations of their referents to the predicate; the other consists of variation in the shapes of independent nominals representing core arguments.

One Tanoan language, Arizona Tewa, evinces all three of these strategies. In this language, 3:3 predications, being reversible, may, in principle, occur in either the direct or inverse form, as illustrated earlier in examples (18a,b), repeated here for convenience as (24a,b).

(24a) He'ī sen nē'ī 'enú mān- khwēdi
    that man this boy 3SG-Set II hit
    'That man hit this boy.' (DIRECT)
(24b) Nē'ī 'enū he'ī sen -di 'ō:- khwēdi
    this boy that man OBL 3SG-Set III hit
    'That man hit this boy.' (INVERSE)

According to Kroaskrity (1990), in a direct predication such as (24a), predicate-argument relations can be distinguished thanks to word order restriction: the logical subject must precede the logical object. On the other hand, in an inverse such as (24b), there is no restriction on the order of major sentential elements. However, as in Lummi (example (5)), so too in AT an independent nominal representing the logical (=ontological) subject - e.g., he'ī sen 'that man' in (24b) - is assigned oblique marking, and thus its relation to the predicate can be identified. In sum, through word order restriction in direct predications, and through independent nominal case
marking in inverse predications, the predicate-argument relations in a reversible predication are signaled.

Additionally, like Mapudungun (example (7)), AT has no specific inverse morpheme, but has a caselike alternation in forms of bound pronominals. The person-encoding prefixes assigned in direct and inverse predications are organized into two distinct paradigms. This is illustrated by the differing shapes of the person prefixes in (24a,b).

As noted, AT is not the only inverse language manifesting such behaviors, which resemble those of dependent-marking languages (discussed in 2.5). Clearly, to the extent that an inverse language manifests dependent-marking behaviors, such as those just discussed, it deviates from prototypical inverse behavior in that it diverges from head-marking.

Some writers have interpreted such facts differently. For instance, writers on both AT (Kroskrity 1985, 1990) and on Lummi (Jelinek and Demers 1983) have construed the dependent-marking patterns in these systems as evidence against their being inverse (although Jelinek 1990, with qualifications, does classify Lummi as inverse). Rather, they have treated inverse forms in each of these languages as passives. The major limitation with this view, discussed above (2.4), is the failure of inverse constructions to coalesce in formal properties with intransitives.

Here we claim that such systems are indeed inverse, but to the extent that they evince features incompatible with head-marking, they deviate from the most rigorous possible manifestations of the inverse type, or prototypical inverseness. In this respect they are different from systems such as Apachean and Algonquian, discussed earlier in the present section. It was noted that in these systems, the problem represented by reversible predications is dealt with through an extension of the person system, the obviative or fourth person. It appears, then, that in a manner of speaking, the recurrence of AT, Lummi, and other such languages to dependent-marking strategies of encoding predicate-argument relations — strategies such as case and word order — comprises the cost to such systems for lacking obviation.

4. For future study

The purpose of the present section is to deal with some problems and some areas for future exploration in the study of the inverse language type. One of the most basic problems concerns the organization peculiar to inverse systems. In the present work, it has been suggested that inverse and noninverse
systems may differ fundamentally, being organized on the basis of distinct primitive statuses.

In 2.1, statuses of ontological subject and ontological object were introduced. They are identified with those core arguments of a transitive predication that represent higher and lower rankings, respectively, on a given system's version of the hierarchy of ontological salience (11). Here it is asserted that ontological statuses characterize the organization of inverse systems uniquely. In other words, inverse systems are special because the primitives in terms of which they are organized are different from those of noninverse systems. Whereas the primitives of organization in noninverse systems may pertain to a non-ontological level of structure, the behaviors distinctive to inverse systems seem to recur to ontological-level primitive statuses, referred to above as ontological subject and ontological object.

One area from which supporting evidence for this may be drawn is agreement or person-indexing. In 2.4, it was pointed out that in some inverse systems, a verb may index, or overtly agree with, more than one argument. However, if the system is such that only one argument can be verbally indexed, then agreement is controlled by a single status. This holds in system after system, whether the predication is intransitive, transitive direct, or transitive inverse. In this regard, the earlier examples (19a–c) and (20a–c) bear reexamining. In both, the status mandatorily indexed on the verb is the ontologically highest-ranked core participant.

In an intransitive, this argument represents the logical subject; in a direct transitive, the logical subject; in an inverse transitive, the logical object. The point is that all three coalesce into one and the same status: ontological subject.

For further evidence, consider systems in which verbs may agree with more than one core argument. An illustration is the Plains Cree example (10), in which the verb supports agreement markers for two core arguments. However, these markers are assigned to specific positions within the verbal complex, and these positions correspond to ontological – not logical or relational – statuses. In the direct/inverse alternates (10a,b), the first person marker (ni-) is assigned to one position relative to the verb, and the third plural (-ak) to another; these are the positions of ontological subject and object, respectively.

In some languages, the centrality of ontological statuses is supported by word order facts. For instance, it has been observed earlier that in Navajo, there is some freedom of sentential word order. The usual pattern, however, seems to be as illustrated in (21). The relative ordering of independent core
nominals in these examples – logical subject first in (21a), logical object first in (21b) – can be accounted for under a single generalization: the ontological subject precedes.

The totality of this evidence suggests that ontological statuses are critical to the fundamental structural organization of inverse languages. How one would characterize an ontological level of structural organization, in contrast to other grammatically significant levels, cannot be dealt with here (for a discussion, see Klaiman 1991b). Here, however, it can be pointed out that the statuses fundamental to the organization of noninverse languages may be other than ontological in character, such as grammatical relations or thematic roles.

But these statuses, it appears, are by and large irrelevant to inverse systems. Indirect evidence to this effect resides in the observations of a number of writers on individual inverse languages, claiming to have found scant or no evidence (e.g., in the form of 'subject tests') for rules of grammatical behavior referring to grammatical or thematic relations. (See, inter alia, Dahlstrom 1986 on Plains Cree, Henderson 1971 on Algonkin, Whistler 1985 on Nootkan, Sandoval 1984 on Jicarilla Apache, and Seki 1990 on Kamaiurá.)

Because it has just been claimed that inverse systems are distinguished by a unique form of structural organization, for future research, some of the greatest challenges may be posed by languages in which inverseness coexists with noninverse patterns. In some languages, inverse and noninverse patterns are so interwoven in the fabric of structural organization that the system seems to have a dual structural character or basis.

The two instances whose descriptions will occupy the balance of this work prompt many questions whose answers lie not only beyond this work's scope, but also beyond the present state of understanding of inverse systems. They are brought up in order to acknowledge some of the problems which attend serious inquiry into a fascinating language type.

First, in some languages there is a fusion of inverse and active–stative patterns. Among such languages are Cherokee (Muskogean) (Scancarelli 1987a,b) and the Tupi-Guarani language Kamaiurá (Seki 1990, Payne 1990).

Typically, an active–stative (sometimes simply termed active) language evinces a division of intransitive verbs into two classes, one assigning logical subjects which align in their formal properties with transitive subjects, and the other assigning logical subjects which align formally with transitive objects. The former class may be termed subjective or subject-inflecting intransitives, and the latter, objective or object-inflecting intransitives. (The traditional terms 'active' and 'stative' seem misleading, since the basis of the
distinction has less to do with verbal aspect or temporal sense than with the attribution of control over the sententially denoted action.)

Kamaiurá will serve for the purpose of illustration. In this language, the verbal complex may include an element which Seki (1990) terms a dependent pronominal. Dependent pronominals are organized into two sets as shown in (25) (based on Seki 1990: 369).

<table>
<thead>
<tr>
<th></th>
<th>Set I</th>
<th></th>
<th>Set II</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>a-</td>
<td></td>
<td>je</td>
</tr>
<tr>
<td>1INCL</td>
<td>ja-</td>
<td></td>
<td>jene</td>
</tr>
<tr>
<td>1EXCL</td>
<td>oro-</td>
<td></td>
<td>ore</td>
</tr>
<tr>
<td>2SG</td>
<td>ere-</td>
<td></td>
<td>ne</td>
</tr>
<tr>
<td>2PL</td>
<td>pe-</td>
<td></td>
<td>pe</td>
</tr>
<tr>
<td>3</td>
<td>o-</td>
<td></td>
<td>(i-)</td>
</tr>
</tbody>
</table>

Both transitive and intransitive verbs assign pronominals from these sets, but according to different patterns. Intransitives form two subcategories, with verbs of one assigning Set I pronominals, and verbs of the other assigning Set II. Semantically, verbs of the first subcategory are usually control intransitives, while those of the second are usually non-control intransitives.\(^\text{14}\) Respective illustrations are (26a,b) (from Seki 1990: 373, 374):

(26a) Ije a- je'en
    I 1-Set I speak
    ‘I speak.’

(26b) je r-oryp
    1-Set II r-glad
    ‘I am glad.’

Set I and Set II dependent pronominals are also assigned in transitive predications, respectively encoding logical subjects and objects. This is shown in (27a,b) below (from Seki 1990: 383–384). Note that, inasmuch as the language evinces two sets of intransitives, one (the control intransitives) subjectively inflected and the other (noncontrol intransitives) objectively inflected, the patterning is active–stative.

\(^\text{14}\) More discussion of control semantics in direct–inverse systems occurs in Klaiman (1991a,b).
But together with active–stative patterning in the assignment of elements from the dependent pronominal paradigms, in (27) there is also evidence of inverse patterning: in 3:SAP (as well as 2:1) predications, a verbal prefix r- is assigned. Moreover, in transitive predications, only one dependent pronominal can be assigned to the verb, and it is selected in accord with the hierarchy of ontological salience. As the examples in (27) show, a transitive predicate invariably indexes the ontologically superior core argument of the predication – i.e., the ontological subject.

Thus the overall pattern in Kamaiurá is neither purely inverse nor purely active–stative. Rather, in its encoding of control oppositions, the system seems to comprise a combination or interweaving of the two structural types. Such a system poses a challenge both for structural description and for typological theory.

Perhaps an even greater challenge, however, arises from systems in which the category of direction, formally manifested by the alternation of direct and inverse verbal voices, coexists with other voice oppositions. Non-Tewa Tanoan languages, which manifest such behavior, have lately engendered considerable controversy. In recent research, the best investigated and, correspondingly, most controversial member of this group is southern Tiwa (ST) (see Rosen 1990, Allen et al. 1990, and numerous other authors cited therein).

ST is similar to its sister language, Picurís (illustrated in (20)), in that it has a single set of bound pronominals assigned in basic (non-passive) predications in which there is no inanimate or third person animate nonsingular core
argument. These pronominals index ontological subjects, and with only one exception, they do not vary in shape regardless of the form of the predication—ine transitive as in (28a), transitive direct as in (28b), or transitive inverse as in (28c).\textsuperscript{16} Also in ST, as in Picuris (see (20c)), oblique marking is assigned to inverse logical subjects. The shape of this marker is -\textit{ba} (compare Picuris -\textit{pa} in (20c)), and the shape of the ST inverse (compare Picuris -\textit{mia} in (20c)) is -\textit{che}.

\begin{itemize}
  \item (28a) \textit{A- më -ban} \\
    2SG go PAST \\
    ‘You went.’
  \item (28b) \textit{(Seuanide) a- mû -ban} \\
    \textit{(man) 2SG see PAST} \\
    ‘You saw him (the man).’
  \item (28c) \textit{(Seuanide -ba) a- mû -che -ban} \\
    \textit{(man OBL) 2SG see INVERSE PAST} \\
    ‘He (the man) saw you.’
\end{itemize}

An ST predication may not be inverse in form (i.e., may not assign -\textit{che}, the inverse marker) if the logical subject ontologically outranks a logical object. Conversely, the form of a predication may not be direct if the logical object ontologically outranks the logical subject. This is the reason for the nonsensicality of (29b) and (30a) (based on Allen et al. 1990: 332–333 and Rosen 1990: 676). Such examples support the view of ST as an inverse system.

\begin{itemize}
  \item (29a) \textit{Ti- mû -ban ‘uide} \\
    1SG see PAST child \\
    ‘I saw the child.’
  \item (29b) \textit{*‘uide \textbar- mû -che -ban na -ba} \\
    child 3SG-ANIMATE see INVERSE PAST I OBL \\
    ‘I saw the child.’
  \item (30a) \textit{*Ma- mû -ban ‘uide} \\
    2PL see PAST child \\
    ‘The child saw you.’
\end{itemize}

\textsuperscript{16} Exceptionally, the ST first person singular pronominal, whose usual shape is \textit{më-}, takes the special shape \textit{ti-} in direct transitives. The first person singular displays a similar allomorphy in Picuris. For some discussion, see Klaiman (1991b, ch. 4), and Klaiman (in press).
However, some classes of ST predications are not subject to the pattern just illustrated. If, in a transitive predication, either of the core arguments is third person animate nonsingular or inanimate, then the assignment of person-indexing pronominals does not conform to the inverse pattern. Rather, in the intransitive and the inverse, pronominals are assigned from the usual paradigm, but a distinct set of pronominals is assigned in the direct. This is shown in (31) (based on Allen and Frantz 1983: 5–6 and Allen et al. 1990: 351)\(^{17}\) Observe, as (31a,b) show, that 3:3 predications in ST (as in Tanoan languages generally) are reversible, alternating as direct or inverse.

(31a) Hliara -n ibi- 'u'u- mū -ban
lady PL-ANIMATE 3PL:3PL baby see PAST
'The ladies saw the babies.' (DIRECT)

(31b) 'u'u -n i- mū -che -ban hliara
baby PL 3PL-ANIMATE see INVERSE PAST lady
- n -ba
PL-ANIMATE OBL
'The ladies saw the babies.' (INVERSE)

(31c) Hliara -n i- hlur -ban
lady PL-ANIMATE 3PL-ANIMATE fall PAST
'The ladies fell.'

In (31) it is apparent that not all the person-indexing markers coincide; \(ibi\) in the direct (a) contrasts with \(i\) in the inverse (b) and intransitive (c). The latter two pattern alike to the exclusion of the former, thereby suggesting a passivelike alternation. It would seem that, from the standpoint of the assignment of person-indexing pronominals, the inverse domain in ST excludes predications involving animate plural and inanimate core arguments.

Despite this, the interaction of ST inverse patterning with other voice alternations suggests that the fundamental organization of the system is indeed direct–inverse. For instance, the language has a special agreement

\(^{17}\) An important feature of ST not discussed to this point is noun incorporation, illustrated in (31a) by the incorporation of the nominal ‘baby’. The analysis proposed in Rosen (1990) suggests that ST has highly complicated conditions on incorporation. In the present work, this problematic area of ST grammar will not be further considered (but see Klaiman 1992).
paradigm for a class of predications in which the basic intransitive verb agrees not only with its logical subject, but also with a term referred to in Rosen (1990) as a ‘dative’. Rosen refers to the relevant paradigm as ‘intransitive plus dative’. It accounts for the shape of the pronominal agreement marker in (32b), which (in contrast to the usual agreement paradigm, shown in (32a)) indexes two arguments rather than one. Note that, in forms of this paradigm, the nominal corresponding to the logical subject is incorporated into the verbal complex. ((32) is due to Rosen 1990: 678; the double colon in the gloss of (32b) is her convention for forms of the ‘intransitive plus dative’ paradigm.)

(32a) Seuanin i-wan-ban na -'ay
     men 3PL-ANIMATE come PAST I to
     ‘The men came to me.’
(32b) Im-seuan-wan-ban
     3PL-ANIMATE::1 man come PAST
     ‘The men came to me.’

From these examples, the incorporation rule appears to amount to a kind of passivization under which ‘datives’ behave as derived subjects. However, forms derived by the incorporation rule are subject to certain constraints. They are proscribed, for instance, where both arguments, the basic subject and basic adjunct, are SAP (Allen et al. 1990: 337) – the corresponding person prefixes are absent from the ‘intransitive plus dative’ paradigm (Rosen 1990). Moreover, the predicates of these constructions being basically intransitive, there is no instance in which they appear in an inverse shape (marked with -che). Formally, then, the incorporating construction is always direct, never inverse.

Accordingly, incorporation may not result in the verb’s simultaneously indexing an ontologically superior logical subject and ontologically inferior logical nonsubject (or ‘dative’). That is, according to Allen et al., there are no incorporating counterparts of such predications as the below (33) and (34). It therefore appears that the incorporation rule respects the language’s fundamentally inverse character; the rule may apply, but is subject to the language’s ontologically driven pattern.

(33) Te-wan-ban 'uide -'ay
     1SG come PAST child to
     ‘I came to the child.’
A\-hliaw\-ban hliawrade\-'ay
2SG descend PAST lady to
'You went down to the lady.'

ST has one additional agreement paradigm whose forms are assigned in conjunction with another incorporation rule. This rule has scope over basic transitive, rather than intransitive, verbs. According to Rosen (1990), constructions derived by this process are 'ditransitive' inasmuch as the verb, if formally direct, comes to agree with three arguments. Their predicates being basically transitive, these constructions, unlike those illustrated in (32), may be formally direct or inverse. Ditransitives, then, may assign the inverse marker \-che - but once again, subject to the language's ontologically-driven direct-inverse pattern.

This is illustrated in (35) and (36). (35b), a derived ditransitive (compare with the ordinary transitive (35a)), is obligatorily inverse because the derived object, 'I', ontologically outranks the logical subject. However, as illustrated by (36b), where the incorporation rule is applied to a predication in which the derived object is ontologically outranked by the logical subject, the inverse form is not possible; the derived ditransitive is necessarily direct, as shown in (36a). (These examples are from Allen and Frantz 1978: 14; Allen et al. 1990: 325; and Allen and Frantz 1986: 401.)

(35a) Liorade 0- khwien- wia -ban na -'ay
lady 3SG dog give PAST I to
'The lady gave a dog to me.'
(35b) Liorade-ba in- khwien- wia -che -ban
lady OBL 1SG/3SG dog give INVERSE PAST
'I was given a dog by the lady.'
(36a) Seuanide ta- khwien- wia -ban
man 1SG:3/3SG dog give PAST
'I gave the man the dog.'
(36b) *A- khwien- wia -che -ban
3SG/3SG-ANIMATE dog give INVERSE PAST
na -ba
I OBL
'He was given the dog by me.'

The interaction of different varieties of verbal voice is discussed further in Klaiman (1991b, ch. 4). In the present work, however, enough has been said
to support the point that a language such as ST evinces an intriguing and problematical combination of patterns. Many of its formal behaviors seem ontologically driven, thus appearing to recur to a level of organization characterized earlier in the present section as unique to inverse systems. Yet the language also accommodates certain passives, i.e., relation-changing rules assumed to recur to a class of primitive statuses, grammatical relations, that are at variance with the primitive statuses of ontological structure.

Inverse languages will undoubtedly continue to intrigue researchers in the future. As shown in the present work, they are characterized by enormous formal variability.

Here, while it has not been possible to account for all their idiosyncracies, an explanation for typical inverse patterns has been sought by appealing to the typology of head-marking. It has been shown that the head-/dependent-marking parameter accounts for a great deal of the range of, as well as restrictions on, formal variability in inverse languages.

Further, the present work has postulated a level of ontological structure, which in time may be confirmed as the underlying basis of organization special and unique to inverse systems.

References

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