Word order inverse in Obo Manobo*

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1. INTRODUCTION

Until recently, it has been assumed that an essential feature of an inverse construction is that the verb of a transitive clause is morphologically marked when the P argument is a speech act participant (SAP) and the A argument is not (DeLancey 1981:641).[1] In his discussion of voice and inverse, Givón (1994a) has argued that word order may also be a formal means of signaling an inverse and has proposed that the typology of inverse constructions be broadened to include a word order inverse. Taking up this suggestion, T. Payne (1994) has provided evidence that Cebuano, a Southern Philippine language, has a word order inverse, an analysis never before proposed for Philippine languages. Specifically, Payne shows that of the two possible word orders for Cebuano transitive clauses, clauses having VPA order consistently correlate with an inverse voice function, and those having VAP order consistently correlate with an active voice function. In light of Payne's findings for Cebuano, the question arises, do word order inverses occur in other Philippine languages, and if so, what morphosyntactic variations do these constructions exhibit?

As it happens, Obo Manobo, another Southern Philippine language, also has transitive clauses that display VAP and VPA word orders.[2] The Obo Manobo VPA clause is of interest not only because it

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[1] In this paper, S is the syntactically required argument of a single-argument clause; A the more agentive, syntactically required argument of a transitive clause; and P the less agentive, syntactically required argument of a transitive clause.

[2] Obo Manobo is a language spoken by approximately 50,000 people living on the northern and western slopes of Mt. Apo on the boundary between the provinces of Davao del Sur and Cotabato and several surrounding provinces of southwest Mindanao, Philippines. Obo Manobo is a Southern Philippine language; Walton (1977) classifies it as a member of the Central Manobo subgroup, but Elkins (1974) classifies it as a member of the Western Manobo subgroup. Obo Manobo appears to be most closely related to Western Manobo languages which include Western Bukidnon, Ilianen, and Livunganen. With respect to non-Manobo languages, it is most closely related to Subanon.

indicates that word order inverses exist in other Philippine languages, but because the VPA clause is associated with its own unique set of pronouns. That is, Obo Manobo transitive clauses have two word orders, and each word order occurs with a unique set of pronouns for A and P arguments. This is a feature which to our knowledge has not previously been noted for Philippine languages.[3] Examples of the two Obo Manobo transitive clause types are given in (1) and (2).

(1) VAP clause

Id	suntuk	ku	sikkow.[4]
REAL	hit	1SG	2SG

'I hit you.'

This study is based on elicited sentences and paradigms, a 3,000-entry dictionary, and 200 pages of natural text gathered by the second author between 1989 and 1997, while working under the auspices of the Summer Institute of Linguistics. The second author is the primary researcher. Both authors would like to thank Vera Khor for making available six additional Obo Manobo narrative texts. The authors are also grateful to Miss Trinidad Ansal and Pastor Tano Bayawan for the help they gave in providing and checking Manobo data for this study.

[3] It is, however, a pattern predicted by Givón (1994a) in his discussion of inverses. Specifically, Givón hypothesizes that word order inverses diachronically precede pronominal morphological inverses (e.g., Algonquian-type inverses) and that a word order inverse may give rise to a mixed word order and pronominal inverse. With respect to the 'pronominal' designation, Obo Manobo and Algonquian-type languages differ in that person and number are marked by affixes on the verb in Algonquian-type languages, but by pronouns only in Obo Manobo.

[4] In this study, the following orthography is used for the Obo Manobo data. The consonants are: *b* [b], *d* [d], *g* [g], *h* [h], *k* [k], *l* [l], *m* [m], *n* [n], *ng* [ŋ], r [ɾ], *s* [s], *t* [t], *v* [v], *w* [w], *y* [j]. The vowels are: *a* [ɐ] *e* [e], *i* [i], *o* [ɔ], *u* [u]. Glottal stop is a phoneme. When it occurs intervocalically, it is represented by a hyphen, as in *ba-ay* [bɐʔɐj] 'female'. When it occurs word-initially or word-finally, it is not represented. Length is also phonemic for both vowels and consonants and is represented by a sequence of two identical segments, as in: *uvaa* [ʔuvɐ:] 'monkey' and *boggoy* [bɔg:ɔj] 'to give'. The vowels /a/ and /o/ contrast only in the last two syllables of a word. In all other syllables, contrast is neutralized and only /o/ occurs, never /a/.

The following abbreviations are used in this study: A the more agentive, syntactically required argument of a transitive clause, AG agent, ABS absolutive, DEF definite, EMPH emphatic, ERG ergative, EXCL exclusive, GEN genitive, INCL inclusive, IRR irrealis, LK linker, NM nominal marker, NMR nominalizer, OBL oblique, P the less agentive, syntactically required argument of a transitive clause, PAT patient, PFT perfective, RD referential distance, REAL realis, S the syntactically required argument of a single-argument clause, SA a syntactically required argument of a single-argument clause that corresponds to A of its transitive clause counterpart, SAP speech act participant, SP a syntactically required argument of a single-argument clause that corresponds to P of its transitive clause counterpart, TP topic persistence, VAP 'Verb A argument P argument' word order, VPA 'Verb P argument A argument' word order.

(2) VPA clause

Id	suntuk	a	nikkow.
REAL	hit	1SG	2SG

'You hit me.'

In this study, we will argue that the VPA clause in Obo Manobo is a word order inverse. We will support this claim with a range of syntactic, formal, semantic, and functional evidence to show that the Obo Manobo VPA clause has properties similar to inverse constructions in other languages. Specifically, we will show that: 1) the VPA clause is a syntactically transitive clause, 2) the VPA clause is formally distinguished from the VAP clause by word order and pronominal forms of A and P, 3) the VPA clause consistently codes an inverse voice function as defined by Givón (1979, 1983, 1991), i.e., A and P are both topical, but P is more so, as do traditional inverses, and 4) selection of the VPA clause over the VAP clause is controlled in part by a semantic person hierarchy and in part by a pragmatic topicality hierarchy, hierarchies similar to those governing traditional inverse systems. We will also consider alternate analyses that have been advanced to explain VAP and VPA word orders in Philippine languages and show that only the inverse analysis provides a single unified explanation that accounts for all the data.

2. TRADITIONAL INVERSE SYSTEMS

Inverse systems were first described for Algonquian languages. (See work on Plains Cree (Wolfart 1973; Dahlstrom 1986, 1991), Menomini (Bloomfield 1962), Delaware (Goddard 1979).) These languages have two transitive clause types: a direct, or an active, construction and an inverse construction. Each construction is distinguished formally by marking on the verb. Selection of direct and inverse constructions is governed in part by a grammaticalized person hierarchy and in part by a pragmatic topicality hierarchy.

The Algonquian person hierarchy can be stated as 2 > 1 > 3. When A of a transitive clause outranks P on this hierarchy, the direct construction is used; when P outranks A, the inverse is used. For some combinations of A and P, the person hierarchy is obligatory, although the exact combinations are language specific.

When A and P are 3rd persons and, thus, equal in rank with respect to the person hierarchy, the arguments may be ranked according to their topicality as the center of interest at a particular point in a discourse.[5] Here the more topical participant is the proximate argument and the less topical participant the obviate argument. Proximate and obviate arguments are distinguished by marking on the NP. Again,

[5] Here topicality is used as a cover term for several interacting parameters. Semantically, a topical participant is typically animate, volitional, and individuated. Pragmatically, it is typically more important locally or globally than other participants and has often been referred to previously in the text.

when A outranks P in topicality, the direct construction is used,[6] but when P outranks A,[7] the inverse is used.[8]

3. GIVÓN'S PROPOSAL FOR A TYPOLOGY OF INVERSE CONSTRUCTIONS

In his 1994a contribution to his on-going investigation of voice, Givón proposes a preliminary typology of inverse voice constructions. He suggests that in addition to morphological marking, i.e., marking on the verb, inverse constructions may also be distinguished formally by word order. In a word order inverse, P is placed in a more fronted position preceding A; the fronted position may or may not precede the verb, depending on the language.

In his inverse typology, Givón lists the following parameters as those along which known inverse constructions vary. He presents the list as preliminary and tentative.

1. Pronominal vs. word order marking of inverse
2. Case-marking of full NPs in the inverse
3. Semantic vs. pragmatic inverse
4. Promotional vs. nonpromotional inverse

The first parameter has to do with formal marking of the inverse: some inverses are formally distinguished by pronominal verb agreement; others are distinguished by word order. The second parameter has to do with the marking of full NPs: when A and P are full NPs, some languages mark the NPs as proximate and obviate; others do not. The third parameter refers to the selection of the inverse: some inverses are governed by semantic hierarchies (those in which P is an SAP); others by pragmatic topicality hierarchies (those in which A and P are both 3rd persons); and still others by a combination of semantic and pragmatic hierarchies. The fourth parameter refers to syntactic promotion: for some inverses, the proximate P argument is promoted to subject; for others, it is not. Inverse constructions may exhibit a combination of these parameters; e.g., in pronominal inverses, P often moves to a more fronted position preceding A.

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[6] Henceforth the functional equivalent of the direct construction in traditional inverse systems will be referred to as an 'active construction'.

[7] In her discussion of the Tupí-Guaraní inverse, D. Payne (1994:316) notes that in the inverse situation, P need not be more topical than A, but simply more topical than normal.

[8] Although a number of inverse systems are controlled exclusively by a person hierarchy, Dryer (1994) suggests that Kutenai has an inverse which is restricted to clauses in which A and P are both 3rd persons and so is controlled exclusively by a topicality hierarchy.

4. CONCEPTS RELATING TO VOICE

Underlying our claim that Obo Manobo has an inverse construction are concepts of voice, voice construction, grammatical relation, and voice function, as well as a typology of voice constructions. Following is a brief explanation of each concept.

4.1. Definition of voice

Following Givón (1990, 1994a), voice is defined as a complex functional-structural system in which changes in pragmatic perspective are coded in different voice constructions, e.g., active, passive, antipassive, and inverse. This definition proceeds from the observation that a single, semantically transitive event coded by the same verb, agent, and patient may be viewed from several pragmatic perspectives.

4.2. Definition of voice construction

For this study, a clause type is a voice construction if: it has at least one grammatical relation; it has unique formal properties, i.e., morphology or word order or both, that distinguish it from other clause types; and it consistently codes a unique voice function for the majority of its occurrences in narrative text.

4.3. Definition of grammatical relation

Following Brainard (1994b, 1997), an argument is a grammatical relation if: it controls at least one syntactic process to the exclusion of all other arguments; as the syntactic control, it codes different semantic roles; and it is uniquely coded by at least one formal property.[9]

4.4. Definition of voice function

Following Givón (1990, 1994a), voice function is defined as the relative topicality of the agent (AG) and the patient (PAT) at a particular point in a narrative. This definition is based on Givón's proposal that voice constructions code pragmatic perspective and that one major component of pragmatic perspective is the relative topicality of the agent and the patient. The proposal assumes that:
1) pragmatic perspective is associated with the more topical referent in a clause, 2) the majority of occurrences of a particular voice construction in narrative text code the same unique configuration of the relative topicality of the agent and the patient, and 3) changes in pragmatic perspective may be signaled by changes in voice constructions.[10]

4.5. Typology of voice constructions

Each type of voice construction is a unique combination of syntactic, formal, and functional properties. Although the exact details of the formal marking of voice constructions are language-specific, syntactic properties and voice function properties of four commonly attested voice constructions, namely

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[9] For this discussion, an argument is identified as a syntactic control if it functions as the trigger or the target of a syntactic process.

[10] A discussion of the typology of voice functions first proposed by Givón (1979, 1983, 1991) and quantitative text-based methods developed to identify those functions are found in section 11.

active, inverse, antipassive, and passive, are relatively stable cross-linguistically. These properties are given in the tentative typology in Table 1.

Table 1. Typology of voice constructions

Voice construction	Clause type	Grammatical relations	Voice function
Active	Transitive	A and P	Active
Inverse	Transitive	A and P	Inverse
Antipassive	Detransitive	S_A	Antipassive
Passive	Detransitive	S_P	Passive

The typology of voice constructions assumes that each voice construction is distinguished from all others by unique formal coding and unique voice function. An active construction, then, is a transitive clause that has two grammatical relations, A and P, and codes an active voice function. An inverse is a transitive clause that has two grammatical relations, A and P, and codes an inverse voice function. An antipassive is a detransitive clause in which P of the transitive clause has been demoted or deleted, leaving A as the only grammatical relation. Following demotion or deletion of P, the clause becomes a single-argument clause, and A changes to S. The detransitive clause codes an antipassive voice function. A passive is a detransitive clause in which A of the transitive clause has been demoted or deleted, leaving P as the only grammatical relation. Again following demotion or deletion of A, the clause becomes a single-argument clause, and P changes to S. This detransitive clause codes a passive voice function.

5. THEORETICAL ISSUES IN PHILIPPINE LANGUAGES

One can hardly discuss any morphosyntactic feature of Philippine languages without running aground on some theoretical issue. Nearly every aspect of the morphosyntax of basic verbal clauses in these languages has been debated at some point. Over the years linguists have disagreed about the identity of the basic transitive clause, the identity of voice constructions, the function of nominal markers, the presence of a subject, and the function of verbal affixes.

5.1. The transitive clause and voice constructions debate

In his 1917 description of Tagalog, Bloomfield identifies the clause type that has traditionally been called the ‘actor-focus’, or ‘actor-topic’, construction (3) as the basic transitive clause, and the ‘goal-focus’, or ‘goal-topic’, construction (4) as a passive clause. This identification is based primarily on morphological evidence rather than syntactic evidence.

(3) Actor-focus construction (Tagalog)

		P		A
Nagkudkod	ng	niyog	ang	babai.
nag-kudkod	ng	niyog	ang	babai
PFT.AG-grate	NM	coconut	NM	woman

‘The woman grated a coconut.’

(4) Goal-focus construction (Tagalog)

		A		P
Kinudkod	ng	babai	ang	niyog.
kudkod-in-	ng	babai	ang	niyog
grate-PFT.PAT	NM	woman	NM	coconut

'The woman grated the coconut.'

In the 1970s, this early analysis began to be questioned since, cross-linguistically, semantically transitive verbs occur most frequently in transitive clauses in narrative text, and in Tagalog narrative text, such verbs occur most frequently in goal-focus, not actor-focus, constructions. Based on these cross-linguistic patterns and a wider range of semantic, syntactic, and pragmatic evidence, more recent studies have proposed that the goal-focus construction (4) is the basic transitive clause, and that the actor-focus construction (3) is an antipassive when it codes semantically transitive verbs.[11] (See T. Payne 1982; Cooreman, Fox, Givón 1984; Walton 1986; De Guzman 1988; Gerdts 1988; Mithun 1994; Brainard 1994a, 1994b, 1997.)

5.2. The nominal markers debate

The nominal markers debate developed out of the transitive clause and voice constructions debate. When nominal markers distinguish between A and P in a transitive clause, they function as case markers. Following Comrie's (1978) and Dixon's (1979, 1994) descriptions of case-marking patterns, we would expect nominal markers to display either a nominative-accusative pattern (henceforth 'nominative') in which S and A are marked the same, and P is marked differently, or an ergative-absolutive pattern (henceforth 'ergative') in which S and P are marked the same, and A is marked differently, or a tripartite pattern in which S, A, and P are each marked differently.

Compare the Tagalog sentences in (5)–(7). Sentence (5) has a semantically intransitive verb and is an intransitive clause. Sentences (6) and (7) have a semantically transitive verb: (6) is an actor-focus construction and (7) is a goal-focus construction.

(5) Intransitive clause (Tagalog)

		S		
Pumunta	ang	bata	sa	tindahan.
punta-um-	ang	bata	sa	tindahan
go-PFT.AG	NM	child	NM	store

'The child went to the store.'

(6) Actor-focus construction (Tagalog)

		P		A
Nagkudkod	ng	niyog	ang	babai.
nag-kudkod	ng	niyog	ang	babai
PFT.AG-grate	NM	coconut	NM	woman

'The woman grated a coconut.'

[11] When the actor-focus construction codes a semantically intransitive verb, it is an intransitive clause.

(7) Goal-focus construction (Tagalog)

		A		P
Kinudkod	ng	babai	ang	niyog.
kudkod-in-	ng	babai	ang	niyog
grate-PFT.PAT	NM	woman	NM	coconut

'The woman grated the coconut.'

If (6) is the basic transitive clause, then S and A are both marked the same (*ang*), and P is marked differently (*ng*), displaying a nominative pattern. On the other hand, if (7) is the basic transitive clause, then S and P are marked the same (*ang*) and A is marked differently (*ng*), displaying an ergative pattern.

5.3. The subject debate

Another debate that arose in the 1970s is the question of whether subject is a universal grammatical relation. The debate defined 'subject' as the argument that controls the greatest number of syntactic processes, although not all those participating in the debate adopt that definition.

Two important papers in this discussion (Schachter 1976, 1977) used data from Tagalog to argue the issue. In these papers, NPs in the actor-focus and the goal-focus construction are investigated to determine which ones control certain syntactic processes usually associated with subjects in languages like English. The studies reveal that while syntactic processes in Tagalog are always controlled by the *ang*-NP (S) in the actor-focus construction, in the goal-focus construction, control is more or less evenly distributed between the *ng*-NP (A) and the *ang*-NP (P).[12] Thus, in Tagalog and those Philippine languages that pattern like it, there is no single constituent that corresponds to the category of subject in languages like English. This issue is further complicated by more recent studies which show that in some Philippine languages, e.g. Sama Bangingi' (Gault 1999) and Yakan (Brainard and Behrens 2002), the vast majority of syntactic processes in the goal-focus construction are controlled exclusively by the NP that is the counterpart of the Tagalog *ang*-NP (P).

The outcome of this debate is that linguists have been unable to agree how best to define clause arguments in Philippine languages, particularly S and P which have traditionally been referred to as the 'focused NP', or the 'topic NP'. Some linguists identify the focused NP as the subject (Blake l906, 1925; Bloomfield 1917; McKaughan 1973; De Guzman 1992; Kroeger 1993; Gault 1999). Others identify the focused NP as a topic (Schachter 1976, 1977; Shibatani 1988). Carrier-Duncan (1985) identifies the focused NP as a topic and the transitive agent as the subject. Brainard (1994b, 1996, 1997) identifies the A argument as a subject and the P argument, the focused NP, as an object.

5.4. The verb affix debate

One other debate in Philippine linguistics has been the question of the function of verbal affixes. In Philippine clauses, the verb typically occurs with an affix that cross-references one, and only one, syntactically required argument in the clause. This argument is the focused NP; i.e., S and P (assuming that the goal-focus construction is the basic transitive clause).

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[12] The assignment of A and P are based on the assumption that the goal-focus construction is the basic transitive clause.

Some linguists have argued that these verb affixes identify the grammatical relations S and P (McKaughan 1973, Kess 1975). Others have suggested that the affixes identify the semantic role of S and P (Schachter and Otanes 1972, Ramos 1974, De Guzman 1988, Shibatani 1988, Kroeger 1993).[13] Brainard (1994b) has argued that verb affixes have grammatical functions and semantic functions. Specifically, with regard to grammatical functions, verb affixes cross-reference S and P and only these arguments, regardless of their semantic roles, thereby distinguishing S and P from A; they also indicate syntactic transitivity. With regard to semantic function, verb affixes also identify the semantic role of S and P in many Philippine languages.[14]

5.5. Summary of theoretical issues in Philippine languages

While all of these theoretical issues have been worth arguing, there is still little agreement among Philippinists about the conclusion of each debate. This has had unfortunate consequences. For example, it has rendered basic terms such as 'subject' nearly useless for discussions of Philippine languages in that one cannot assume any two linguists are referring to the same element when the term is used. In addition, it has hindered the understanding of Philippine languages in that for the past eighty years or so, research in these languages has been unable to advance beyond basic questions such as the identity of clause types and voice constructions and the function of nominal markers and verb affixes. At this point, we will declare our position on these issues for Obo Manobo. Later, arguments will be presented to support our analysis.

First, in Obo Manobo, the goal-focus construction is identified as the basic transitive clause since it has two grammatical relations (A and P), whereas the actor-focus construction has only one grammatical relation (S) (see section 8).

Second, following Dixon (1979, 1994), Obo Manobo nominal markers are identified as case markers since they formally distinguish A from P in transitive clauses.

Third, a range of evidence shows that in Obo Manobo, S, A, and P are grammatical relations (see section 8, 9, and 11). Since it is generally agreed that focus and topic are pragmatic notions and that they need not be grammatical relations (Chafe 1976, Li and Thompson 1976), S and P are identified as grammatical relations, rather than topics or focus elements.[15] On the other hand, while S, A, and P are grammatical relations, neither A nor P patterns consistently with S with respect to those grammatical properties usually associated with the notion of subject, and so subject, when defined strictly as the argument that controls a majority of syntactic processes, is not a particularly useful concept for describing grammatical relations in Obo Manobo. For this reason, we have adopted Dixon's (1994:113) proposal that there are three universal grammatical relations, S, A, and O, and that syntactic rules in all

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[13] Blake (1906) and Bloomfield (1917), and those who follow them, call this function of verb affixes, i.e., identifying the semantic role of the 'focus NP', 'voice' and describe a change in the semantic role of S and P as a change in voice.

[14] In addition to semantic role, verb affixes may also indicate other semantic information, e.g., aspect, mood, intentionality, partial affectedness, and directionality. See Brainard (1994b) for details.

[15] This is not to say that topics and focus elements are never grammatical relations, but rather that they need not be grammatical relations.

languages are framed in terms of them. For this discussion, we will label these grammatical relations as follows: S, the syntactically required argument of a single-argument clause; A, the more agentive, syntactically required argument of a transitive clause; and P (Dixon's O), the less agentive, syntactically required argument of a transitive clause.

6. MORPHOSYNTAX OF VERBAL CLAUSES IN OBO MANOBO

Obo Manobo displays typical Philippine-type verbal clause structure, which has traditionally been referred to as a 'focus system'. Specifically, in a basic verbal clause, the verb occurs in the initial clause position, and NPs are preceded by case markers. An affix on the verb cross-references one NP in the clause, S or P, and typically identifies the semantic role of the NP.[16] Verb affixes also signal other types of information, such as syntactic transitivity, dynamism (e.g., dynamic, stative), and mood (e.g., possibility, intention). In transitive clauses, affixes identifying the semantic role of S or P occur mainly on verbs marked for irrealis. The clitic *id* signals realis, and the clitic *od* irrealis. Realis indicates that an event is perceived as actually occurring or having occurred; irrealis indicates the opposite.

NPs in Obo Manobo display two case-marking patterns, depending on word order and the form of the nominal, e.g., common noun, personal name, or pronoun. For common nouns and personal names, case marking follows an ergative pattern exclusively in all transitive clauses, regardless of word order. For pronouns in VAP clauses, case marking follows a tripartite pattern for 1st and 2nd persons and an ergative pattern for 3rd persons. For pronouns in VPA clauses, case marking follows an ergative pattern for all persons. Examples of the ergative pattern for common nouns is given in (8)–(11). (Case marking is discussed in detail in section 9.)

(8) Id undiyon iddos anak to oweg govoni.
REAL go ABS child OBL river yesterday

'The child went to the river yesterday.'

(9) Od undiyon iddos anak to oweg simag.
IRR go ABS child OBL river tomorrow

'The child will go to the river tomorrow.'

(10) Id tampod to anak iddos tali govoni.
REAL cut ERG child ABS rope yesterday

'The child cut the rope yesterday.'

(11) Od tompoddon to anak iddos tali simag.
od tampod-on to anak iddos tali simag
IRR cut-PAT ERG child ABS rope tomorrow

'The child will cut the rope tomorrow.'

[16] Verb affixes and semantic roles do not have a straightforward one-to-one correlation. Depending on the verb, different affixes may cross-reference the same semantic role; conversely, the same affix may cross-reference different semantic roles. (See Brainard (1994b) for a comprehensive analysis of verbs and verb affixes in Karao, a Northern Philippine language.)

Semantically transitive verbs occur in four types of clause: a VAP transitive clause, a VPA transitive clause, a detransitive-1 clause, and a detransitive-2 clause. Sentences (10) and (11) above are VAP clauses; (12) and (13) below are VPA clauses. For both the VAP and the VPA clauses, A and P are grammatical relations.[17] Notice that in irrealis mood, the verb in both clause types takes an affix that identifies the semantic role of the P argument, but not in realis mood. The VAP clause is the candidate for the active construction; the VPA clause is the candidate for the inverse.

(12) Id tampod iddos tali taddot anak govoni.[18]
id tampod iddos tali tadda-to anak govoni
REAL cut ABS rope DEF-ERG child yesterday

'The child cut the rope yesterday.'

(13) Od tompoddon iddos tali taddot anak simag.
od tampod-on iddos tali tadda-to anak simag
IRR cut-PAT ABS rope DEF-ERG child tomorrow

'The child will cut the rope tomorrow.'

Sentences (14) and (15) are detransitive-1 clauses. Here P of the transitive clause has been demoted to an oblique NP, and only A of the transitive clause remains. Since the sentence is now a single-argument clause, A becomes S. Notice that the verb does not take a semantic role affix in either realis or irrealis mood. The detransitive-1 clause is the candidate for the antipassive.

(14) Id tampod iddos anak to tali govoni.
REAL cut ABS child OBL rope yesterday

'The child cut a rope yesterday.'

(15) Od tampod iddos anak to tali simag.
IRR cut ABS child OBL rope tomorrow

'The child will cut a rope tomorrow.'

Sentences (16)–(19) are detransitive-2 clauses. Here A is obligatorily absent, and only P of the transitive clause remains. Since the sentence has become a single-argument clause, P changes to S. The detransitive-2 clause is the candidate for the passive.[19]

(16) Id notampod iddos tali govoni.
id no-tampod iddos tali govoni
REAL STAT.REAL-cut ABS rope yesterday

'The rope was cut yesterday.'

(17) Od kotampod iddos tali simag.
od ko-tampod iddos tali simag
IRR STAT.IRR-cut ABS rope tomorrow

'The rope will be cut tomorrow.'

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[17] Evidence for grammatical relations for all clause types is given in section 8, 9, and 11.

[18] See note 28 for a discussion of the optional marker *tadda*.

[19] For this study, a prototypical passive is assumed to have a semantically transitive verb.

(18) Id tampod iddos tali govoni.
REAL cut ABS rope yesterday

'The rope was (intentionally) cut yesterday.'

(19) Od tompoddon iddos tali simag.
od tampod-on iddos tali simag
IRR cut-PAT ABS rope tomorrow

'The rope will be cut (intentionally) tomorrow.'

Comparing sentences (16)–(19), notice that the detransitive-2 verb may take stative affixes (16)(17). The detransitive-2 verb may also take the same form it has when it occurs in a VAP or a VPA transitive clause, e.g., no affix (compare (18) with (10) and (12)), or a transitive affix (compare (19) with (11) and (13)).[20] Although the exact distribution of stative versus transitive verb forms in detransitive-2 clauses remains to be verified, a detransitive-2 clause with stative verb forms appears to be the unmarked form in that it is less restricted semantically; specifically, it is neutral with respect to whether or not the action is intentional. Conversely, a detransitive-2 clause with transitive verb forms appears to be a marked form in that it is more restricted semantically, i.e., it always indicates that the action is intentional. This analysis is further supported by frequency of occurrence in narrative text: 58% of the detransitive-2 clauses in the available texts occur with stative affixes, but only 41% occur with transitive affixes.[21] Assuming that the form occurring most frequently in narrative text is the unmarked form, the detransitive-2 clause with stative affixes is again identified as the unmarked form. Since alternation between stative and transitive affixes appears to signal neutral versus intentional action, a semantic alternation frequently signaled by alternation of verb affixes in Philippine languages, the difference in verb affix does not warrant positing two separate types of detransitive-2 clause. Therefore, for the purpose of this study, all occurrences of the detransitive-2 clause are assumed to be the same clause type, regardless of verb affix.

Our hypothesis then is that each of the four Obo Manobo clause types is a distinct voice construction. The proposed identification is given in Table 2.

Table 2. Proposed identification of clause types as voice constructions in Obo Manobo

[20] Some readers might question whether *-on* is truly a transitive affix; however, *-on* and *—an* are the two suffixes that commonly appear on verbs (in irrealis mood) in Obo Manobo transitive clauses. The point here is that Obo Manobo has a passive in which the verb does not take stative morphology, but rather retains the form it has in a transitive clause when the A argument is present.

[21] A total of 87 detransitive-2 clauses were identified in the available texts: 51 (58.6%) occurred with stative affixes, and 36 (41.4%) occurred with the same morphology they take in VAP and VPA transitive clauses.

Clause type	Proposed voice construction
VAP transitive	Active
VPA transitive	Inverse
Detransitive 1	Antipassive
Detransitive 2	Passive

7. DISTRIBUTION FREQUENCY OF CLAUSE TYPES IN NARRATIVE TEXT

Much of what will be said about voice constructions in general and the inverse in particular in Obo Manobo depends upon the correct identification of the basic transitive clause. So far, we have tentatively identified the VAP clause as the basic transitive clause, and the candidate for the active construction. The VPA clause, another transitive clause, is the candidate for the inverse; the detransitive-1 clause the candidate for the antipassive; and the detransitive-2 clause the candidate for the passive. A simple heuristic means of checking this initial identification is the distribution frequency of these clause types in Obo Manobo narrative text.

Cross-linguistically, semantically transitive verbs occur more often in active constructions than other voice constructions in narrative text. (See Cooreman for Chamorro 1982, 1985, 1987; Dryer for Kutenai 1994; Rude for Sahaptin 1994; Brainard for Karao 1994a, 1994b.) Consequently, if the VAP clause in Obo Manobo is an active construction, we would expect it to code more semantically transitive verbs than all other clause types in narrative text. Table 3 gives overall frequencies for the four clause types in Obo Manobo narrative text.

Table 3. Frequency of clause types in Obo Manobo narrative text

Clause type	N	%
VAP transitive	167	46.5
VPA transitive	38	10.6
Detransitive 1	71	19.8
Detransitive 2	83	23.1
Total	359	100.0

The figures in Table 3 show that semantically transitive verbs occur most often in VAP clauses (46%). Thus, with respect to overall frequency of clause types in narrative text, the VAP clause patterns like active constructions in other languages. This finding is also indirect support for our initial identification of the VPA clause as an inverse in that it confirms that semantically transitive verbs are

coded less often in a VPA clause than a VAP clause, just as they occur less often in an inverse than an active construction in traditional inverse systems.

8. TESTS OF SYNTACTIC CONTROL

If the VAP clause is an active construction and the VPA clause an inverse, as we claim, they should be transitive clauses, and A and P in both clauses should be grammatical relations. Similarly, if the detransitive-1 clause is an antipassive, it should be a single-argument clause, and only SA, the argument corresponding to A in the transitive clause counterpart, should be a grammatical relation. If the detransitive-2 clause is a passive, it should also be a single-argument clause, and only SP, the argument corresponding to P in the transitive clause counterpart, should be a grammatical relation. In order to confirm these claims, we will verify the number and identity of the grammatical relations in the four clause types. For the sake of comparison, we will also include the same information for the intransitive clause.[22]

One criterion of a grammatical relation is that it is the syntactic control of at least one syntactic process. A second criterion is that it is also the exclusive control of at least one syntactic process. A third criterion is that as a syntactic control, a grammatical relation must code different semantic roles. In order to establish that A and P are grammatical relations in Obo Manobo, two syntactic tests, equi-NP deletion and clefting, are adopted to verify that each argument is the exclusive control for one syntactic process. Examples are also given to show that as a syntactic control, A and P may code different semantic roles.

8.1. Equi-NP deletion

Equi-NP deletion is a process in which an argument in a complement clause is coreferential with one in the main clause, and the coreferential argument is deleted. In Obo Manobo, equi-NP deletion follows a nominative pattern of syntactic control: S or A of a complement clause is deleted when it is coreferential with A of the main clause. Since A is the exclusive target for equi-NP deletion in a transitive complement clause, this is evidence that it is a grammatical relation. If the VAP and the VPA clause are both transitive clauses, then A should be the target for equi-NP deletion when either clause type is a complement clause.

In (21), A is a 1st person and so a VAP complement clause is obligatory; in (22), the A argument of the main clause and the VAP complement clause are coreferential, and A of the complement clause is deleted.

(20) Kopi-i ku iddos libru.
want 1SG ABS book

'I want the book.'

[22] For this discussion, an intransitive clause is defined as a single-argument clause that has a semantically intransitive verb, either a stative verb or a dynamic verb.

(21) Od tommuwon ku sikkow.
od tommu-on ku sikkow
IRR meet-PAT 1SG 2SG

'I will meet you.'

(22) Kopi-i ku no od tommuwon sikkow.
kopi-i ku no od tommu-on sikkow
want 1SG LK IRR meet-PAT 2SG

'I want to meet you.'

In (24), 1st person P outranks 2nd person A. Although both a VAP clause and a VPA clause are possible for this combination in an independent clause, only the VPA clause is possible in a complement clause when A of the complement clause is coreferential with A of the main clause. In (25), A of the VPA complement clause is deleted.

(23) Kopi-i ru iddos libru.
want 2SG ABS book

'You want the book.'

(24) Od tommuwon a nikkow.
od tommu-on a nikkow
IRR meet-PAT 1SG 2SG

'You will meet me.'

(25) Kopi-i ru no od tommuwon a.
kopi-i ru no od tommu-on a
want 2SG LK IRR meet-PAT 1SG

'You want to meet me.'

Sentences (26)–(29) confirm that only A of the complement clause, never P, can be the target of equi-NP deletion.

(26) Kopi-i ku no od tommuwon a nikkow.
kopi-i ku no od tommu-on a nikkow
want 1SG LK IRR meet-PAT 1SG 2SG

'I want you to meet me.'
[Lit. 'I want that you will meet me.']

(27) *Kopi-i ku no od tommuwon du/nikkow.[23]
want 1SG LK IRR meet 2SG

'I want you to meet me.'

[23] In (27), if A of the complement clause is *du*, the sentence is grammatical, but the meaning is 'I want you to meet it'. (P is a zero anaphor.) Obo Manobo speakers verify that (27) cannot have the meaning 'I want you to meet me'. On the other hand, if A of the complement clause is *nikkow*, the sentence is ungrammatical for all readings.

(28) Kopi-i ru no od tommuwon ku sikkow.
kopi-i ru no od tommu-on ku sikkow
want 2SG LK IRR meet-PAT 1SG 2SG

'You want me to meet you.'
[Lit. 'You want that I will meet you.']

(29) *Kopi-i ru no od tommuwon ku/a.[24]
want 2SG LK IRR meet 1SG

'You want me to meet you.'

In the preceding sentences, the deleted A argument is an agent. In (31) below, it is a cognizer, verifying that A may code different semantic roles when it is a syntactic control.

(30) Od sompotton ni Huan iddos tavak.
od sampot-on ni Huan iddos tavak
IRR remember-PAT ERG Huan ABS answer

'Huan will remember the answer.'

(31) Kopi-i ni Huan no od sompotton iddos tavak.
kopi-i ni Huan no od sampot-on iddos tavak
want ERG Huan LK IRR remember-PAT ABS answer

'Huan wants to remember the answer.'

The S argument of an intransitive complement clause may also be the target of equi-NP deletion; S is an agent in (33) and a patient in (35). Notice that when the complement clause is intransitive, the verb 'to want' must occur in its detransitive-1 form, *kopiyan*.

(32) Od sayow a.
IRR dance 1SG

'I will dance.'

(33) Kopiyan a no od sayow.
want 1SG LK IRR dance

'I want to dance.'

(34) Od patoy a.
IRR die 1SG

'I will die.'

(35) Kopiyan a no od patoy.
want 1SG LK IRR die

'I want to die.'

[24] Again, in (29), if A of the complement clause is *ku*, the sentence is grammatical, but means 'You want me to meet it'. (P is a zero anaphor.) Obo Manobo speakers verify that it cannot mean 'You want me to meet you'. If A of the complement clause is *a*, the sentence is ungrammatical for all readings.

Briefly, equi-NP deletion shows that when a complement clause is a VAP or a VPA clause, A is the exclusive syntactic control for both clause types. The process also shows that when a complement clause is an intransitive clause, S is the exclusive syntactic control. As the syntactic control for equi-NP deletion, S and A may code different semantic roles.

8.2. Clefting

Clefting is a process in which one argument of a clause is moved to a sentence-initial position and the remaining clause is nominalized. In Obo Manobo, clefting has an ergative pattern of syntactic control: only S and P may be the head of a cleft construction. (The nominalized clause is a headless relative clause.) Since P is the exclusive control for clefting in a transitive clause, this is evidence that the argument is a grammatical relation. If the VAP clause and the VPA clause are both transitive clauses, P should be the head NP when either clause type changes to a cleft construction.

In (36)–(38), 1st person A outranks 3rd person P, and a VAP clause is obligatory. Sentence (36) is a VAP clause; (37) is its clefted counterpart, and P is the head NP. Sentence (38) shows that A cannot be the head of the cleft construction (even if a coreferential pronoun is placed in the nominalized clause).

(36) Od tommuwon ku sikandin.
od tommu-on ku sikandin
IRR meet-PAT 1SG 3SG

'I will meet him.'

(37) Sikandin kos od tommuwon ku.
sikandin kos od tommu-on ku
3SG NMR IRR meet-PAT 1SG

'He is the one whom I will meet.'

(38) *Siyak kos od tommuwon (ku) sikandin.
1SG NMR IRR meet 1SG 3SG

'I am the one who will meet him.'

In order for A in (36) to be the head of a cleft construction, the VAP clause must change to its detransitive-1 (i.e., antipassive) counterpart. Since the detransitive-1 clause is a single-argument clause, A becomes S and is now eligible to be the head of the cleft. Sentence (39) is the detransitive-1 counterpart of (36). Sentence (40) is its clefted counterpart, and S (A of (36)) is the head NP. Sentence (41) shows that when the nominalized clause is a detransitive-1 clause, the oblique NP corresponding to P in the transitive clause counterpart cannot be the head of the cleft.

(39) Od tommu a kandin.
IRR meet 1SG 3SG.OBL

'I will meet him.'

(40) Siyak kos od tommu kandin.
1SG NMR IRR meet 3SG.OBL

'I am the one who will meet him.'

(41) *Sikandin kos od tommu a.
3SG NMR IRR meet 1SG

'He is the one whom I will meet.'

In (42)–(44), P, a 1st person pronoun, outranks A, a full NP, and a VPA clause is obligatory. Sentence (42) is a VPA clause; (43) is its clefted counterpart, and P is the head NP; (44) shows that A cannot be the head of the cleft.

(42) Od tommuwon a ni Huan.
od tommu-on a ni Huan
IRR meet-PAT 1SG ERG Huan

'Huan will meet me.'

(43) Siyak kos od tommuwon ni Huan.
siyak kos od tommu-on ni Huan
1SG NMR IRR meet-PAT ERG Huan

'I am the one whom Huan will meet.'

(44) *Si Huan kos od tommuwon a (rin).
NM Huan NMR IRR meet 1SG 3SG

'Huan is the one who will meet me.'

Again, in order for A in (42) to be the head of a cleft construction, the VPA clause must change to its detransitive-1 (i.e., antipassive) counterpart (45). Sentence (46) is its clefted counterpart, and S (A of (42)) is the head NP. Sentence (47) shows that the oblique NP corresponding to P in the transitive clause counterpart cannot be the head of the cleft.

(45) Od tommu si Huan koddi.
IRR meet ABS Huan 1SG.OBL

'Huan will meet me.'

(46) Si Huan kos od tommu koddi.
NM Huan NMR IRR meet 1SG.OBL

'Huan is the one who will meet me.'

(47) *Siyak kos od tommu si Huan.
1SG NMR IRR meet ABS Huan

'I am the one whom Huan will meet.'

In the preceding sentences, P is a patient. The verb *bolli* 'to buy', however, allows a beneficiary (BENEF) to be promoted to P (i.e., promoted to the direct object). Once the beneficiary is promoted to P, it is eligible to be the head of a cleft construction, demonstrating that as the syntactic control, P may code different semantic roles.

In (48)–(53), the verb is *bolli* 'to buy'; the patient is *gaawan* 'toy' and the beneficiary is *anak* 'child'. In (48), the patient is the P argument and is marked by *iddos*; the beneficiary is an oblique argument and is marked by *atag to*. Notice that P is cross-referenced by *-on* on the verb. Sentence (49) verifies that the patient is P, since it can be the head of the cleft construction. Sentence (50) shows that the oblique beneficiary cannot be the head of the cleft.

(48) Od bolliyon taddot minuvu iddos gaawan atag to anak.
od bolli-on tadda-to minuvu iddos gaawan atag to anak
IRR buy-PAT DEF-ERG person ABS toy for OBL child

'The person will buy the toy for the child.'

(49) Iddos gaawan kos od bolliyon taddot minuvu atag
iddos gaawan kos od bolli-on tadda-to minuvu atag
NM toy NMR IRR buy-PAT DEF-ERG person for

to anak.
to anak
OBL child

'The toy is what the person will buy for the child.'

(50) *Iddos anak kos od bolliyon taddot minuvu
NM child NMR IRR buy DEF-ERG person

iddos gaawan.
ABS toy

'The child is who the person will buy the toy for.'

In (51), the beneficiary is promoted to P, and the patient is demoted to an oblique argument. The beneficiary is now marked by *iddos*, and the patient has moved to the end of the clause and is marked by *to*. Notice that the beneficiary is cross-referenced by *-an* on the verb. Sentence (52) shows that the beneficiary is now eligible to be the head of the cleft; (53) shows that the demoted patient cannot be the head of the cleft.

(51) Od bolliyan taddot minuvu iddos anak to gaawan.
od bolli-an tadda-to minuvu iddos anak to gaawan
IRR buy-BENEF DEF-ERG person ABS child OBL toy

'The person will buy the child a toy.'

(52) Iddos anak kos od bolliyan taddot minuvu to gaawan.
iddos anak kos od bolli-an tadda-to minuvu to gaawan
NM child NMR IRR buy-BENEF DEF-ERG person OBL toy

'The child is who the person will buy a toy for.'

(53) *Iddos gaawan kos od bolliyan taddot minuvu iddos anak.
NM toy NMR IRR buy DEF-ERG person ABS child.

'The toy is what the person will buy the child.'

The S argument of an intransitive clause may also be the head of a cleft construction. In (55), S is an agent; in (57), it is a patient.

(54) Od sayow a.
IRR dance 1SG

'I will dance.'

(55) Siyak kos od sayow.
1SG NMR IRR dance

‘I am the one who will dance.’

(56) Od patoy a.
IRR die 1SG

‘I will die.’

(57) Siyak kos od patoy.
1SG NMR IRR die

‘I am the one who will die.’

Finally, S of the detransitive-2 (i.e., passive) clause may also be the head of a cleft construction. In (59), S is a patient; in (61), it is a beneficiary.

(58) Od bolliyon iddos gaawan atag to anak.
od bolli-on iddos gaawan atag to anak
IRR buy-PAT ABS toy for OBL child

‘The toy will be bought for the child.’

(59) Iddos gaawan kos bolliyon atag to anak.
iddos gaawan kos bolli-on atag to anak
NM toy NMR buy-PAT for OBL child

‘The toy is what will be bought for the child.’

(60) Od bolliyan iddos anak to gaawan.
od bolli-an iddos anak to gaawan
IRR buy-BENEF ABS child OBL toy

‘The child will be bought a toy.’

(61) Iddos anak kos bolliyan to gaawan.
iddos anak kos bolli-an to gaawan
NM child NMR buy-BENEF OBL toy

‘The child is who will be bought a toy.’

To review, clefting shows that when a VAP or a VPA clause changes to a cleft construction, P is the exclusive syntactic control for both clause types. Clefting also shows that when a single-argument clause, i.e., an intransitive clause, a detransitive-1 (antipassive) clause, or a detransitive-2 (passive) clause, changes to a cleft construction, S is the exclusive syntactic control. As the syntactic control for clefting, S and P may code different semantic roles.

8.3. Summary of results for syntactic control

The syntactic tests equi-NP deletion and clefting establish that A and P in both the VAP and the VPA clause meet three of the four criteria for grammatical relations, namely syntactic control, exclusion, and multiple semantic role, thus, supporting the claim that both clause types are transitive. In addition, the tests establish that SA of the detransitive-1 clause and SP of the detransitive-2 clause meet these same criteria, supporting the claim that the detransitive-1 clause is an antipassive and the detransitive-2 clause a passive.

9. FORMAL CODING

Formal coding is a criterion for both grammatical relations and voice constructions. In the VAP and the VPA clause in Obo Manobo, A is formally distinguished from P by word order, cross-referencing on the verb, and case marking.

9.1. Word order

In the VAP clause and the VPA clause, word order formally distinguishes A from P. In the VAP clause, A is positioned closest to the verb (62); in the VPA clause, P is positioned closest (63).

(62)

		A		P
Od	tommuwon	ku	iddos	anak.
od	tommu-on	ku	iddos	anak
IRR	meet-PAT	1SG	ABS	child

'I will meet the child.'

(63)

		P		A
Od	tommuwon	a	taddot	anak.
od	tommu-on	a	tadda-to	anak
IRR	meet-pAT	1SG	ERG-DEF	child

'The child will meet me.'

9.2. Verbal cross-referencing

Affixes on Obo Manobo verbs cross-reference one and only one argument of the clause, identifying its semantic role. In the VAP and the VPA clause, the verb affix cross-references P and only P, thereby formally distinguishing P from A (64)(65). In an intransitive clause, the verb affix cross-references S (66). Thus, verb cross-referencing displays an ergative pattern.

(64)

Od	tommuwon	ku	iddos	anak.
od	tommu-on	ku	iddos	anak
IRR	meet-PAT	1SG	ABS	child

'I will meet the child.'

(65)

Od	tommuwon	a	taddot	anak.
od	tommu-on	a	tadda-to	anak
IRR	meet-PAT	1SG	ERG-DEF	child

'The child will meet me.'

(66)

Od	kotunow	iddos	sukaa.
od	ko-tunow	iddos	sukaa
IRR	STAT.PAT-melt	ABS	sugar

'The sugar will be dissolved.'

9.3. Case marking

Case marking also formally distinguishes A from P. Case markers for common nouns and personal names are given in Table 4; case-marked pronouns are given in Table 5.

Table 4. Obo Manobo case markers

	Absolutive	**Ergative**	**Oblique**
Personal			
Singular	si	ni	ki
Plural	onsi	onni	ongki
Nonpersonal			
Definite	idda(so)[25]	(tadda) to	(tadda) to
General	ko/do	to	to
Specific	ko(so)/do(so)	to	to

Table 5. Obo Manobo pronouns

	VS	**VAP**		**VPA**		
	Set 1 S	Set 2 A	Set 3 P	Set 4 P	Set 5 A	Set 6 OBL
1SG	a	ku	siyak	a	——	koddi
1PL INCL	ki	ta	siketa	ki	——	keta
1PL EXCL	koy	doy/roy[26]	sikami	koy	nikami	konami
2SG	ka	du/ru	sikkow	ka	nikkow	kikow
2PL	kow	dow/row	sikiyu	kow	nikiyu	koniyu
3SG	sikandin	din/rin	sikandin	sikandin	nikandin	kandin
3PL	sikandan	dan/ran	sikandan	sikandan	nikandan	kandan

Set 3 pronouns may occur in sentence-initial positions as fronted arguments (67) and as heads of constructions such as cleft constructions (68).

(67) Siyak, waa a id undiyon to Maynila.
1SG NEG 1SG REAL go OBL Manila

'As for me, I did not go to Manila.'

(68) Siyak kos id undiyon to Maynila.
1SG NMR REAL go OBL Manila

[25] Case markers composed of two morphemes often contract in fast speech; i.e., *idda so* becomes *iddos*, *ko so* becomes *kos*, and *tadda to* becomes *taddot*. (The morphemes *idda* and *tadda* also function as demonstratives, both meaning 'there far away'.)

[26] Pronouns beginning with /d/ have two allomorphs: a [d]-initial allomorph that follows a consonant and a [ɾ]-initial allomorph that follows a vowel.

‘I am the one who went to Manila.’

Set 2 and Set 6 pronouns may function as genitive pronouns: Set 2 pronouns follow the head noun (69); Set 6 pronouns precede it (70).

(69) Ini en kos libru ku.
this EMPH NMR book 1SG.GEN

‘This is my book.’

(70) Ini en kos koddin libru.
ini en kos koddi-no libru
this EMPH NMR 1SG.GEN-LK book

‘This is my book.’

9.3.1. Common nouns

When A and P are common nouns, case markers display an ergative pattern in both the VAP and the VPA clause. Specifically, S and P are marked the same, and A is marked differently (71)—(73).[27]

Intransitive

(71) Od usok iddos anak diyon to baoy.
IRR enter ABS child there OBL house

‘The child will enter into the house.’

VAP clause

(72) Od suntukon to ba-ay iddos anak.
od suntuk-on to ba-ay iddos anak
IRR hit-PAT ERG woman ABS child

‘The woman will hit the child.’

[27] Since realis and irrealis sentences pattern the same in all ways except verb morphology, only irrealis forms of sentences will be given hereafter. Irrealis forms are chosen because in this mood, certain verbs take an affix that cross-references P, whereas in realis mood, they do not. Thus irrealis verb forms have more morphological marking than realis verbs making them easier to identify.

VPA clause

(73)	Od	suntukon	iddos	anak	taddot	ba-ay.[28]
	od	suntuk-on	iddos	anak	tadda-to	ba-ay
	IRR	hit-PAT	ABS	child	DEF-ERG	woman

'The woman will hit the child.'

9.3.2. Personal names

When A and P are personal names, case markers also display an ergative pattern in the VAP and the VPA clause (74)—(76).

Intransitive

(74)	Od	usok	si	Huan	diyon	to	baoy.
	IRR	enter	ABS	Huan	there	OBL	house

'Huan will enter into the house.'

[28] Although the marker *tadda* is optional, Obo Manobo speakers prefer A to be overtly marked by *tadda* in a VPA clause when A is a common noun, particularly when P is also a common noun. Obo Manobo speakers state that by marking A with *tadda* in a VPA clause, it clarifies that the NP it marks is initiating the action. If A is not marked by *tadda*, the meaning is ambiguous since the morpheme *to* can be either an ergative marker or a genitive marker, as in:

VPA clause

Id	suntuk	iddos	anak	to	ba-ay.
REAL	hit	ABS	child	ERG/GEN	woman

Out of context, Obo Manobo speakers give the first meaning of the above sentence as 'The woman's child was hit', although upon further questioning speakers agree that given an appropriate context, the sentence can also mean 'The woman hit the child'. On the other hand, A in a VAP clause may also be marked by *tadda* as in:

VAP clause

Id	tommu	taddot	anak	iddos	leeleng	din.
id	tommu	tadda-to	anak	iddos	leeleng	din
REAL	meet	DEF-ERG	child	ABS	friend	3SG.GEN

'The child met her friend.'

In the available narrative texts, A in six VPA clauses is marked only by *to*. These A arguments are not mentioned in the three immediately preceding clauses. On the other hand, A in ten VPA clauses are marked by *tadda to*. Five of these A arguments are mentioned in the three immediately preceding clauses, and five are not. This suggests that in a VPA clause, the marker *to* occurs only with A arguments that have not been mentioned recently. Conversely, *tadda to* occurs with A arguments that have been mentioned recently and those that have not.

VAP clause

(75) Od suntukon ni Pedru si Huan.
od suntuk-on ni Pedru si Huan
IRR hit-PAT ERG Pedru ABS Huan

'Pedru will hit Huan.'

VPA clause

(76) Od suntukon si Huan ni Pedru.
od suntuk-on si Huan ni Pedru
IRR hit-PAT ABS Huan ERG Pedru

'Pedru will hit Huan.'

9.3.3. Pronouns

When A and P are pronouns, the pronouns display two case-marking patterns, depending on word order and person. In VAP clauses, 1st and 2nd person pronouns have a tripartite pattern; that is, S, A, and P are each marked differently. On the other hand, 3rd person pronouns have an ergative pattern.

Sentences (77)–(80) illustrate the tripartite pattern. In the following sentences, a singular 2nd person is *ka* for S (77), *du* for A (79), and *sikkow* for P (80).

Intransitive clause

(77) Od usok ka diyon to baoy.
IRR enter 2SG there OBL house

'You will enter into the house.'

(78) Od usok a diyon to baoy.
IRR enter 1SG there OBL house

'I will enter into the house.'

VAP clause

(79) Od suntukon du siyak.
od suntuk-on du siyak
IRR hit-PAT 2SG 1SG

'You will hit me.'

(80) Od suntukon ku sikkow.
od suntuk-on ku sikkow
IRR hit-PAT 1SG 2SG

'I will hit you.'

Sentences (81)–(83) illustrate the ergative pattern. The singular 3rd person is *sikandin* for S (81) and P (82) and *din* for A (83).

Intransitive clause

(81) Od usok sikandin diyon to baoy.
IRR enter 3SG there OBL house

'He will enter into the house.'

VAP clause

(82) Od suntukon ku sikandin.
od suntuk-on ku sikandin
IRR hit-PAT 1SG 3SG

'I will hit him.'

(83) Od suntukon din sikandan.
od suntuk-on din sikandan
IRR hit-PAT 3SG 3PL

'He will hit them.'

In VPA clauses, pronouns display an ergative pattern for all persons, although 3rd person pronominal forms in VPA clauses are not the same as those in VAP clauses.

First, consider the ergative pattern for 1st and 2nd persons in VPA clauses. In the following sentences, a singular 2nd person is *ka* for S (84) and P (85), and *nikkow* for A (86).

Intransitive clause

(84) Od usok ka riyon to baoy.
IRR enter 2SG there OBL house

'You will enter into the house.'

VPA clause

(85) Od suntukon ka nikandin.
od suntuk-on ka nikandin
IRR hit-PAT 2SG 3SG

'He will hit you.'

(86) Od suntukon a nikkow.
od suntuk-on a nikkow
IRR hit-PAT 1SG 2SG

'You will hit me.'

Now consider the ergative pattern for 3rd persons in VPA clauses. The singular 3rd person is *sikandin* for S (87) and P (88) and *nikandin* for A (89).

Intransitive clause

(87) Od usok sikandin riyon to baoy.
IRR enter 3SG there OBL house

'He will enter into the house.'

VPA clause

(88) Od suntukon sikandin nikandan.
od suntuk-on sikandin nikandan
IRR hit-PAT 3SG 3PL

'They will hit him.'

(89) Od suntukon a nikandin.
od suntuk-on a nikandin
IRR hit-PAT 1SG 3SG

'He will hit me.'

The following sentences confirm that the VAP clause occurs with only Set 2 and 3 pronouns, and the VPA clause with only Set 4 and 5 pronouns. In (90), a VAP clause occurs with Set 4 and 5 pronouns, and the clause is ungrammatical.

VAP clause

(90) *Od suntukon nikkow a.
IRR hit-PAT 2SG 1SG

'You will hit me.'

In (91), a VPA clause occurs with Set 2 and 3 pronouns, and it is also ungrammatical.[29]

VPA clause

(91) *Od suntukon siyak du.
IRR hit-PAT 1SG 2SG

'You will hit me.'

9.3.4. Summary of case marking

Case-marking patterns for common nouns, personal names, and pronouns in Obo Manobo are summarized in Table 6.

[29] One might wonder if the restrictions on pronoun sets are due to the number of syllables in the A or P pronoun; e.g., a phonologically short pronoun must precede a longer pronoun. This hypothesis is discussed in section 12.

Table 6. Case-marking patterns in Obo Manobo

Nominal form	**Case-marking pattern**	
	VAP	VPA
Pronoun		
1/2	Tripartite	Ergative
3	Ergative	Ergative
Common noun	Ergative	
Personal name	Ergative	

When A and P are pronouns, case marking displays two patterns. In a VAP clause, when A and P are 1st or 2nd person pronouns, they display a tripartite pattern, but when A and P are 3rd person pronouns, they display an ergative pattern. In a VPA clause, when A and P are pronouns, they display an ergative pattern for all persons.[30] When A and P are common nouns or personal names, case marking displays an ergative pattern in both VAP and VPA clauses. Here case markers are identical in both clause types.

9.4. Inverse system or split-ergative system?

Having noted that the VAP and VPA clauses display two case-marking patterns when A and P are pronouns, one might ask if differences in pronominal forms could not be analyzed simply as a split-ergative system since split-ergative systems also display different case-marking patterns, which in some languages are governed by person or topicality hierarchies. The first difficulty with this hypothesis is that in Obo Manobo a particular case-marking pattern (and a particular set of pronominal forms) are obligatorily associated with a unique word order. In split-ergative systems, a change in case marking does not trigger an obligatory change in word order.

A second difficulty is that in Philippine languages such as Cebuano, change in word order in the transitive clause does not trigger an obligatory change in case marking for any nominal form, e.g., common noun, personal name, or pronoun. For these languages, transitive clauses differ only in word order. At this point in the analysis of VPA clauses in Philippine languages, it is our contention that the Cebuano VPA clause and the Obo Manobo VPA clause are variations of the same type of construction, namely, a word order inverse, since both clause types share certain syntactic, semantic, and pragmatic properties common to traditional inverses.

A third difficulty with the split-ergative hypothesis is that in Cebuano and Obo Manobo, alternations between VAP and VPA clause occur even when A and P are both 3rd persons and are coded

[30] Change in word order triggers change in case marking only for pronouns in Obo Manobo; however, for two Northern Philippine languages, Butbut Kalinga (Mijares and Brainard 1996) and Mayoyao Ifugao (Hodder 1999), change in VAP/VPA word order triggers an obligatory change in case marking for all nominal forms.

by the same nominal form; e.g., A and P are both common nouns, personal names, or pronouns.[31] Normally splits in case marking in independent clauses are governed by person, tense or aspect, or topicality (e.g., pronoun vs. full NP), but not word order. For these reasons, we conclude that alternations between VAP and VPA clauses in Obo Manobo are not part of a split-ergative system.

9.5. Summary of formal coding

Unique formal coding is a criterion for distinguishing between arguments that are grammatical relations and a criterion for distinguishing between voice constructions. Regarding grammatical relations in Obo Manobo, word order, verb cross-referencing, and case marking distinguish A from P in the VAP and the VPA clause. Together with the syntactic control, exclusion, and multiple semantic role criteria, formal coding establishes that A and P in these clause types are grammatical relations. This, in turn, establishes that the VAP and the VPA clause are transitive clauses. Regarding voice constructions in Obo Manobo, word order and case marking also distinguish the VAP clause from the VPA clause. This establishes that the VAP and the VPA clause are two separate clause types, and ultimately two different voice constructions.

10. PERSON AND TOPICALITY HIERARCHY

As is characteristic of inverse systems, not all person combinations for A and P occur in both transitive clauses, i.e., the VAP and the VPA clause. For example, when A is a singular 1st person, the VAP clause is obligatory. On the other hand, when P is a 1st or 2nd person (but not a 3rd person) pronoun and A is a full NP, the VPA clause is obligatory. Furthermore, when A and P are both 3rd persons, many combinations of nominal forms, e.g. pronoun/pronoun or full NP/pronoun, may occur in both a VAP and a VPA clause, but for these combinations, one clause type is always the unmarked choice and the other the marked choice. These patterns suggest that choice of clause is determined in part by a person hierarchy and in part by a topicality hierarchy similar to traditional inverse systems, and this is correct. For Obo Manobo, selection is governed by the person and topicality hierarchy shown in Figure 1.

1 > 2 > 3 > pronouns > full NPs

Figure 1. Person and topicality hierarchy

10.1. Selection of clause type

The general principle for choosing a transitive clause type in Obo Manobo is that when A outranks P on the hierarchy in Figure 1, the VAP clause is chosen, but when P outranks A, the VPA clause is chosen. The details of selection, however, are somewhat more complex. The following discussion

[31] On the other hand, not all word order changes in Obo Manobo signal a change in clause type (or voice construction). See section 12 for a comparison of fronted arguments in pre-verb and post-verb positions.

presents all possible combinations of A and P, indicating those combinations that may occur in only one clause type, and those that may occur in both, in which case the unmarked choice is identified.[32]

10.1.1. A and P are both pronouns and differ in person

When A and P are both pronouns and differ in person, certain combinations of A and P are restricted to one clause type; others may occur in both clause types. Consider first combinations in which A outranks P. When A is a singular 1st person and P is any 2nd person, either singular or plural, a VAP clause is obligatory, as in (92).

(92) Od tommuwon ku sikkow.
od tommu-on ku sikkow
IRR meet-PAT 1SG 2SG

'I will meet you.'

(93) *Od tommuwon sikkow ku.
'I will meet you.'

When A is a plural 1st person, however, either the VAP clause (94) or the VPA clause (95) may be selected. The VAP clause is the unmarked choice.

(94) Od tommuwon doy sikkow.
od tommu-on doy sikkow
IRR meet-PAT 1PL.EX 2SG

'We will meet you.'

(95) Od tommuwon ka nikami.
od tommu-on ka nikami
IRR meet-PAT 2SG 1PL.EX

'We will meet you.'

When P outranks A in person, both the VAP and the VPA clause are possible, but the VPA clause is the unmarked choice. In the following sentences, 1st person P outranks 2nd person A; the VPA clause is the unmarked choice (96), and the VAP clause the marked choice (97).

(96) Od tommuwon a nikkow.
od tommu-on a nikkow
IRR meet-PAT 1SG 2SG

'You will meet me.'

(97) Od tommuwon du siyak.
od tommu-on du siyak
IRR meet-PAT 2SG 1SG

[32] See Appendix 1 for a listing of all person combinations of A and P in VAP and VPA transitive clauses. For every combination of A and P listed in Appendix 1, both a VAP and a VPA transitive clause having a semantically transitive verb, such as 'hit' as in 'She hit you', were shown to an Obo Manobo speaker. The speaker was asked to decide whether the clause types were grammatical. If both clauses were grammatical, then the speaker was asked to decide which was the more common way to say the sentence. This sentence was identified as the unmarked choice.

‘You will meet me.’

This pattern changes slightly for 2nd and 3rd person combinations. When A is any 2nd person, either singular or plural, and P is any 3rd person, the VAP clause is obligatory. In (98), A is a singular 2nd person; in (100), it is a plural 2nd person.

(98) Od tommuwon du sikandin.
od tommu-on du sikandin
IRR meet-PAT 2SG 3SG

‘You will meet him.’

(99) *Od tommuwon sikandin nikkow.
IRR meet 3SG 2SG

‘You will meet him.’

(100) Od tommuwon dow sikandin.
od tommu-on dow sikandin
IRR meet 2PL 3SG

‘You will meet him.’

(101) *Od tommuwon sikandin nikiyu.
IRR meet 3SG 2PL

‘You will meet him.’

10.1.2. A and P are both pronouns and are the same in person

When A and P are both any 3rd person pronoun, either singular or plural, and thus the same in rank, both word orders are possible; the VAP clause is the unmarked choice (102), and the VPA the marked choice (103).

(102) Od tommuwon din sikandin.
od tommu-on din sikandin
IRR meet-PAT 3SG 3SG

‘She will meet him.’

(103) Od tommuwon sikandin nikandin.
od tommu-on sikandin nikandin
IRR meet-PAT 3SG 3SG

‘She will meet him.’

10.1.3. A or P is a pronoun, but not both

When either A or P is a pronoun, and the other argument is a full NP, the pronoun outranks the full NP. If A is any pronoun and P a full NP, word order is obligatorily VAP. In (104), A is a 2nd person pronoun; in (106), it is a 3rd person pronoun.

(104) Od tommuwon du iddos anak.
od tommu-on du iddos anak
IRR meet-PAT 2SG ABS child

‘You will meet the child.’

(105) *Od tommuwon iddos anak nikkow.
IRR meet ABS child 2SG

'You will meet the child.'

(106) Od tommuwon din iddos anak.
od tommu-on din iddos anak
IRR meet-PAT 3SG ABS child

'He will meet the child.'

(107) *Od tommuwon iddos anak nikandin.
IRR meet ABS child 3SG

'He will meet the child.'

The pattern is slightly more complex when P is the pronoun and A the full NP. If P is a 1st or 2nd person pronoun, word order is obligatorily VPA (108).

(108) Od tommuwon ka (tadda) to anak.
od tommu-on ka tadda to anak
IRR meet-PAT 2SG DEF ERG child

'The child will meet you.'

(109) *Od tommuwon (tadda) to anak sikkow.
IRR meet DEF ERG child 2SG

'The child will meet you.'

If P is a 3rd person pronoun, both word orders are possible, but here the VAP clause is the unmarked choice (110) and the VPA the marked choice (111).

(110) Od tommuwon (tadda) to anak sikandin.
od tommu-on tadda to anak sikandin
IRR meet-PAT DEF ERG child 3SG

'The child will meet her.'

(111) Od tommuwon sikandin (tadda) to anak.
od tommu-on sikandin tadda to anak
IRR meet-PAT 3SG DEF ERG child

'The child will meet her.'

10.1.4. A and P are both full NPs

When A and P are both full NPs, both word orders are possible. The VAP clause is the unmarked choice (112) and the VPA clause the marked choice (113).

(112) Od tommuwon (tadda) to minuvu iddos anak.
od tommu-on tadda to minuvu iddos anak
IRR meet-PAT DEF ERG person ABS child

'The person will meet the child.'

(113) Od tommuwon iddos anak (tadda) to minuvu.
od tommu-on iddos anak tadda to minuvu
IRR meet-PAT ABS child DEF ERG person

'The person will meet the child.'

10.2. Summary of person and topicality hierarchy

Selection of a VAP and a VPA clause is determined by a combined person and topicality hierarchy: 1 > 2 > 3 > pronouns > full NPs. Although person is usually treated as a semantic notion and topicality as a pragmatic notion, Givón (1994a) and D. Payne (1994) point out in discussions of the inverse that person hierarchies and topicality hierarchies share a fundamental unity in that as SAPs, 1st and 2nd persons are assumed to be a more natural center of interest than 3rd persons. In this sense, person hierarchies can be said to be inherent topicality hierarchies.

Third persons coded as pronouns and full NPs also reflect a topicality hierarchy. Specifically, referents that have been mentioned recently are normally coded as pronouns and those that have not are normally coded as full NPs. Assuming that topical referents are mentioned more often and so usually more recently, referents coded as pronouns are likely to be more topical than those coded as full NPs.

If the hierarchy of person, pronouns, and full NPs is governed by a general principle of topicality, then according to Givón's typology of voice functions which is defined in terms of the relative topicality of agent and patient (which are coded as A and P respectively in a prototypical transitive clause), A in a VAP clause should be more topical than P, displaying an active voice function, and P in a VPA clause should be more topical than A, displaying an inverse voice function. If the VAP clause has an active voice function and the VPA clause an inverse function, this will be final evidence that the VAP clause is an active construction and the VPA clause an inverse.

11. VOICE FUNCTION

A major criterion of voice constructions is that each voice construction must correlate with a unique voice function. In order to discuss voice function, Givón's (1979, 1983, 1991) typology of voice function has been adopted. This typology is based upon the notion that voice is a complex phenomenon, of which one major component is pragmatic perspective. Semantically transitive events can be viewed from the perspective of the agent or the patient, and it is generally assumed that the event will be viewed from the perspective of the more topical referent. When major shifts in pragmatic perspective are reflected in changes in clause morphosyntax, such changes have traditionally been described as alternations in voice constructions.

In his typology, Givón defines voice function in terms of the relative topicality of agent and patient. Table 7 is a schematic representation of the typology.

Table 7. Relative topicality of agent and patient in voice functions

Voice function	Relative topicality of agent and patient
Active	AG > PAT
Inverse	AG < PAT
Antipassive	AG >> PAT
Passive	AG << PAT

For an active voice function, the agent and the patient are both topical, but the agent is more topical; for an inverse voice function, the agent and the patient are both topical, but the patient is more topical. For an antipassive voice function, agent is topical and patient is very low in topicality; for a passive voice function, patient is topical, and agent is very low in topicality. An argument that is low in topicality may be suppressed by means of demotion or deletion. A deleted argument can have some degree of topicality if its referent has been mentioned previously. Every referent is assumed to have some inherent degree of topicality even upon first mention.

The notion of relative topicality is based on the simple idea that referents that are topical, i.e., central to the development of a story, are mentioned more often than those that are not. Relative topicality correlates with two cognitive dimensions: accessibility and attentional activation. Since a topical referent is likely to be mentioned more often than those that are not, it can be said to be accessible, i.e., easily identified, and attentionally activated, i.e., persistent over a stretch of text.

In order to identify voice functions, Givón has devised several quantitative methods for measuring the relative topicality of agent and patient in narrative text.[33] Although these methods do not measure topicality directly, the expectation is that the measured properties correlate with the two cognitive dimensions of topicality, accessibility and attentional activation. If a clause type is a voice construction, the majority of its occurrences in narrative text will correlate with one voice function. Thus, a clause type may code different voice functions, but the majority of its occurrences will correlate with the same function. Studies in a variety of languages show these quantitative, text-based methods to be reliable indices of correlations between voice function and voice construction. (See Rude 1986, 1994; Thompson 1989; Cooreman, Fox, Givón 1984; Shibatani 1985, 1988; Brainard 1994a, 1994b; Dryer 1994; D. Payne, Hamaya, and Jacobs 1994; Storck and Brainard 1996.)

Givón's quantitative methods for identifying voice functions have two particular advantages for analysis. One is that the methods enable topicality to be defined and identified empirically, thereby avoiding definitions that cannot be tested and linguists' intuitions. The other advantage is that the methods provide a structure-independent means of defining voice function. This allows voice constructions to be described by means other than morphosyntax, thereby avoiding circular argument.

[33] These methods were first developed by Givón (1979, 1983), and later modified in Wright and Givón (1987) and Givón (1991). Early in the development of the methods, Cooreman (1982) applied Givón's methods to Chamorro, an ergative language. Her findings have served as benchmarks for comparison with other languages.

For Philippine languages, this is particularly important since the complex morphosyntax of these languages has misled more than one linguist.[34]

Regarding the two cognitive dimensions, accessibility is measured in terms of referential distance, and attentional activation in terms of topic persistence. The findings of these measures are based on 359 independent clauses coding semantically transitive verbs. The clauses are taken from thirteen Obo Manobo narrative texts. A referent is regarded as having been mentioned if it is referred to by an overt nominal or a zero anaphor. Referents include SAPs and 3rd persons.

11.1. Referential distance

Referential distance (RD) measures cognitive accessibility. The test assumes that accessibility correlates with a measure of the distance between the target occurrence of a referent and its last mention in the preceding text. If the antecedent is found in the immediately preceding clause, an RD value of 1 is assigned. If it is found in the second or third clause, an RD value of 2/3 is assigned. If no antecedent occurs in the preceding three clauses or if the target occurrence is a first mention, an RD value of >3 is assigned. Accessible referents have lower RD values; less accessible referents have higher values. For this test, we assume that a referent is cognitively accessible if it has an RD value of 1-3.

Measures of referential distance for the agent and the patient in VAP, VPA, detransitive-1, and detransitive-2 clauses are given in Tables 8-11.[35]

Table 8. Referential distance for VAP clauses in Obo Manobo narrative text

	VAP clause			
	AG		PAT	
	N	%	N	%
1–3	152	91.0	124	74.3
>3	15	9.0	43	25.7
Total	167	100.0	167	100.0

[34] Although syntactic tests tend to be better indicators than morphology of clause type and voice construction in Philippine languages, linguists do not all draw the same conclusions from the results of these tests, as noted in section 5. For this reason, quantitative measures of relative topicality are of value since they provide functional, or pragmatic, evidence for identifying voice constructions.

[35] The tables of referential distance and topic persistence measures are summaries. See Appendix 2 for the full counts for these measures.

Table 9. Referential distance for VPA clauses in Obo Manobo narrative text

VPA clause				
	AG		PAT	
	N	%	N	%
1-3	24	63.2	38	100.0
>3	14	36.8	0	0.0
Total	38	100.0	38	100.0

Table 10. Referential distance for detransitive-1 clauses in Obo Manobo narrative text

Detransitive-1 clause				
	AG		PAT	
	N	%	N	%
1-3	58	81.7	27	38.0
>3	13	18.3	44	62.0
Total	71	100.0	71	100.0

Table 11. Referential distance for detransitive-2 clauses in Obo Manobo narrative text

Detransitive-2 clause				
	AG		PAT	
	N	%	N	%
1-3	30	36.1	69	83.2
>3	53	63.9	14	16.8
Total	83	100.0	83	100.0

The referential distance measures for the four Obo Manobo clause types display the expected profiles. Based on the claim that the VAP clause is an active construction and the VPA clause an inverse, Givón's voice function typology predicts that the agent and the patient in both clause types should be topical and have a low RD measure, i.e., RD value 1-3. For the VAP clause, 91% of the agents and 74% of the patients have RD values of 1-3. For the VPA clause, 63% of the agents and 100% of the patients have RD values of 1-3. Thus, more than half of the agents and patients in both VAP and the VPA clauses have the low RD values associated with topical arguments. Furthermore, in the VAP clause, more agents than patients have low RD values, indicating that the agent is the more topical referent. Similarly, in the VPA clause, more patients than agents have low RD values, indicating the patient is the more topical referent. Thus, the VAP clause matches the cross-linguistic profile for active constructions, and the VPA clause matches the profile for inverse constructions.

The typology also predicts that the agent should be the more topical referent in the detransitive-1 clause (antipassive), and the patient in the detransitive-2 clause (passive). For the detransitive-1 clause, 81% of the agents, but only 38% of the patients have RD values of 1-3, indicating that the agent is the topical referent. In the detransitive-2 clause, 83% of the patients, but only 36% of the agents have RD values of 1-3, indicating that the patient is the topical referent. So then, the detransitive-1 clause matches the cross-linguistic profile for antipassives, and the detransitive-2 clause the profile for passives.

11.2. Topic persistence

Topic persistence (TP) measures attentional activation. The test assumes that topic persistence correlates with the number of times a referent is mentioned in the 10 clauses following the target occurrence. TP values of 1 to 10 are recorded; e.g., if the target referent is mentioned 7 times in the 10 succeeding clauses, then the TP value is 7. More topically persistent referents have higher TP values; less topically persistent referents have lower ones. For this test, we will assume that a referent is topically persistent if it has a TP value of >2, indicating that it has been mentioned more than 2 times in the following 10 clauses.

Measures of topic persistence for the four Obo Manobo clause types are given in Tables 12-15.

Table 12. Topic persistence for VAP clauses in Obo Manobo narrative text

	VAP clause			
	AG		PAT	
	N	%	N	%
0-2	36	21.6	67	40.3
>2	131	78.4	100	59.7
Total	167	100.0	167	100.0

Table 13. Topic persistence for VPA clauses in Obo Manobo narrative text

	VPA clause			
	AG		PAT	
	N	%	N	%
0-2	13	34.2	1	2.6
>2	25	65.8	37	97.4
Total	38	100.0	38	100.0

Table 14. Topic persistence for detransitive-1 clauses in Obo Manobo narrative text

	Detransitive-1 clause			
	AG		PAT	
	N	%	N	%
0–2	18	25.3	38	53.5
>2	53	74.7	33	46.5
Total	71	100.0	71	100.0

Table 15. Topic persistence for detransitive-2 clauses in Obo Manobo narrative text

	Detransitive-2 clause			
	AG		PAT	
	N	%	N	%
0–2	71	85.5	35	42.2
>2	12	14.5	48	57.8
Total	83	100.0	83	100.0

TP measures for the four clause types display the expected profiles. If the VAP clause is an active construction and the VPA an inverse, the typology predicts that the agent and the patient in both clause types will be topical and should have a high TP value, i.e., TP value >2. Also, the agent should be the more topical referent in the VAP clause and the patient in the VPA clause, and this is what we find. In the VAP clause, more than half of the agents (78%) and the patients (59%) have the high TP values associated with topical referents. In addition, more agents than patients have high TP values, indicating that the agent is the more topical referent. In the VPA clause, again more than half of the agents (65%) and the patients (97%) have high TP values. Here more patients than agents have high TP values, indicating that the patient is the more topical referent. These figures show that the VAP clause matches the cross-linguistic profile for active constructions and the VPA clause the profile for inverses.

Similarly, the typology predicts that the agent will be the topical referent in the detransitive-1 clause (antipassive), and the patient in the detransitive-2 clause (passive). In the detransitive-1 clause, 74% of the agents, but only 46% of the patients have high TP values, indicating that the agent is the topical referent. In the detransitive-2 clause, 57% of the patients, but only 14% of the agents have high TP values, indicating that the patient is the topical referent. Thus, the detransitive-1 clause matches the profile for antipassives, and the detransitive-2 clause the profile for passives.

Taken together, the RD and TP measures show that the VAP clause has the voice function profile of an active construction, the VPA clause the profile of an inverse, the detransitive-1 clause the profile of an antipassive, and the detransitive-2 clause the profile of a passive.

11.3. Summary of voice function

To summarize, the results of quantitative text-based measures of voice function show that in Obo Manobo, each of the four clause types under discussion codes a unique voice function, thereby satisfying the last criterion for voice constructions. The correlations between clause type, voice function, and voice construction are given in Table 16.

Table 16. Correlation between clause type, voice function, and voice construction in Obo Manobo narrative text

Clause type	Voice function	Voice construction
VAP transitive	Active	Active
VPA transitive	Inverse	Inverse
Detransitive-1	Antipassive	Antipassive
Detransitive-2	Passive	Passive

So then, grammatical relations, formal coding, and voice function confirm that each of the four Obo Manobo clause types under discussion is a separate voice construction: the VAP clause is an active construction, the VPA clause an inverse, the detransitive-1 clause an antipassive, and the detransitive-2 clause a passive.

12. ALTERNATE HYPOTHESES

Other hypotheses have been presented to account for varying orders of the A and the P argument in transitive clauses in Philippine languages, and it is worth examining the more common of these to see whether or not they can account for the Obo Manobo data and how they compare with the inverse analysis. In Philippine linguistics, the two most common hypotheses are a phonological hypothesis and a morphological hypothesis (see Schachter and Otanes 1972 for Tagalog).

12.1. Phonological hypothesis

The phonological hypothesis states that the order of A and P in a transitive clause is determined by the number of syllables in the pronoun or full NP: the argument having the fewest syllables is positioned closest to the verb. This hypothesis fails for two reasons. First, it does not account for all the data. In Obo Manobo, the shorter phonological argument does not always occur closest to the verb. Consider configurations in which A and P are both 3rd persons. If one argument is a pronoun and the other a full NP, both the VAP and the VPA clause are possible. In the VAP clause in (114), A is a four-syllable full NP and P is a three-syllable pronoun, showing that a phonologically longer A can precede a phonologically shorter P.

(114) Od tommuwon to anak din sikandin.
od tommu-on to anak din sikandin
IRR meet-PAT ERG child 3SG.GEN 3SG

'Her child will meet him.'

In the VPA clause in (115), P is a three-syllable pronoun and A is a two-syllable full NP. Here again the phonologically longer argument precedes the shorter one.

(115) Od tommuwon sikandin ni Jun.
od tommu-on sikandin ni Jun
IRR meet-PAT 3SG ERG Jun

'Jun will meet him.'

In the VAP clause in (116), A and P are both full NPs; once more the phonologically longer argument precedes the shorter one.

(116) Od tommuwon to anak din si Jun.
od tommu-on to anak din si Jun
IRR meet-PAT ERG child 3SG.GEN ABS Jun

'Her child will meet Jun.'

The second reason that the phonological hypothesis fails is that even for those configurations in which a phonologically shorter argument must precede the longer one, namely pronoun/pronoun configurations, the phonological hypothesis overlooks one major point: in Obo Manobo, both A and P have short pronoun sets. Although the phonological hypothesis accounts for word order once a particular short pronoun is selected, it fails to explain why a speaker chooses a short P pronoun when a short A pronoun is also eligible, or the reverse.

12.2. The morphological hypothesis

The morphological hypothesis has been proposed for the order of A and P when one of the arguments is a pronoun and the other a full NP: the pronoun is positioned closest to the verb. This hypothesis fails for three reasons. First, it does not account for all combinations of A and P in transitive clauses in Obo Manobo. Second, it does not account for even all pronoun/full NP configurations in the language. For example, when P is a 3rd person pronoun, both VAP and VPA word orders are possible, and so a full-NP A argument can, in fact, be positioned closer to the verb than a pronoun P argument, as in (114) above. Third, the hypothesis offers no explanation as to why pronouns rather than full NPs should be positioned closer to the verb; it simply describes the order.

12.3. The phonological and morphological hypotheses versus the inverse analysis

As explanations for varying orders of A and P in Obo Manobo, the phonological hypothesis and the morphological hypothesis have been shown to be inadequate because 1) they do not account for all orders of A and P in transitive clauses in Obo Manobo, 2) the phonological hypothesis does not explain why a short A rather than a short P is positioned closest to the verb (and vice versa) when both are available, and 3) the morphological hypothesis does not explain why a pronoun rather than a full NP is positioned closest to the verb. The inverse analysis, on the other hand, provides a unified explanation that accounts for all orders of A and P in Obo Manobo transitive clauses: the more topical argument is positioned closest to the verb. This, in turn, agrees with the well-known observation that topical referents often occur in a more fronted clause position than less topical referents (Givón 1983, D. Payne 1987).

Topicality also offers an explanation for the phonological size of an argument in that it is also a well-known observation that topical referents are coded with less phonological material than nontopical referents (Givón 1983). This explains why the topical A argument in the VAP clause and the topical P argument in the VPA clause are coded by the phonologically shorter pronominal sets.

12.4. The all-fronted-arguments-are-topical hypothesis

Considering other languages in which A and P may be fronted, one might argue that any fronted A argument will display an active voice function profile, and any fronted P argument will display an inverse voice function profile. So, for those languages in which AVP and PVA are possible word orders as well as VAP and VPA, the prediction would be: if A is the more topical argument in the majority of VAP clauses, it will also be the more topical argument in the majority of AVP clauses. Similarly, if P is the more topical argument in the majority of VPA clauses, it will also be the more topical argument in the majority of PVA clauses. Thus, the VPA clause would not be a unique voice construction, namely an inverse. As it turns out, this is not true for Obo Manobo.

Throughout this study, we have been concerned only with the fronting of arguments in a post-verb position, i.e., VAP vs. VPA; however, Obo Manobo also allows arguments to be fronted to a pre-verb position, i.e., AVP and PVA, in which case the fronted argument is always followed by a phonological pause. The two types of fronting are not identical since fronted NPs following the verb are part of the main clause, and those preceding the verb are outside the main clause. On the other hand, Givón (1994a:18) suggests that contrastive-topic, Y-movement, and L-dislocation sentences, i.e., sentence types in which an argument is fronted to a pre-verb position, may be word order inverses when the P argument is fronted. Consequently, it is worth comparing the relative topicality of agents and patients in AVP and PVA clauses to that of agents and patients in VAP and VPA clauses in Obo Manobo.

Of the 359 clauses included in the referential distance and topic persistence measures, the agent or the patient is fronted to a pre-verb position in 52 of them. Table 17 gives the number of pre-verb agents and patients that occur in each clause type.

Table 17. Pre-verb fronted NPs in four clause types in Obo Manobo narrative text

Clause type	Voice construction	AG	PAT	Total
VAP	Active	7	16	23
VPA	Inverse	5	3	8
Detransitive-1	Antipassive	8	1	9
Detransitive-2	Passive	0	12	12
Total		20	32	52

If the all-fronted-arguments-are-topical hypothesis is true, then we would expect that it will be the more topical referent that is fronted in the pre-verb position for each clause type, just as it is the more topical referent that is fronted in the post-verb position. This is what happens in the detransitive clauses. For the detransitive-2 (passive) clause, the patient is always the fronted NP since agents are obligatorily absent. For the detransitive-1 (antipassive) clause, both the agent and the patient can be fronted to the pre-verb position, but it is nearly always the agent, the topical referent, that is fronted.

The pattern changes, however, when we get to VAP and VPA transitive clauses where both the agent and the patient are topical. For these clause types, both the agent and the patient can be fronted to a pre-verb position; however, for the VAP (active) clause in which the patient is the less topical referent, more than twice as many patients as agents are fronted to the pre-verb position. Similarly, for the VPA (inverse) clause in which the agent is the less topical referent, nearly twice as many agents as patients are fronted to this position.[36] This suggests that in Obo Manobo transitive clauses, fronting to a pre-verb position is a means of focusing attention on the less topical referent, although more data are needed to confirm this hypothesis. Taken together, these findings show that contrary to what the all-fronted-NPs hypothesis predicts, fronted NPs are not always the more topical argument.

Thus, in Obo Manobo transitive clauses, different types of fronting are governed by different pragmatic functions. While fronting in the post-verb position is governed by voice function, i.e., topicality, fronting in the pre-verb position is governed by other pragmatic functions. Whether or not this pattern holds true for languages that allow the agent and the patient to be fronted to pre-verb positions within the main clause (as opposed to pre-verb positions outside the main clause) remains to be seen. The point here is that in Obo Manobo, an inverse voice function consistently correlates with the VPA clause and only that clause, verifying that the VPA clause is an inverse construction.

13. CONCLUSION

Obo Manobo has two types of transitive clause in which the A argument and the P argument differ in word order and in pronoun sets: a VAP clause and a VPA clause. The selection of one clause type over the other is governed by a combined person/topicality hierarchy, a hierarchy similar to those found in traditional inverse systems. Adopting Givón's proposal that inverses may be distinguished formally by word order, rather than verb morphology, we have argued that the VPA clause type is a word order inverse.

In order to support this claim, we have compared the VPA clause with three other Obo Manobo clause types that also code semantically transitive verbs. Our hypothesis has been that each clause type is a separate voice construction. A range of syntactic, formal, semantic, and functional evidence has been presented to verify that each clause type meets three criteria for voice constructions: 1) each clause type has at least one grammatical relation; 2) each clause type has unique formal coding that distinguishes it from all other clause types; and 3) each clause type consistently codes a unique voice function for the majority of its occurrences in narrative text. The number and identity of grammatical relations in a clause type and the unique voice function associated with that clause type establish the identity of the clause as a particular voice construction.

With respect to the VPA clause, our candidate for a word order inverse, we have shown that the VPA clause has properties similar to traditional inverses: the VPA clause has two grammatical relations, A and P, and so is a transitive clause; it is formally distinguished from other clause types by word order and case-marked pronoun sets; and it codes an inverse voice function for the majority of its occurrences

[36] The full counts for referential distance and topic persistence for pre-verb fronted agents and patients are given in Appendix 3.

in narrative text. On the basis of these findings, we conclude that the Obo Manobo VPA clause is a word order inverse.

Although the notion of a word order inverse is a relatively new proposal, it provides an account for data that have been largely overlooked in Philippine languages to date, and one supposes in languages in general. A preliminary survey of Philippine languages shows, however, that the VPA word order inverse is not unique to Cebuano and Obo Manobo, but is found in other Southern Philippine languages, including Sarangani Manobo (DuBois 1976), Tagabawa, Matigsalug Manobo, Tagakaulo, Agutaynen, and Kagayanen (Pebley and Brainard 1999).[37] It has also been noted for certain Northern Philippine languages, namely, Butbut Kalinga (Mijares and Brainard 1996), Mayoyao Ifugao (Hodder 1999), and Tuwali Ifugao.[38]

For Philippine languages, word order inverses appear to vary along several parameters. For some languages (e.g., Cebuano and Tagakaulo), the VAP active construction and the VPA inverse differ only in word order. For other languages, each word order is associated with a unique case-marking pattern. For some of these languages, only pronouns display unique case marking for each word order (Obo Manobo, Tagabawa, Kagayanen, Agutaynen), but for others, all case-marked nominal forms, i.e., common nouns, personal names, and pronouns, display unique case marking for each word order (Butbut Kalinga and Mayoyao Ifugao). In addition, Philippine inverse languages appear to have undergone different degrees of grammaticalization. In some languages, little grammaticalization has occurred, and a large number of A and P combinations may occur in both a VAP active construction and a VPA inverse. In others, a greater degree of grammaticalization has taken place, and only a few A and P combinations may occur in both voice constructions. At this point, it would be premature to attempt a comprehensive typological survey of the word order inverse in Philippine languages; however, these data suggest directions for further research.

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[37] Matigsalug Manobo data was supplied by Jeff McGriff, Tagabawa data by Lauretta DuBois, Tagakaulo data by Scott Burton, and Agutaynen data by Steve Quakenbush.

[38] Tuwali Ifugao data was supplied by Lou Hohulin.

APPENDIX 1

PERSON COMBINATIONS FOR A AND P IN VAP AND VPA CLAUSES

The following tables include all possible person combinations for A and P in a VAP or a VPA clause. For those combinations that occur in both clause types, the unmarked clause is indicated by a double underline. (A dash indicates combinations which Obo Manobo speakers consider ungrammatical.) Table *i* gives combinations for A and P when both arguments are personal pronouns.

Table *i.* Distribution of pronoun combinations for A and P in VAP and VPA clauses in Obo Manobo

A	**P**	**VAP**	**VPA**
1SG	2SG	OK	——
1SG	2PL	OK	——
1SG	3SG	OK	——
1SG	3PL	OK	——
1PL.IN	3SG	OK	——
1PL.IN	3PL	OK	——
1PL.EX	2SG	OK	OK
1PL.EX	2PL	OK	OK
1PL.EX	3SG	OK	OK
1PL.EX	3PL	OK	OK
2SG	1SG	OK	OK
2SG	1PL.EX	OK	OK
2SG	3SG	OK	——
2SG	3PL	OK	——
2PL	1SG	OK	OK
2PL	1PL.EX	OK	OK
2PL	3SG	OK	——
2PL	3PL	OK	——
3SG	1SG	OK	OK
3SG	1PL.IN	OK	OK
3SG	1PL.EX	OK	OK
3SG	2SG	OK	OK
3SG	2PL	OK	OK
3SG	3SG	OK	OK
3SG	3PL	OK	OK

3PL	1SG	OK	OK
3PL	1PL.IN	OK	OK
3PL	IPL.EX	OK	OK
3PL	2SG	OK	OK
3PL	2PL	OK	OK
3PL	3SG	OK	OK
3PL	3PL	OK	OK

Table *ii* gives combinations for A and P when one or both arguments are full NPs. Full NPs are divided into common nouns (NP) and personal names (name). Person designations with neither 'NP' nor 'name' following them are pronouns.

Table *ii*. Distribution of pronoun and full NP combinations for A and P in VAP and VPA clauses in Obo Manobo

A	**P**	**VAP**	**VPA**
1SG	3(NP)	OK	——
1PL.IN	3(NP)	OK	——
1PL.EX	3(NP)	OK	——
2SG	3(NP)	OK	——
2PL	3(NP)	OK	——
3SG	3(NP)	OK	——
3PL	3(NP)	OK	——
1SG	3(name)	OK	——
1PL.IN	3(name)	OK	——
1PL.EX	3(name)	OK	——
2SG	3(name)	OK	——
2PL	3(name)	OK	——
3SG	3(name)	OK	——
3PL	3(name)	OK	——
3(NP)	1SG	——	OK
3(NP)	1PL.IN	——	OK
3(NP)	1PL.EX	——	OK
3(NP)	2SG	——	OK
3(NP)	2PL	——	OK
3(NP)	3SG	OK	OK
3(NP)	3PL	OK	OK
3(name)	1SG	——	OK
3(name)	1PL.IN	——	OK
3(name)	1PL.EX	——	OK
3(name)	2SG	——	OK
3(name)	2PL	——	OK
3(name)	3SG	OK	OK
3(name)	3PL	OK	OK
3(NP)	3(NP)	OK	OK
3(name)	3(name)	OK	OK
3(NP)	3(name)	OK	OK
3(name)	3(NP)	OK	——

APPENDIX 2

FULL COUNTS FOR REFERENTIAL DISTANCE AND TOPIC PERSISTENCE FOR AGENTS AND PATIENTS IN FOUR CLAUSE TYPES

The following are the full counts for measures of referential distance and topic persistence for agents and patients in VAP, VPA, detransitive-1, and detransitive-2 clauses in Obo Manobo narrative text. Table numbers used here are the same as for their summarized counterparts in the body of this paper with the addition of the letter '*a*' for those tables listed in this appendix. Tables 8*a*-11*a* are measures of referential distance; Tables 12*a*-15*a* are measures of topic persistence.

Table 8*a*. Referential distance for VAP clauses in Obo Manobo narrative text

VAP clause				
	AG		PAT	
	N	%	N	%
1	127	76.1	91	54.6
2/3	25	14.9	33	19.7
>3	15	9.0	43	25.7
1-3	152	91.0	124	74.3
>3	15	9.0	43	25.7
Total	167	100.0	167	100.0

Table 9*a*. Referential distance for VPA clauses in Obo Manobo narrative text

VPA clause				
	AG		PAT	
	N	%	N	%
1	14	36.8	34	89.5
2/3	10	26.4	4	10.5
>3	14	36.8	0	0.0
1–3	24	63.2	38	100.0
>3	14	36.8	0	0.0
Total	38	100.0	38	100.0

Table 10*a*. Referential distance for detransitive-1 clauses in Obo Manobo narrative text

Detransitive-1 clause				
	AG		PAT	
	N	%	N	%
1	47	66.2	19	26.8
2/3	11	15.5	8	11.2
>3	13	18.3	44	62.0
1-3	58	81.7	27	38.0
>3	13	18.3	44	62.0
Total	71	100.0	71	100.0

Table 11*a*. Referential distance for detransitive-2 clauses in Obo Manobo narrative text

Detransitive-2 clause				
	AG		PAT	
	N	%	N	%
1	23	27.7	54	65.1
2/3	7	8.4	15	18.1
>3	53	63.9	14	16.8
1-3	30	36.1	69	83.2
>3	53	63.9	14	16.8
Total	83	100.0	83	100.0

Table 12*a*. Topic persistence for VAP clauses in Obo Manobo narrative text

VAP clause				
	AG		PAT	
	N	%	N	%
0	11	6.6	26	15.7
1	6	3.6	19	11.4
2	19	11.4	22	13.2
3	23	13.8	6	3.6
4	14	8.4	21	12.5
5	22	13.2	16	9.6
6	16	9.6	15	8.9
7	15	8.9	10	5.9
8	10	5.9	14	8.4
9	12	7.2	10	5.9
10	19	11.4	8	4.9
0–2	36	21.6	67	40.3
>2	131	78.4	100	59.7
Total	167	100.0	167	100.0

Table 13*a*. Topic persistence for VPA clauses in Obo Manobo narrative text

VPA clause				
	AG		PAT	
	N	%	N	%
0	4	10.5	0	0.0
1	5	13.2	0	0.0
2	4	10.5	1	2.6
3	6	15.8	1	2.6
4	4	10.5	5	13.2
5	8	21.1	4	10.5
6	0	0.0	4	10.5
7	4	10.5	6	15.8
8	2	5.3	9	23.7
9	1	2.6	5	13.2
10	0	0.0	3	7.9
0–2	13	34.2	1	2.6
>2	25	65.8	37	97.4
Total	38	100.0	38	100.0

Table 14*a*. Topic persistence for detransitive-1 clauses in Obo Manobo narrative text

Detransitive-1 clause				
	AG		PAT	
	N	%	N	%
0	4	5.6	14	19.7
1	4	5.6	15	21.1
2	10	14.1	9	12.7
3	8	11.3	6	8.4
4	7	9.9	7	9.9
5	3	4.2	3	4.2
6	7	9.9	3	4.2
7	6	8.4	7	9.9
8	9	12.7	3	4.2
9	5	7.0	1	1.5
10	8	11.3	3	4.2
0–2	18	25.3	38	53.5
>2	53	74.7	33	46.5
Total	71	100.0	71	100.0

Table 15*a*. Topic persistence for detransitive-2 clauses in Obo Manobo narrative text

Detransitive-2 clause				
	AG		PAT	
	N	%	N	%
0	55	66.3	16	19.3
1	9	10.8	10	12.1
2	7	8.4	9	10.8
3	1	1.2	2	2.4
4	4	4.9	4	4.9
5	1	1.2	3	3.6
6	3	3.6	6	7.2
7	2	2.4	9	10.8
8	0	0.0	8	9.6
9	0	0.0	6	7.2
10	1	1.2	10	12.1
0–2	71	85.5	35	42.2
>2	12	14.5	48	57.8
Total	83	100.0	83	100.0

APPENDIX 3

REFERENTIAL DISTANCE AND TOPIC PERSISTENCE FOR AGENTS AND PATIENTS FRONTED IN THE PRE-VERB POSITION

The following tables give the measures of referential distance and topic persistence for agents and patients fronted in the pre-verb position in VAP, VPA, detransitive-1, and detransitive-2 clauses. Percentages are not included since the raw numbers are small. Tables *iii-vi* are referential distance measures; Tables *vii-x* are topic persistence measures.

Table *iii*. Referential distance for fronted pre-verb agents and patients in VAP clauses in Obo Manobo narrative text

VAP clause						
	Pre-verb AG		Pre-verb PAT		Total	
	AG	PAT	AG	PAT	AG	PAT
1	5	0	12	7	17	7
2/3	0	6	1	4	1	10
>3	2	1	2	5	4	6
1-3	5	6	13	10	18	16
>3	2	1	2	5	4	6
Total	7	7	15	15	22	22

Table *iv*. Referential distance for fronted pre-verb agents and patients in VPA clauses in Obo Manobo narrative text

VPA clause						
	Pre-verb AG		Pre-verb PAT		Total	
	AG	PAT	AG	PAT	AG	PAT
1	2	4	0	3	2	7
2/3	1	1	2	0	3	1
>3	2	0	1	0	3	0
1-3	3	5	2	3	5	8
>3	2	0	1	0	3	0
Total	5	5	3	3	8	8

Table *v*. Referential distance for fronted pre-verb agents and patients in detransitive-1 clauses in Obo Manobo narrative text

Detransitive-1 clause						
	Pre-verb AG		Pre-verb PAT		Total	
	AG	PAT	AG	PAT	AG	PAT
1	4	3	1	0	5	3
2/3	0	1	0	0	0	1
>3	4	4	0	1	4	5
1–3	4	4	1	0	5	4
>3	4	4	0	1	4	5
Total	8	8	1	1	9	9

Table *vi*. Referential distance for fronted pre-verb agents and patients in detransitive-2 clauses in Obo Manobo narrative text

Detransitive-2 clause						
	Pre-verb AG		Pre-verb PAT		Total	
	AG	PAT	AG	PAT	AG	PAT
1	0	0	0	7	0	7
2/3	0	0	1	2	1	2
>3	0	0	12	4	12	4
1–3	0	0	1	9	1	9
>3	0	0	12	4	12	4
Total	0	0	13	13	13	13

Table *vii*. Topic persistence for fronted pre-verb agents and patients in VAP clauses in Obo Manobo narrative text

VAP clause						
	Pre-verb AG		Pre-verb PAT		Total	
	AG	PAT	AG	PAT	AG	PAT
0	0	0	0	2	0	2
1	0	1	0	7	0	8
2	0	1	1	1	1	2
3	1	0	7	0	8	0
4	0	2	2	2	2	4
5	2	1	3	1	5	2
6	2	0	0	0	2	0
7	0	0	1	0	1	0
8	1	1	1	1	2	2
9	1	0	0	0	1	0
10	0	1	0	1	0	2
1–2	0	2	1	10	1	12
>2	7	5	14	5	21	10
Total	7	7	15	15	22	22

Table *viii*. Topic persistence for fronted pre-verb agents and patients in VPA clauses in Obo Manobo narrative text

VPA clause						
	Pre-verb AG		Pre-verb PAT		Total	
	AG	PAT	AG	PAT	AG	PAT
0	0	0	0	0	0	0
1	1	0	1	0	2	0
2	1	0	1	0	2	0
3	1	0	1	0	2	0
4	0	0	0	0	0	0
5	2	1	0	1	2	2
6	0	2	0	0	0	2
7	0	1	0	0	0	1
8	0	0	0	1	0	1
9	0	0	0	1	0	1
10	0	1	0	0	0	1
1–2	2	0	3	0	5	0
>2	3	5	0	3	3	8
Total	5	5	3	3	8	8

Table *ix*. Topic persistence for fronted pre-verb agents and patients in detransitive-1 clauses in Obo Manobo narrative text

Detransitive-1 clause						
	Pre-verb AG		Pre-verb PAT		Total	
	AG	PAT	AG	PAT	AG	PAT
0	0	0	0	0	0	0
1	0	1	0	0	0	1
2	3	1	0	0	3	1
3	0	0	0	0	0	0
4	1	2	1	0	2	2
5	0	0	0	0	0	0
6	1	0	0	0	1	0
7	1	1	0	1	1	2
8	1	1	0	0	1	1
9	0	1	0	0	0	1
10	1	1	0	0	1	1
1–2	3	2	0	0	3	2
>2	5	6	1	1	6	7
Total	8	8	1	1	9	9

Table *x*. Topic persistence for fronted pre-verb agents and patients in detransitive-2 clauses in Obo Manobo narrative text

Detransitive-2 clause						
	Pre-verb AG		Pre-verb PAT		Total	
	AG	PAT	AG	PAT	AG	PAT
0	0	0	10	1	10	1
1	0	0	1	2	1	2
2	0	0	2	1	2	1
3	0	0	0	0	0	0
4	0	0	0	2	0	2
5	0	0	0	1	0	1
6	0	0	0	1	0	1
7	0	0	0	2	0	2
8	0	0	0	1	0	1
9	0	0	0	0	0	0
10	0	0	0	1	0	1
1–2	0	0	13	4	13	4
>2	0	0	0	9	0	9
Total	0	0	13	13	13	13

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