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Grammar (morphosyntax) and discourse

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The present work attempts to examine the relationship between grammar and discourse. (i) First, it compares Warrongo (an ergative language that has antipassives and an S/O pivot) and English (an accusative language that has passives and an S/A pivot). Despite these polar opposite morphosyntactic characteristics, Warrongo and English behave almost in the same way in discourse – in terms of new mentions, lexical mentions and topic continuity. There are, however, two differences in discourse. First, Warrongo antipassives and S/O pivot have much higher functional loads than English passives and S/A pivot. Second, Warrongo antipassives have a use that English passives do not have. (ii) Then, the present work shows that grammar and discourse are not independent of each other and that they share one principle. The hierarchy of "O > S > A" is attested in grammar and discourse crosslinguistically and irrespective of the morphosyntactic types of the languages concerned.

Keywords: morphosyntactic type, case marking pattern, voice, syntactic pivot, discourse, new/lexical mention, topic continuity, Warrongo, English

1. Introduction

The present work attempts to examine the relationship between grammar (i.e. morphosyntax) and discourse (to be more precise – patterns of discourse organization).

First, the present work attempts to examine the relationship between morphosyntactic types and discourse. Specifically, it compares Warrongo (which has case marking of the "A vs. S/O" pattern, antipassives and an S/O pivot (syntactic ergativity)) and English (which has case marking of the "A/S vs. O" pattern, passives and an S/A pivot (syntactic accusativity)).[1] Warrongo and English occupy

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1. Dyirbal, immediately northeast of Warrongo, has case marking of the "A vs. S/O" pattern, antipassives and an S/O pivot (syntactic ergativity) (Dixon 1972). Cooreman et al. (1984: 5) refer

the opposite ends of the morphosyntactic axis in terms of case marking pattern, voice and syntactic pivot. Therefore, jointly they provide an excellent opportunity for an examination of the relationship between morphosyntactic types and discourse. Regarding new mentions and lexical mentions, Warrongo and English exhibit the same hierarchy: O > S > A. Concerning topic continuity of new mentions, they are identical in that the A is the most highly topical. In these two respects, there is no connection between morphosyntactic types and discourse and they are independent of each other. However, there are two differences in discourse that have a connection with morphosyntactic differences. First, in discourse, Warrongo antipassives and S/O pivot have much higher functional loads than English passives and S/A pivot. Second, Warrongo antipassives have a use that English passives do not have.

Then, the present work shows that grammar and discourse are not independent of each other and that they share one principle. The hierarchy of "O > S > A" is repeatedly attested crosslinguistically and irrespective of the morphosyntactic types of the languages concerned, both in discourse (e.g. in new mentions and/or lexical mentions) and in grammar (in diverse morphosyntactic phenomena, such as compounding of a noun and a verb).

The present work also points out broader implications of these findings.

2.   Preliminaries and previous studies

The relationship between grammar and discourse can be examined at the following two levels.

(1) Grammar and discourse (1)
   (a)   Level of individual expressions/constructions.
   (b)   Level of morphosyntactic types.

As shown below, there are studies that claim that discourse shapes grammar. Not all of them use the word "shape", but if we use this word, we can set up four logical possibilities regarding the relationship between grammar and discourse.

(2) Grammar and discourse (2)
   (a)   Grammar shapes discourse.
   (b)   Discourse shapes grammar.

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to Dyirbal as a quintessential deep-ergative language, and Cooreman (1988: 717) calls Dyirbal a quintessential syntactically ergative language. Warrongo, too, can be called a quintessential ergative language. Likewise, English can be called a quintessential accusative language; it has case marking of the "A/S vs. O" pattern, passives and an S/A pivot (syntactic accusativity).

  (c) Grammar and discourse shape each other.
  (d) Grammar and discourse are independent of each other. Neither shapes the other.

When we combine (1) and (2), we obtain the eight logical possibilities shown in Table 1: (a-1) to (d-2). Studies that express (or appear to express) these views are listed respectively. No work has been found that expresses the view of (a-1) or that of (d-1). Note that one and the same author may express two views. For example, Bybee and Hopper are each listed in (b-1) and (c-1).

Table 1. Relationship between grammar and discourse

	Regarding individual expressions/ constructions	Regarding morphosyntactic types
(a) Grammar shapes discourse.	(a-1)	(a-2) Plank (1979), Van Valin (1980), Van Valin & Foley (1980), Wierzbicka (1981), Verhaar (1985)
(b) Discourse shapes grammar.	(b-1) Thompson (1997, 2002), Bybee & Thompson (1997), Bybee & Scheibman (1999), Bybee & Hopper (2001), Croft & Cruse (2004), Bybee & McClleland (2005), Bybee & Beckner (2010), Brinton (2015)	(b-2) Foley & Van Valin (1984), Du Bois (1987)
(c) Grammar and discourse shape each other.	(c-1) Sadock (1984), Hopper (1987), Bybee (2006), Mithun (2015)	(c-2) Du Bois (2003)
(d) Grammar and discourse are independent of each other. Neither shapes the other.	(d-1)	(d-2) Heath (1980), Cooreman (1982, 1988), Givón (1983, 1984), Cooreman et al. (1984), Tsunoda (1986, 1988a)

There are many works that claim that discourse shapes grammar. See the works listed for (b). Most of them concern (b-1) (Regarding individual expressions/constructions). For example, Bybee (2006: 712) states "discourse use shapes grammar", and gives the following as one of the examples: "[...], high-frequency words and phrases undergo phonetic reduction at a faster rate than low- and mid-frequency sequences [...] This REDUCING EFFECT applies to phrases of extreme high frequency like *I don't know* [...]". Bybee & Scheibman (1999: 578) give another example: "Elements very frequently used together fuse (e.g. *going to >*

gonna)". All such examples concern (b-1) (Regarding individual expressions/constructions). In contrast, the present work pays careful attention to morphosyntactic types.

The use of the word "shape" or similar words is not always straightforward. Thus, regarding Sacapultec (now spelled "Sakapultek") Maya, Du Bois (1987) claims to the effect that ergativity in discourse shapes ergativity in grammar. However, logically it seems equally possible to say that, in Sakapultek Maya, ergativity in grammar shapes ergativity in discourse. In view of this, I tentatively use the word "connection" – although this may not be a suitable word for this purpose. Then, two logical possibilities can be set up.

(3) Grammar and discourse (3)
    (a) There is/are a connection/connections between grammar and discourse.
    (b) There is no connection between grammar and discourse. They are independent of each other.

The present work attempts to examine whether there is any connection between grammar and discourse. It pays careful attention to morphosyntactic types.

3.   Comparison of Warrongo and English

We now compare Warrongo and English, to examine whether there is any connection between grammar and discourse, specifically, to examine whether there is any difference in discourse that have a connection with morphosyntactic differences.

3.1   Notes on Warrongo and English

3.1.1   Notes on Warrongo

The Warrrongo language used to be spoken in northeast Australia. I documented this language from 1971 to 1974, mainly working with the late Mr. Alf Palmer, who was the last fluent speaker of the language. A grammar is now available: Tsunoda (2011). The following phonemes (written in a practical orthography) can be set up: /b, d, j, g, m, n, ny, ng, l, rr, r, w, y, a, i, o/. In case marking, nouns have the same form (with the zero suffix) for the S and the O and a different form for the A; they have the "A vs. S/O" pattern. Pronouns each have the same form for the A and the S, as distinct from that for the O; they have the "A/S vs. O" pattern. Additionally, 3DU and 3PL have a distinct ergative case form. That is, they have the "A/S vs. O" pattern and the "A vs. S vs. O" pattern. The main points are shown in Table 2. In my earlier writings (e.g. Tsunoda 1988b), I used the case labels "erga-

tive" and "absolute" for nouns, and "nominative" and "accusative" for pronouns. However, in accordance with the proposal by Goddard (1982) and Blake (1985), I now use the labels "ergative", "nominative" and "accusative" for both nouns and pronouns jointly. Nonetheless, for the purpose of the present work, it is important to emphasize that nouns have the pattern of "A vs. S/O", i.e. a pattern that is called "ergative-absolutive" in the literature.

Table 2. Case marking in Warrongo

	Nouns	Pronouns other than 3DU and 3PL	3DU and 3PL	
	'man'	1SG	3PL	
Ergative (A)	*bama-nggo*	*ngaya*	*jana-Ø*	*jana-nggo*
Nominative (S)	*bama-Ø*	*ngaya*	*jana-Ø*	*jana-Ø*
Accusative (O)	*bama-Ø*	*nganya*	*jana-nya*	*jana-nya*
	(A vs. S/O)	(A/S vs. O)	(A/S vs. O)	(A vs. S vs. O)

Warrongo has antipassives, which involve Vt-*gali*-. Their case frame is NOM-DAT or NOM-ERG. As a pair of examples that involve NOM-DAT, compare (4) (transitive, ERG-ACC) and (5) (antipassive, NOM-DAT).

WARRONGO

(4) *bama-nggo gamo-Ø   yangga-n.*   (AP)[2]
     man-ERG   water-ACC search.for-NFUT
     'The man looked for water.'   (Tsunoda 2011: 248)

(5) *bama-Ø   gamo-wo yangga-gali-n.*   (AP)
     man-NOM water-DAT search.for-ANTIP-NFUT
     '(As above)'   (Tsunoda 2011: 248)

Examples of antipassives of the NOM-ERG case frame are (18)-4, (19)-33 and (20)-16.

Antipassives are surface-intransitive, and their S is referred to as "d-S" (derived S). They can be used to create syntactic ergativity, which involves an S/O pivot.[3] Consider (6). For the convenience of readers, the deleted word *bama-Ø* is

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2. Examples cited from Tsunoda (2011) are shown to that effect. Examples marked with "AP" were given by Alf Palmer (the last fluent speaker of Warrongo) or composed by me and approved by Alf Palmer. "TT, AP" makes it clear that the example was initially composed by me and subsequently approved by Alf Palmer.

3. Dixon (1994:143) states as follows:

shown in square brackets. Example (6) does not have the meaning of (6)′, but it has the meaning of (6)″. Alf Palmer stated to the effect that (6) means 'The man wanted to get killed'.

Warrongo

(6) *bama-Ø*   *yani-Ø*   [*bama-Ø*]   *balga-lgo.*   (TT, AP)
     man-NOM(S) go-NFUT [man-ACC(O)] kill-PURP

                                                                    (cf. Tsunoda 2011: 448)

(6)′ *'The man (S) went so that [the man (A)] could kill [someone (O)].   *S=[A]

(6)″ 'The man (S) went so that [someone (A)] could kill [the man (O)].   S=[O]

In order to have the meaning of (6)′, the transitive *balga-* 'kill' needs to be turned intransitive (i.e. surface-intransitive), with the use of an antipassive construction. The resultant sentence has "S=S", and the second occurrence of *bama-Ø* ('man-NOM(d-S)') can be deleted: S=[S], to be precise, S=[d-S].

Warrongo

(7) *bama-Ø*   *yani-Ø*   [*bama-Ø*]   *balga-gali-yal.*   (TT, AP)
     man-NOM(S) go-NFUT [man-NOM(d-S)] kill-ANTIP-PURP
     'The man (S) went so that [the man (d-S)] could kill [someone].'
     S=[d-S].   (cf. Tsunoda 2011: 448)

Warrongo has reflexive constructions (involving Vt-*gali-* or Vt-*li-*) and reciprocal constructions (involving Vt-*wa-*). They are surface-intransitive, like antipassive constructions. All of them have the d-S, not the A.

     Word order is generally not rigidly fixed.

3.1.2 Notes on English

In terms of case marking, pronouns in English – except for *you* and *it* – have the pattern of "A/S vs. O", i.e. the nominative-accusative pattern, e.g. *I* (A/S, nominative) and *me* (O, accusative). *You, it* and nouns have the pattern of "A/S/O", i.e. the neutral pattern. English has passives, which can be used to create syntactic accusativity, which involves an S/A pivot. As a pair of examples to illustrate an S/A pivot, compare the following sentences, two of which are based on examples in Dixon (1994: 158). Passives can be considered surface-intransitive (cf. Dixon

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In some languages there are syntactic constraints on clause combination, or on the omission of coreferential constituents in clause combinations. If these constraints treat S and O in the same way and A differently, then the language is said to be 'syntactically ergative', with an S/O pivot; if they treat S and A in the same way and O differently, then it is said to be 'syntactically accusative', with an S/A pivot.

1994:143), and their "subject" can be considered the d-S. Note that (9) (which I composed) is unacceptable. With the use of a passive construction, (9) can be turned into (10), which is acceptable.

(8) *Bill entered and [Bill] saw Fred.*   (S=[A])
                                                        (Based on Dixon 1994:158)

(9) **Bill entered and Fred saw [Bill].*   (*S=[O])

(10) *Bill entered and [Bill] was seen by Fred.*   (S=[d-S])
                                                        (Based on Dixon 1994:158)

The main points about Warrongo and English can be shown as in Table 3.

Table 3. Comparison of Warrongo and English

	Case marking pattern		Voice	Syntactic pivot
	Nouns	**Pronouns**		
Warrongo	A vs. S/O	A/S vs. O	antipassive	S/O
		A vs. S vs. O		(syntactic ergativity)
English	A/S/O	A/S vs. O	passive	S/A
		A/S/O		(syntactic accusativity)

As seen above, Warrongo has case marking of the "S/O vs. A" pattern (in nouns), antipassives and syntactic ergativity (which involves an S/O pivot). In contrast, English has case marking pattern of the "S/A vs. O" pattern (in pronouns), passives and syntactic accusativity (which involves an S/A pivot). That is, Warrongo and English occupy the opposite ends of the morphosyntactic axis in terms of case marking pattern, voice and syntactic pivot. Jointly they provide an excellent opportunity for an attempt to examine whether there is any connection between morphosyntactic types and discourse. Furthermore, syntactic ergativity is highly uncommon among the world's languages (cf. Dixon 1994:172), and Warrongo provides a rare opportunity for this attempt.

3.1.3   Data employed for the present work

In Warrongo, I recorded running texts of 6 hours 40 minutes narrated by Alf Palmer. Three excerpts from these texts are published in Tsunoda (2011:700–722). However, out of respect for the Warrongo community's wish, I have not published the entire texts. In order for readers of the present work to have an access to the data employed, these three excerpts are used for the comparison below. They consist of about 190 clauses.

For English, the present work employs the narration of the pear story by Speaker 10 in Chafe (1980: 308–310). It consists of about 210 clauses.

The number of the clauses in the Warrongo data and that in the English data are not very different. Furthermore, they share the features that they are spoken narratives and that they are spontaneous and not pre-planned. In these three respects, these data are suitable for the comparison conducted in the present work.

Admittedly, the Warrongo data examined and the English data examined are not so large, for example, as those used for studies such as Du Bois (1987). Nonetheless, this will not affect the validity of the comparison given below. Although this is not reported below, for Warrongo I also examined texts in Tape 72/21 (duration: 19 minutes), in Tape 72/23 (duration: 32 minutes), and in Tape 72/26 (duration: 32 minutes), and for English I also examined the narrations by Speaker 1 to Speaker 6 (Chafe 1980: 302–306). For each of Warrongo and English, the result obtained is very similar to that reported below.

3.2   Methodological and theoretical preliminaries

We compare the Warrongo data and the English data regarding new mentions (in Section 3.3), lexical mentions (in Section 3.4), topic continuity of new mentions (in Section 3.5), antipassives and passives (in Section 3.6), and an S/O pivot and an S/A pivot (in Section 3.7). We summarize and discuss the results of the comparison in Section 3.8. Before the comparison starts, methodological and theoretical preliminaries need to be provided. We employ a quantitative method for this comparison. Notes on the following points are in order.

[1] New mentions

Since Du Bois's (1987) seminal work (on Sakapultek Maya), it has become a widely employed method to look at the frequency of new mentions in discourse. See, for example, the papers in Du Bois et al. (2003). Du Bois (1987: 816) classifies mentions into three groups: given, new and accessible. Regarding new referents, Du Bois states as follows: "I classified a mention as NEW if it referred to a referent that had not been mentioned previously (and was not the speaker, addressee, or a frame dependent […])". The present work adopts this criterion and tries to adhere to it (although this is not always easy).

[2] Lexical mentions

Du Bois (1987) examines lexical mentions (as opposed to pronominal mentions and zero mentions), in addition to new mentions. The present work looks at lexical mentions as well.

[3] Topic continuity

Givón's (1983) approach to topicality, which employs the concept of topic continuity, is highly useful. It has been influential and has been adopted by many subsequent studies. Givón (1983:15) characterizes his approach as follows:

> In this study, we measure persistence [of a topic – TT] in terms of the numbers of clauses to the right – i.e. in subsequent discourse from the measured clause – in which the topic/participant continues an *uninterrupted persistence* as a *semantic argument* of the clause, an argument of whatever *role* and marked by whatever *grammatical means*. The minimal value that can be assigned is thus *zero*, signifying an argument that *decays immediately*, i.e. of the *lowest* persistence. There is no maximal value assigned *by definition* in this case.
>
> (Givón 1983:15, italics in original)

In Givón's approach (1983: 6, 17, 18), a mention of a referent may be by a noun, by a pronoun or by zero.

In my view, there is a problem with this approach. Note Givón's emphasis on "uninterrupted". This emphasis on "uninterrupted" is not always useful. There are instances in which, although a referent is not mentioned uninterruptedly, it does not disappear from the scene and it continues to be highly topical. As an example, consider the following, cited from Speaker 10's narration in Chafe (1980:309). "[X]" indicates "pause lasting X seconds", and ".." indicates a "break in timing too short to be measured as pause" (Chafe 1980:301). Other symbols are largely ignored. For the convenience of readers, I put relevant mentions in bold face. They refer to the protagonist, who is picking pears in a pear orchard.

(11) *there's a **man**.. who appears to be.. you would.. might guess of like.. some sort of* [.65] *Spanish or Mexican* [.35] *descent,* [0.95] *who is um* [.4] *picking pears.* [.55] *They seem pretty* [.2] *green. I don't know what* [.45] *I wasn't sure at first if they were apples, or if they were pears,* [1.3 [.15] *but* [.7] *um..*] ***he's picking pears***

(Chafe 1980:309)

In (11), the protagonist is mentioned with *a man* and later with *he*. These two mentions are interrupted by probably seven or eight clauses. (It is difficult to say the exact number of the interrupting clauses.) The man is not mentioned uninterruptedly, despite the fact that he is the protagonist in the story and is highly topical. This shows that Givón's emphasis on "uninterrupted" is not always useful for study of topic continuity. For the purpose of the present work, I tentatively I propose that an interruption by up to two clauses or sentences should be ignored when we measure topic continuity.

[4] A, S and O

Du Bois (1987) and some of subsequent works (e.g. some papers in Du Bois et al. 2003) consider constituents other than the A, the S and the O, e.g. adverbial phrases. However, the comparison of Warrongo and English will concentrate on the A, the S and the O. This is because, in order to examine whether there is any connection between morphosyntactic types (regarding case marking pattern, voice and syntactic pivot) and discourse, it seems the most fruitful to concentrate on the A, the S and the O, to the exclusion of other constituents, such as adverbial phrases.

The d-S of antipassives, reflexives and reciprocals in Warrongo, and the d-S of passives in English will be counted as the S.

3.3   New mentions

The Warrongo data (which consist of about 190 clauses) produced the numbers of new mentions shown in (12). The English data (which consist of about 210 clauses) produced the numbers of new mentions shown in (13). Note that the each of (12) and (13) shows the hierarchy of "O > S > A".

(12)   Warrongo, new mentions: O 14 > S 9 > A 4.

(13)   English, new mentions: O 27 > S 18 > A 3.

3.4   Lexical mentions

The data produced the following numbers of lexical mentions. Note that the each of (14) and (15) shows the hierarchy of "O > S > A".

(14)   Warrongo, lexical mentions: O 35 > S 17 > A 11.

(15)   English, lexical mentions: O 38 > S 20 > A 1.

3.5   Topic continuity of new mentions

The data produced the figures shown in Table 4.

The Warrongo data and the English data yielded the following respective hierarchies.

(16)   Warrongo, topic continuity of new mentions: A 3.75 > O 2.21 > S 1.78.

(17)   English, topic continuity of new mentions: A 4.00 > S 1.17 > O 0.82.

Table 4. Topic continuity of new mentions

		Number of new mentions	Average number of subsequent mentions
Warrongo	A	4	3.75
	O	14	2.21
	S	9	1.78
English	A	3	4.00
	O	27	0.82
	S	18	1.17

Note that (16) and (17) do not show the hierarchy of "O > S > A". Also, (16) and (17) show different hierarchies. Nonetheless, there is one feature that is common to (16) and (17): the A occupies the highest position, i.e. the A is the most highly topical.

3.6   Warrongo antipassives and English passives

The data produced the figures shown in Table 5.

Table 5. Antipassives and passives

Warrongo	Transitive clauses	Antipassive clauses	Total
	86	13	99
	(86.9%)	(13.1%)	(100%)
English	Transitive clauses	Passive clauses	Total
	88	5	93
	(94.6%)	(5.4%)	(100%)

The Warrongo data and the English data produced approximately the same numbers of relevant clauses: 99 and 93. Warrongo antipassives (13.1%) are more than twice – and close to three times – more frequent than English passives (5.4%).

For English, Table 5 concerns the narration by Speaker 10. Passives are extremely infrequent in the narrations of the pear story. I examined the narrations by Speaker 1 to Speaker 6 (Chafe 1980: 301–306) and found only 6 tokens of passives. That is, in the narrations by Speaker 1 to Speaker 6 and by Speaker 10, I found only 11 tokens of passives. This is despite the fact that these seven narrations are (impressionistically speaking) about four times longer than the Warrongo data (about 190 clauses), which produced 13 tokens of antipassives.

3.7   S/O pivot and S/A pivot

The data produced the figures shown in Table 6.

Table 6. Syntactic pivots

Warrongo	Antipassives	S/O pivot
	13	5
	(100%)	(38.5%)
English	**Passives**	**S/A pivot**
	5	0
	(100%)	(0%)

The Warrongo data produced 13 tokens of antipassives, and 5 of them (38.5%) create an S/O pivot. Antipassives are frequently used for creating an S/O pivot.

The English data produced 5 tokens of passives, and none of them creates an S/A pivot. In the narrations by Speakers 1 to 6, I found 6 tokens of passives (see Section 3.6), and none of them creates an S/A pivot. This suggests that, in English (at least, in the narrations of the pear story) the use of passives to create an S/A pivot is extremely infrequent, to say the least, and it is probably close to non-existent.

When we combine Table 5 and Table 6, we obtain Table 7.

Table 7. Antipassives, passives and syntactic pivots

Warrongo	Transitive clauses	Antipassive clauses	Total
	86	13	99
	(86.9%)	(13.1%)	(100%)
		Used for creating an S/O pivot	
		5	
		(5.1%)	
English	**Transitive clauses**	**Passive clauses**	**Total**
	88	5	93
	(94.6%)	(5.4%)	(100%)
		Used for creating an S/A pivot	
		0	
		(0%)	

Table 7 summaries what was said in Section 3.6 and also above in Section 3.7. First, Warrongo antipassives are far more frequent than English passives. Second, Warrongo antipassives are frequently used for creating an S/O pivot. In contrast, English passives are not used for creating an S/A pivot.

3.8   Warrongo data and English data: Summary and discussion

3.8.1   Summary

The results of the comparison conducted above can be classified into three groups.

[1] Hierarchy of "O > S > A"
Consider the following.

(12)   Warrongo, new mentions: O 14 > S 9 > A 4.

(13)   English, new mentions: O 27 > S 18 > A 3.

(14)   Warrongo, lexical mentions: O 35 > S 17 > A 11.

(15)   English, lexical mentions: O 38 > S 20 > A 1.

In both the Warrongo data and the English data, both new mentions and lexical mentions exhibit the same hierarchy (O > S > A). This is despite the fact that Warrongo and English occupy the opposite ends of the morphosyntactic axis regarding case marking pattern, voice and syntactic pivot. This suggests that, at least in terms of new mentions and lexical mentions, languages with different morphosyntactic types may not differ among themselves, or at least that they may not differ much among themselves.

[2] The A is the highest on the hierarchies.
Consider the following.

(16)   Warrongo, topic continuity of new mentions: A 3.75 > O 2.21 > S 1.78.

(17)   English, topic continuity of new mentions: A 4.00 > S 1.17 > O 0.82.

In both the Warrongo data and the English data, in terms of topic continuity of new mentions, the A occupies the highest position on the hierarchies, that is, the A is the most highly topical. Again, this is despite the fact that Warrongo and English occupy the opposite ends of the morphosyntactic axis mentioned above. This suggests that, at least in terms of topic continuity of new mentions, languages with

different morphosyntactic types may place the A in the highest position on the hierarchies, i.e. the A may be the most highly topical.

[3] Warrongo antipassives and S/O pivot have high functional loads, while English passives and S/A pivot have low, or almost no, functional loads.
Table 5 shows that antipassives in the Warrongo data (13.1%) are far more frequent – close to three times more frequent – than passives in the English data (5.4%). (In the narrations by Speakers 1 to 6, too, passives are very infrequent.) Table 6 shows that antipassives in the Warrongo data create an S/O pivot frequently – in 38.5% of the relevant tokens. In contrast, there is no instance in the English data in which passives create an S/A pivot. (In the narrations by Speakers 1 to 6, too, there is no such instance.) That is, antipassives and an S/O pivot in the Warrongo data have high functional loads, while on the other hand passives and an S/A pivot in the English data have low, or almost no, functional loads.

There is another difference between antipassives and passives. It was not examined in the comparison above, but it is important enough to be included in the present work.

[4] Voice switch
Antipassive clauses are much less frequent than transitive clauses (Table 5). Nonetheless, they may possibly play a role in discourse. So far, in the entire Warrongo texts (6 hours 40 minutes), I have found 12 instances of a voice switch between a transitive clause and its antipassive counterpart. Three of them occur in the Warrongo data employed in the present work (i.e. the three excerpts in Tsunoda 2011: 700–722). They are given below.

Transitive and antipassive
Warrongo
 (18)   Text 1: An excerpt from Tape 72/26
        (Context: "Some people asked me as follows.")
        3. *wanyja-ngomay-Ø yinda   ngona-Ø gogo-Ø   moga-n?*
            where-ABL-ACC   2SG.ERG that-ACC language-ACC catch-NFUT
            'Where did you catch [i.e. learn] that language from?'
        ("I answered as follows.")
        4. *jamo ngaya=goli   moga-gali-n   gogo-nggo.*
            just 1SG.NOM=only catch-ANTIP-NFUT language-ERG
            'I just caught [i.e. learned] [this] language by myself.'   (Tsunoda 2011: 701)

Transitive and antipassive

(19)   Text 1: An excerpt from Tape 72/23

(Context: In the mythical world, the protagonist asked Blue Tongue Lizard, "Where do you get water from?" Blue Tongue Lizard replied, "This country is dry", and said as follows.)

32.   *ngana-Ø   yago-Ø   moja-n.*
      1PL-ERG   grass-ACC   eat-NFUT
      'We eat grass [to get moist from it].'

33   *yago-nggo   ngana-Ø   moja-gali-Ø   yarro-n-da.*
      grass-ERG   1PL-NOM   eat-ANTIP-NFUT   this-LINK-LOC
      'We eat grass here.'   (Tsunoda 2011: 706)

Antipassive and transitive

(20)   Text 3: An excerpt from Tape 72/23

(Context: "Our enemies arrived at our camp, for a fight. One man, the leader, was running in front.") (*Nyawo-* is a transitive verb that means 'go round [a place].' Sentence (20)-16 contains its antipassive form.)

16.   *yamba-nggo   nyawo-gali-n.*
      camp-ERG   go.round-ANTIP-NFUT
      '[He] was going round the camp.'

17.   *nyawo-n   nyawo-n   nyawo-n.*
      go.round-NFUT   go.round-NFUT   go.round-NFUT
      '[He] kept going round [the camp].'   (Tsunoda 2011: 720)

Note that a transitive clause may precedes its antipassive counterpart, as in (18) and (19), and that the reverse order is attested, as in (20).

I have found only 12 instances of this voice switch, and it is difficult to ascertain what role they may play in discourse. Presumably the narrator of the texts (Alf Palmer) could have easily used the corresponding transitive clause in (18)-4, for example. Likewise, he could have easily used the corresponding antipassive clause in (20)-17, for example.

It is possible – though by no means certain – that the voice switch seen in the examples above has some kind of stylistic effect. In this connection, it is useful to cite Dixon's (1977: 118) comments on texts in Yidiny (a language to the northeast of, but not contiguous with, Warrongo).

> instances have been noted where a transitive sentence, and its antipassive congener, appear to be employed for stylistic contrast [...] there appears to be a certain measure of substitutability (one is almost tempted to say: redundancy) between some of the alternative constructions, and this can be exploited to promote greater felicity of discourse.   (Dixon 1977: 118)

A similar remark may apply to the voice switch seen in the Warrongo examples given above.

Languages such as English and Japanese have passives. What would happen if a parallel voice switch – between active voice and passive voice – occurred in these languages? Consider the following English sentences. They were composed by me, on the basis of (18), (19) and (20).

Active and passive

(18)′ (TT)

    3. *Where did you learn that language?*
    4. *This language was learnt by me by myself.*

Active and passive

(19)′ (TT)

    32. *We eat grass.*
    33. *Grass is eaten by us here.*

Passive and active

(20)′ (TT)

    16. *The camp was being gone round by him.*
    17. *He kept going round the camp.*

Although I have never conducted a corpus search, I have never seen such instances of a switch between active voice and passive voice in English or Japanese. The Japanese equivalents of these sentences are not felicitous in discourse. In contrast, the voice switch between a transitive clause and its corresponding antipassive clause in Warrongo texts and in Yidiny texts is felicitous. This is another difference in discourse between antipassives and passives. That is, this is another difference in discourse which has a connection with morphosyntactic differences.

To sum up the comparison of the Warrongo data and the English data, in terms of new mentions and lexical mentions, they show exactly the same hierarchy: O > S > A. In terms of topic continuity of new mentions, they show the same feature: the A is the most highly topical. These commonalities are despite the fact that Warrongo and English occupy the opposite ends of the morphosyntactic axis regarding case marking pattern, voice and syntactic pivot. This indicates that new mentions, lexical mentions and topic continuity show no connection with these morphosyntactic differences. Nonetheless, there are two differences in discourse that have a connection with morphosyntactic differences. First, Warrongo antipassives and S/O pivot have much higher functional loads than English passives and S/A pivot. Second, the voice switch between a transitive clause and its antipassive counterpart exists in the Warrongo data and it may possibly have a

stylistic effect. In contrast, a parallel voice switch (between active voice and passive voice) does not seem to occur in English. Antipassives and passives function differently in discourse.[4]

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4. Possibly there is a third difference between Warrongo antipassives and English passives in discourse. This concerns the topic continuity of new mentions. Admittedly, the numbers of relevant tokens are very small. Nonetheless, in terms of topic continuity, new mentions shown by Warrongo antipassives seem to be more highly topical than those shown by English passives. First, see Table i.

Table i. Topic continuity of new mentions: Antipassives and passives (1)

		Number of new mentions	Average number of subsequent mentions
Warrongo	d-s of antipassives	2	3.50
	DAT/ERG NP of antipassives	1	1.00
English	d-S of passives	1	1.00
	Agent NP of passives	0	–

The d-S of antipassives (cf. *bama-Ø* 'man-NOM' in Example 5) and the DAT/ERG NP of antipassives (cf. *gamo-wo* 'water-DAT' in Example 5) can be used for new mentions. In the Warrongo data examined (i.e. the three excerpts from the texts in Tsunoda 2011: 700–722), two tokens of the d-S of antipassives are used for new mentions, and the average number of their subsequent mentions is 3.50. One token of the DAT/ERG NP of antipassives is used for a new mention, and the number of its subsequent mention is 1.00. In the English data examined (i.e. the narration of the pear story by Speaker 10 in Chafe 1980: 308–310), one token of the d-S of passives is used for a new mention, and the number of its subsequent mention is 1.00. No token of the agent NP is used for a new mention.

Second, see Table ii. I examined long excerpts from the Warrongo texts – much longer than those examined for Table ii. For English, I examined the narrations by Speaker 1 and by Speaker 2 in Chafe (1980: 301–304).

Table ii. Topic continuity of new mentions: Antipassives and passives (2)

		Number of new mentions	Average number of subsequent mentions
Warrongo	d-s of antipassives	no token	–
	DAT/ERG NP of antipassives	9	0.78
English	d-S of passives	1	0.00
	Agent NP of passives	no token	–

Regarding Table i and Table ii, admittedly the numbers of relevant tokens are very small. Nonetheless, in terms of topic continuity, new mentions shown by Warrongo antipassives seem to be more highly topical than those shown by English passives. That is, Warrongo antipassives

3.8.2   Discussion

[1] Topicality of the agent and morphosyntactic types

As seen in [2] of Section 3.8.1, both in Warrongo and English the A is the most highly topical (in terms of topic continuity of new mentions). It is useful in this connection to look at previous studies that concern the topicality of the agent in relation to morphosyntactic types.

Authors such as Plank (1979: 15, 19, 28), Van Valin (1980), Van Valin & Foley (1980: 338–342), Wierzbicka (1981: 68, 70) and Verhaar (1985: 45, 57)[5] in effect claimed that ergative languages differ from accusative languages in terms of topicality. (These are the works listed in (a-2) in Table 1.) However, they did not provide evidence for their claim. These views were criticized by Heath (1980: 885–889), Cooreman (1982, 1988), Givón (1983: 22, 1984: 166–167), Cooreman et al. (1984: 4–5), and Tsunoda (1986, 1988a). They argued that the agent is more topical than the patient irrespective of the morphosyntactic types of languages. (These are the works listed in (d-2) in Table 1.) Specifically, Cooreman (1982) on Chamorro, Cooreman (1988) on Dyirbal, and Cooreman et al. (1984) on Chamorro and Tagalog provided quantitative data concerning topic continuity and concluded that the agent is more topical than the patient in these "ergative" languages.[6] Tsunoda (1986, 1988a) on German, English, Japanese (accusative languages) and on Warrongo, Dyirbal, Kalkatungu, Djaru (ergative languages) concluded that his research (which employs a quantitative method) supports the view that the agent is universally more topical than the patient, irrespective of a given language's morphosyntactic types – regarding case marking pattern, voice and syntactic pivot. This conclusion is supported by the result shown in (16) and (17). The A, which generally refers to an agent, is more topical – to be precise, much more topical – than the O, which generally refers to a patient.

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seem to contribute to a higher degree of topicality than do English passives. In this respect too, Warrongo antipassives may be said to have a higher functional load than English passives.

5.   I am grateful to Talmy Givón (p.c.) for drawing Verhaar (1985) to my attention.

6.   Cooreman et al. (1984) regard Tagalog as an ergative language. I have no expertise to judge their view. Nonetheless, if Tagalog is to be regarded as an ergative language, it is very different from the kinds of ergative languages I am familiar with, such as Djaru (Tsunoda 1981) (Western Australia) and Warrongo (Tsunoda 2011) (Queensland, Australia).

[2] Cooreman (1988) on Dyirbal discourse

Dyirbal (Dixon 1972), immediately northeast of Warrongo, may be called a quintessential ergative language; it has case marking of the "A vs. S/O" pattern, antipassives and syntactic ergativity (an S/O pivot) (see Footnote 1). Cooreman (1988) examined Dyirbal discourse, employing a quantitative method and she concluded as follows (p. 717; see also pp. 742–743). (i) "agents are more topical than objects in Dyirbal narrative, as in other languages tested previously". (ii) "syntactic ergativity has few implications at the level of discourse organization". (No doubt, by "objects" Cooreman meant "patients".) Cooreman's conclusion (i) accords with findings of the present work. As seen in (16) and (17) the A is more topical than the O both in Warrongo (a "quintessential ergative" language) and English (a "quintessential accusative" language). As noted above, the A generally refers to an agent, and the O to a patient. Therefore, Cooreman's conclusion (i) agrees with (16) and (17). However, Cooreman's conclusion (ii) does not exactly apply to Warrongo. As seen in Table 7, out of the total of 99 transitive and antipassive clauses (100%), only 5 tokens of antipassives (5.1%) are used for creating an S/O pivot. In this respect, syntactic ergativity may be said to play a very small role in discourse. However, as seen in Table 6, when antipassives are used (13 tokens, 100%), they are frequently used for creating an S/O pivot (5 tokens, 38.5%). In this respect, they play a non-negligible role in discourse.[7]

[3] Antipassives, passives and syntactic pivots

Antipassives and passives are generally described as mirror images of each other – although the words "mirror image" may not be used.[8] Likewise, an S/O pivot and an S/A pivot are generally described as mirror images of each other – again, although the words "mirror image" may not be used. See, for instance, Comrie (1978: 346–350), Van Valin (1980), Foley & Van Valin (1984: 149–186) and Dixon (1994: 152–160). This description is adequate as far as the syntactic aspects of antipassives, passives and the two syntactic pivots are concerned. However, in their use in discourse, there is a large difference. As seen in [3] of Section 3.8.1, Warrongo antipassives and S/O pivot have high functional loads, while on the other hand English passives and S/A pivot have low, or almost no, functional loads. Also, as seen in [4] of Section 3.8.1, in Warrongo (and also in Yidiny) a voice switch between a transitive clause and its antipassive counterpart does occur and it is felicitous. It may possibly have a stylistic effect. In contrast, a parallel voice

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7.   Foley & Van Valin (1984: 114–115) ostensibly discussed the use of Dyirbal antipassives and English passives in discourse. However, they did not give any discourse data.

8.   According to Dixon (1994: 149, Footnote 9), the term "antipassive" was coined by Michael Silverstein, in 1968. If I remember correctly, in 1975 Michael Silverstein told me that he termed these constructions antipassives because they are a mirror image of passives.

switch in English and in Japanese is not attested, and certainly it will not be felicitous.[9]

[4] Is there a discourse basis of ergativity?

(The following is largely repeated from Tsunoda 2019.) In a seminal paper entitled "The discourse basis of ergativity", Du Bois (1987) claimed, regarding Sakapultek Maya, that new mentions and lexical mentions in discourse exhibit ergativity (A vs. S/O, to be precise, S/O > A) and that this ergativity in discourse shapes ergativity in grammar (cross-reference in the "A vs. S/O" pattern). There are works that claimed that there is a connection between morphosyntactic types and patterns of discourse organization; see the works cited in (a-2) and (b-2) in Table 1. However, these works generally did not give discourse data to support their view. Du Bois (1987) seems to be the only work that provided discourse data in an attempt to support this view. (However, Du Bois's view was criticized by Everett 2009 and Haig & Schnell 2016.)

If Du Bois's (1987) view – in Sakapultek Maya, ergativity in discourse shapes ergativity in grammar – is correct, Warrongo will be expected to evince ergativity in discourse even more clearly than Sakapultek Maya. The reason for this is as follows. Sakapultek Maya seems to have morphological ergativity only (cross-reference in the "A vs. S/O" pattern), and it does not seem to have syntactic ergativity as illustrated by (6) and (7) above. In contrast, Warrongo has not only morphological ergativity (i.e. case marking of the "A vs. S/O" pattern in nouns), but also syntactic ergativity (involving an S/O pivot). It is what may be called a quintessential ergative language (see Footnote 1). Therefore, Warrongo will be expected to evince ergativity in discourse even more clearly than Sakapultek Maya. However, this expectation is not fulfilled. In terms of new mentions and lexical mentions, the Warrongo data do not exhibit ergativity. They show the hierarchy of "O > S > A".

Haig & Schnell (2016) looked at about 15 languages and concluded that the ergativity in Sakapultek Maya discourse is an exception. On p. 593, they stated that "the discourse basis of ergativity clearly attested in Du Bois's original Sakapultek data appears to be a very isolated phenomenon".[10] On the basis of this, on p. 613, they concluded that "the evidence in favor of a discourse basis of ergativity disappears". The findings of the present work support their view.

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9. Possibly there is a third difference between Warrongo antipassives and English passives in discourse. See Footnote 4.

10. However, *pace* Haig & Schnell (2016), ergativity in discourse (S/O vs. A) is in fact attested outside Sakapultek Maya. See (vii) and (xii) in Section 4.2.1 below.

4. Hierarchy of "O > S > A" in grammar and discourse

4.1 Introductory notes

In Section 3.8.1 we compared Warrongo (a "quintessential ergative" language) and English (a "quintessential accusative" language) and concluded that Warrongo discourse and English discourse are organized in the same – or almost the same – way, in terms of new mentions, lexical mentions and topic continuity of new mentions. This is despite the fact that Warrongo and English occupy the opposite ends of the morphosyntactic axis concerned. (Nonetheless, there are two differences in discourse between Warrongo antipassives and English passives.) In Section 3.8.2 we saw studies that argued that the agent is universally more topical than the patient, irrespective of the morphosyntactic types of the languages concerned. We also saw that it is difficult to show that there is a discourse basis of ergativity. All these may be taken to indicate that grammar and discourse are largely – if not entirely – independent of each other. Despite this, there is one principle that is attested in grammar and discourse crosslinguistically and irrespective of the morphosyntactic types of the languages concerned. This is the hierarchy of "O > S > A". It occurs in (12) (Warrongo, new mentions), (13) (English, new mentions), (14) (Warrongo, lexical mentions) and (15) (English, lexical mentions). We look at additional examples in discourse in Section 4.2 and examples in grammar in Section 4.3.

4.2 "O > S > A" in discourse

We look at new mentions and/or lexical mentions in Section 4.2.1, and relative clauses of English in Section 4.2.2.

4.2.1 O > S > A: New mentions and/or lexical mentions

As noted in [4] of Section 3.8.2, regarding new mentions and lexical mentions, Du Bois (1987) claimed that his Sakapultek Maya data exhibit ergativity (A vs. S/O, to be precise, S/O > A). However, regarding new mentions and/or lexical mentions, most of subsequent studies that employed Du Bois's method and that looked at other languages did not show ergativity. They generally showed "O > S > A", and less frequently some other hierarchy – although not all of these works explicitly set up a hierarchy. Examples follow.

(i)   Herring (1989: 126), Tamil, new mentions: S > O > A.
(ii)   O'Dowd (1990: 382), English, new mentions: O > S > A and O > S/A.
(iii)   Kumpf (1992: 384), English, lexical mentions: O > S > A.

(iv)   Kärkkäinen (1996: 680), English, lexical mentions: O > S > A (or possibly O > S/A).[11]

(v)   Kärkkäinen (1996: 684), English, new mentions: O > S/A.

(vi)   Smith (1996: 176), Modern Hebrew, new mentions: O > S > A (or possibly O/S > A).[12]

(vii)   Allen & Schröder (2003: 316), Inuktitut, new mentions: O/S > A.[13]

(viii)   Corston-Oliver (2003: 289), Roviana, new mentions: O > S > A.

(ix)   England & Martin (2003: 134), Mam, new lexical mentions: O > S > A (or possibly O/S > A).[14]

(x)   England & Martin (2003: 134), Tektiteko, new lexical mentions: O > S > A.

(xi)   England & Martin (2003: 134), Mocho, new lexical mentions: O > S >A.

(xii)   England & Martin (2003: 134), Q'anjob'al, new lexical mentions: O/S > A.[15]

(xiii)   Genetti & Crain (2003: 205), Nepali, lexical mentions: O > S > A.

(xiv)   Genetti & Crain (2003: 206), Nepali, new mentions: S > O > A.

(xv)   Kumagai (2006: 684), English, lexical mentions: O > S > A.

(xvi)   Kumagai (2006: 684), English, new mentions: O > S > A.

(xvii)   Everett (2009: 9), English, lexical mentions: O > S/A.

(xviii)   Everett (2009: 9), Portuguese, lexical mentions: O > S > A.

(xix)   Haig & Schnell (2016: 599), Cypriot Greek, lexical mentions: O > S > A.

(xx)   Haig & Schnell (2016: 599), French, lexical mentions: O > S > A.

(xxi)   Haig & Schnell (2016: 599), Gorani, lexical mentions: O > S > A.

(xxii)   Haig & Schnell (2016: 599), Korean, lexical mentions: O > S > A.

(xxiii)   Haig & Schnell (2016: 599), Mapundungun, lexical mentions: O > S > A.

(xxiv)   Haig & Schnell (2016: 599), Northern Kurdish, lexical mentions: O > S > A.

(xxv)   Haig & Schnell (2016: 599), Spanish, lexical mentions: O > S > A.

(xxvi)   Haig & Schnell (2016: 599), Teop, lexical mentions: O > S > A.

(xxvii)   Haig & Schnell (2016: 599), To'aba'ita, lexical mentions: O > S > A.

(xxviii)   Haig & Schnell (2016: 599), Vera'a, lexical mentions: O > S > A.

(xxix)   Haig & Schnell (2016: 599), Yagua, lexical mentions: O > S > A.

(xxx)   Tsunoda (the present work), Warrongo, new mentions: O > S > A.

(xxxi)   Tsunoda (the present work), Warrongo, lexical mentions: O > S > A.

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11.   Kärkkäinen gives the following figures: O 102 (31.6%), S 27 (8.4%), A 15 (4.6%).

12.   Smith gives the following figures: O 47 (29%), S 40 (24%), A 6 (4%).

13.   Allen & Schröder give the following figures: S 170 (37.0%), O 163 (35.5%), A 4 (0.9%).

14.   England & Martin give the following figures: O 19%, S 16%, A 4%.

15.   England & Martin give the following figures: O 15%, S 15%, A 2%.

(xxxii)   Tsunoda (the present work), English, new mentions: O > S > A.
(xxxiii)   Tsunoda (the present work), English, lexical mentions: O > S > A.

The following hierarchies are attested.

O > S > A.
O > S/A.
O/S > A.
S > O > A.

Among these hierarchies, "O > S > A" is by far the most frequent; it is reported in most of the works cited above, and it is attested in almost all the languages examined (including Warrongo and English). The hierarchy of "O > S/A" is attested in English. The hierarchy of "O/S > A" is attested at least in two languages: Inuktitut and Q'anjob'al. The hierarchy of "S > O > A" is attested in two languages: Tamil and Nepali.

The O almost always occupies the highest position on the hierarchies – with the exception of "S > O > A", which is attested in Tamil and Nepali (see (xiv)).[16] The A always occupies the lowest position, with no exception.[17]

Among the languages listed above, languages such as English and Korean are accusative languages, while languages such as Mam and Warrongo are ergative languages. This shows that the hierarchy of "O > S > A" is attested irrespective of the case marking patterns of the languages concerned.

4.2.2   O >S > A: Relative clauses of English

Fox's (1987: 858) study of English conversations shows that, in one respect, relative clauses of English exhibit the hierarchy of "O > S > A" – although Fox herself does not mention that the data exhibit this hierarchy. This concerns the frequency of the following three types of relative clauses.

(21)   Relative clauses of English: Frequency (based on Fox 1987: 858)
     Object relatives (46) > S-relatives (36) > A-relatives (10)

Examples, cited from Fox (1987: 859), follow:

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16. For Tamil, Herring (1989: 126) gives the following figures: S 32.9% > O 15.5% > A 4.8%. For new mentions in Nepali (see (xiv)), Genetti & Crain (2003: 206) give the following figures: S 56%, O 33%, A 7%.

17. This is in keeping with the two strong tendencies of the A that Du Bois (1987: 823, 827) noted in his Sakapultek Maya data: (i) Avoid lexical A's (p. 823), Non-lexical A Constraint (p. 829) and (ii) Avoid new A's (p. 827), Given A constraint (p. 829).

Object relatives

(22)   *This man who I have for linguistics is really too much.*

S-relatives

(23)   *She's married to this guy who's really quiet.*

A-relatives

(24)   *No in fact I know somebody who has her now.*

The NP relativised on is coreferential with the object of the relative clause in (22) (an object relative), with the S of the relative clause in (23) (an S-relative), and with the A of the relative clause in (24) (an A-relative).

Fox & Thompson's (1990:302) study of relative clauses in English shows a result that is very similar to that shown in (21) – although Fox & Thompson themselves do not mention that the data exhibit this hierarchy.

4.3   "O > S >A" in grammar (morphosyntax)

The hierarchy of "O > S > A" is observed in a wide range of morphosyntactic phenomena in a wide range of languages. Examples are given below.

4.3.1   Compounding of a verb and a noun, and noun incorporation

[1] Compounding of a verb and a noun
Comrie (1978:337) points out that compounding of a verb and a noun is crosslinguistically easiest with the O, followed by the S, which is in turn followed by the A. This exhibits the hierarchy of "O > S > A". Comrie (1978:337) gives the following examples from English: *fox-hunting* (O-V) and *bird-chirping* (S-V). Examples involving the A are difficult to find, but I have found one example of "A-V" in an English-language newspaper published in Japan. It is a caption of a photo in a newspaper.

(25)   *Police beating of the demonstrators*

No doubt the expression *of the demonstrators* helps to select the A-V reading for (25): the police beat the demonstrators. Without it, (25) may be taken to have the O-V reading: someone beat the police. See (26).

(26)   *police beating*

I asked a native speaker of English why (25) does not mean that the demonstrators beat the police, and he replied in effect as follows: it is the police's job to beat demonstrators.

The hierarchy of "O > S > A" operates in compounding of a verb and a noun in Japanese as well (Tsunoda 1991:130, 2009:137).

[2] Noun incorporation

Noun incorporation is a type of compounding. Gerdts (1998: 84) characterizes it as follows: "Noun incorporation is the compounding of a noun stem and a verb (or adjective) to yield a complex form that serves as the predicate of the clause". Both intralinguistically and crosslinguistically the acceptability of noun incorporation conforms to the hierarchy of "O > S > A", although the works consulted do not always state this explicitly.

Kurebito (2001: 32) on Koryak of Siberia states that the most common type involves the O, and that involving the S is acceptable, but that involving the A is not acceptable. Merlan (1976: 189) on Huauhtla Nahuatl of Mexico makes a similar observation. Sapir (1911) gives many examples of noun incorporation in American languages. Most of the examples involve the O, some involve the S, but he does not give any example involving the A.

Gerdts (1998: 87, 92–93) in effect states that the acceptability of noun incorporation generally shows the following hierarchy.

(27)   O > inactive S > A, active S.   (Based on Gerdts 1998: 87, 92–93)

Gerdts (1998: 87) states that generally noun incorporation does not involve the A or the active S.

Mithun (1984: 875) states as follows: "If a language incorporates N's of only one semantic case, they will be patients of transitive V's [i.e. the O – TT] [...] If a language incorporates only two types of arguments, they will be patients of transitive and intransitive V's [i.e. the O and the patientive S – TT] [...]". Mithun (1984) does not refer to the A. That is, Mithun in effect states that the following hierarchy operates here.

(28)   O > patientive S > A, agentive S.   (Based on Mithun 1984: 875)

4.3.2   Resultative constructions

Crosslinguistically, resultative constructions seem to conform to the hierarchy of "O > S > A". Examples follow.

[1] Djaru of Western Australia

Djaru (Tsunoda 1981: 119–121) (also spelt Jaru) has a group of suffixes that describe a consequence or a result: *-garag/-warag, -gara/-wara-, -g*. They are added to nouns. (There is no evidence to separate adjectives from nouns in Djaru.) The great majority of their examples involve the O, e.g. (29), and some involve the S, e.g. (30). I found at least one spontaneous example involving the A; (31) was composed by me on the basis of this spontaneous example and approved by the consultant.

Djaru

(29) *mawun-du jaji-Ø*   *gun.ga-warag* (or *gun.ga-wara* or *gun.ga-g*)
man-ERG   kangaroo-ABS dead-RES   (dead-RES   dead-RES)
lan-i.
spear-PST
'A man speared a kangaroo and caused it to be dead.'   (Tsunoda 1981:120)

(30) *burnu-ngu yambagina-Ø wandiny-a gungulu-warag* (or *gungulu-wara* or
tree-ABL   child-ABS   fall-PST   blood-RES   (blood-RES
gungulu-g).
blood-RES)
'A child fell from a tree and consequently bled.'   (Tsunoda 1981:120)

(31) *mawun-du guyu-Ø   ngarn-i gin.gi-g.*
man-ERG   meat-ABS eat-PST satiated-RES
'A man ate meat and consequently became satiated.'   (Tsunoda 1981:120)

Wanyjirra, immediately east of Djaru, has the suffix *-g* (Senge 2015:594–596). This suffix is used in "resultatives" (Senge 2015:594), and it "signals a change of state" (Senge 2015:595). Chikako Senge (p.c.; e-mail of 19 March 2021) informs me as follows. (i) The productivity of the suffix *-g* conforms to the hierarchy of "O > S > A". (ii) Examples involving the A are scarce.

[2] Works in Nedjalkov (ed.) (1988)

Nedjalkov (1988) contains descriptions of resultative constructions in more than twenty languages. These works distinguish "the subjective resultative" and "the objective resultative". Unfortunately, however, regarding the subjective resultative, they do not distinguish the A and the S. Nonetheless, judging by the examples provided, resultative constructions in these languages generally seem to conform to the hierarchy of "O > S > A". The following languages have the objective resultative only: Asiatic Eskimo (Vaxtin 1988:199), Uzbek (Nasilov 1988:221), Ewe, spoken in West Africa (Litvinov & Agbodjo 1988:231) and Finnish (Volodin 1988:469). That is, these languages exhibit the hierarchy of "O > S/A". Note that this hierarchy is very similar to the hierarchy of "O > S > A".

4.3.3   Possessor ascension

Tsunoda (1995:590–599) conducted a brief survey of the literature on possessor ascension. The acceptability of possessor ascension shows the hierarchy of "O > S > A" or some other hierarchy.

In English (Tsunoda 1991:132–134, 1995:592–593, 2009:140–141, 2018:568), possession ascension seems to be most acceptable with the O, followed by the S, and unacceptable with the A. This can be shown as "O > S > A". Examples fol-

low. They are cited from one or more of Tsunoda (1991, 1995, 2009, 2018). Examples (34) and (35) were originally cited from Okutsu (1996: 268).

Involving the O

(32)   *John kissed Mary's lips.*

(33)   *John kissed Mary on the lips.*

Involving the S

(34)   *His face became very red.*   (Okutsu 1996: 268)

(35)   *He became very red in the face.*   (Okutsu 1996: 268)

Blackfoot of North America, Gumbaingar [sic – TT] of Australia (Fox 1981: 324–325), and Chamorro of the South Pacific (Durie 1987: 389) seem to allow possessor ascension for the O only. This can be shown as "O > S/A".

In Haya of East Africa (Hyman 1977: 209), Lardil of Australia (Fox 1981: 327–328) and Acehnese of Indonesia (Durie 1987: 374, 389), possessor ascension seems to be possible with the O and the S, but impossible with the A. This can be shown as "O/S > A".

Japanese (Tsunoda 1991: 134–135, 1995: 593–595, 2009: 141–142, 2018: 568–570) has a phenomenon similar to possessor ascension. It is acceptable with the S, but unacceptable with the O and the A. This can be shown as "S > O/A".

4.3.4   Adverbial clause with *-nagara* 'while' of Japanese

The verbal suffix *-nagara* of Japanese has two meanings: simultaneous and adversative. The hierarchy of "O > S > A" is observed in its simultaneous use (glossed 'while'). Examples of its simultaneous use that Minami (1993: 41, 79, 90–91, 119–120) gives and his comment on the examples on pp. 119–120 indicate the following, although he does not say this explicitly. In adverbial clauses with *-nagara* 'while', the O (with =*o* 'ACC') can occur with no restriction at all, e.g. (36). The S (with =*ga* 'NOM') may occur, but not freely, e.g. (37). The A (with =*ga* 'NOM') cannot occur at all; see (38). That is, we have "O > S > A". (This restriction does not seem to apply to the adversative use of *-nagara*.) Example (37) is based on the example given in Minami (1993: 120).

Japanese

(36)   *Hanako=wa   uta=o   uta-i-nagara   aru-i-ta.*
       (name)=TOP   song=ACC   sing-INF-while   walk-INF-PST
       'Hanako walked while singing a song.'

(37) *Hanako=wa isiki=ga   kasum-i-nagara taore-ta.*
      (name)=TOP consciousness=NOM fade-INF-while   fall.over-PST
      'Hanko fell over while her consciousness was fading.'

                                              (Based on Minami 1993: 120)

(38) **Hanako=wa Akio=ga   uta=o   uta-i-nagara   aru-i-ta.*
      (name)=TOP (name)=NOM song=ACC sing-INF-while walk-INF-PST
      Intended meaning: 'Hanako walked while Akio was singing a song.'

4.3.5 Possessor respect of Japanese

Japanese has an elaborate system of honorifics. Tsunoda (1991: 122–128,
1995: 585–588, 2009: 129–136, 2018: 562–567) shows that a type of Japanese hon-
orifics – what Tsunoda calls possessor respect – is most acceptable with the O, fol-
lowed by the S, and least acceptable with A. This exhibits the hierarchy of "O >
S > A". Before exemplifying possessor respect, I first provide an outline of Japan-
ese honorifics. This is for the benefit of readers who are not familiar with Japan-
ese honorifics. Readers who wish to read only the main point of Section 4.3.5 are
invited to read (44) to (49) and the comments on them.

In accordance with Harada (1976: 502), the types of honorifics in Japanese can
be classified as follows. (S. I. Harada's terms are shown in parentheses.)

(39) Japanese honorifics
      (a) Respect honorifics   (SIH: Propositional honorifics)
          (a-1) Subject respect honorifics   (SIH: Subject honorifics)
          (a-2) Non-subject respect honorifics (SIH: Object honorifics)
      (b) Polite honorifics   (SIH: Performative honorifics)

Types (a) and (b) are not mutually exclusive, while (a-1) and (a-2) are mutually
exclusive. A verbal suffix for (a) precedes one for (b). (For example, in (47), the
suffix *-are-* 'RESP' (for a-1) precedes the suffix *-mas-* 'POL' (for b).) The honorific
prefixes *o-* and *go-* are often used in all the categories listed in (39).

Polite honorifics are used to make the sentence sound polite. A more literal
(and no doubt unnatural) translation of (47), for example, would be 'I politely
state [to you] that the EMPEROR's temperature has returned to its previous state'.

Respect honorifics are used to denote respect to (the referent of) an argument
or an adjunct. Tsunoda (1995: 571) coined the term "respectee" to refer to the per-
son to whom respect is directed.

Subject respect honorifics contain an element such as the following in the
predicate verb (Harada 1976: 504): *o-*ROOT-INFINITIVE=*ni nar-*, e.g. (41), or
ROOT-*(r)are-*, e.g. (41). The enclitic =*ni* is the dative postposition, and the verb
nar- literally means 'become'.

Compare (40) and (41) (both adapted from Kuno 1973: 20). Example (41) is an instance of subject respect honorifics. (In translating respect honorifics, I avoid clumsy English sentences and simply indicate the respectee with capital letters.)

Japanese

(40) *Tanaka-san=ga*   *Suzuki-san=o*   *mat-ta.*
      Tanaka-Mr.=NOM Suzuki-Mr.=ACC wait-PST
      'Mr. Tanaka waited for Mr. Suzuki.'   (Adapted from Kuno 1973: 20)

Subject respect

(41) *Tanaka-san=ga*   *Suzuki-san=o*   *o-mat-i=ni*   *nat-ta*   (or
      Tanaka-Mr.=NOM Suzuki-Mr.=ACC HON-wait-INF=DAT RESP-PST (
      mat-are-ta).
      wait-RESP-PST)
      'MR. TANAKA waited for Mr. Suzuki.'   (Adapted from Kuno 1973: 20)

Non-subject respect honorifics contain the element *o*-ROOT-INFINITIVE *su-* in the predicate verb (Harada 1976: 572). (The verb *su-* literally means 'do'.) Compare (40) with (42) (adapted from Kuno 1973: 20). In (42), the respectee is the object (Mr. Suzuki).

Non-subject respect

(42) *Tanaka-san=ga*   *Suzuki-san=o*   *o-mat-i*   *si-ta.*
      Tanaka-Mr.=NOM Suzuki-Mr.=ACC HON-wait-INF RESP-PST
      'Mr. Tanaka waited for MR. SUZUKI.'   (Adapted from Kuno 1973: 20)

Furthermore, respect honorifics can be used to show respect to a possessor that is marked by the genitive postposition =*no* (Harada 1976: 526, 529). Consider (43) (adapted from Harada 1976: 502). (Example (43) is an instance of possessor respect, involving the O (non-subject respect honorifics), as will be shown shortly below.)

Possessor respect, involving the O (non-subject respect honorifics)
Japanese

(43) *Tanaka-san=ga*   *Suzuki-san=no*   *o-nimotu=o*   *o-mot-i*
      Tanaka-Mr.=NOM Suzuki-Mr.=GEN HON-baggage=ACC HON-carry-INF
      si-ta.
      RESP-PST
      'Mr. Tanaka carried MR. SUZUKI's baggage.' (Adapted from Harada 1976: 502)

In (43), the respectee is Mr. Suzuki (the possessor in the genitive), not Mr. Suzuki's baggage (the possessee). Tsunoda (1995: 573) coined the term "possessor respect" to refer to those respect honorifics in which the respectee is the possessor in the

genitive. The entire genitive phrase may be ellipted, being contextually given, e.g. (46).

As noted above, in my observation, possessor respect is most acceptable with the O, followed by the S, and then by the A. They show the hierarchy of "O > S > A". Examples follow. They are cited from Tsunoda (1991, 1995, 2009, 2018). Most of them were composed by me on the basis of media reports on the last days of the Showa emperor, from the late 1988 to the beginning of 1989. The respectee is the emperor. Examples (46) and (47) were originally cited from media reports.

Possessor respect, involving the O (non-subject respect honorifics)
Japanese

(44) *Zizyo=ga*　　　　*tennooheeka=no te=o*　　*o-tor-i*　　*si-ta.*
lady.in.waiting=NOM emperor=GEN　hand=ACC HON-take-INF RESP-PST
'A lady-in-waiting took the EMPEROR's hand.'

(45) *Tanaka-san=wa heeka=no*　　*o-nimotu=o*　　　*o-mot-i*
Tanaka-Mr.=TOP emperor=GEN HON-baggage=ACC HON-carry-INF
si-ta.
RESP-PST
'Mr. Tanaka carried the EMPEROR's baggage.'

Another example is (43).

Possessor respect, involving the S (subject respect honorifics)
Japanese

(46) *O-karada=ga*　　*yowat-te*　　*or-are-ru.*
HON-body=NOM weaken-GNF be-RESP-NST
'The [EMPEROR's] body has become weak.'

(47) *Heeka=no*　　*go-taion=wa*　　　*motono zyootai=ni*
emperor=GEN HON-temperature=TOP previous state-DAT
modor-are-mas-i-ta.
return-RESP-POL-INF-PST
'The EMPEROR's temperature has returned to its previous state.'

Possessor respect, involving the A (subject respect honorifics)

(48) ?*Tennooheeka=no odayakana me=wa itumo kokumin=no kokoro=o*
emperor=GEN gentle　　eye=TOP always people=GEN mind=ACC
yasurakani si-te　　*irassya-i-mas-i-ta*　　　(or *or-are-mas-i-ta*).
peaceful　make-GNF be.RESP-INF-POL-INF-PST (　be-RESP-POL-INF-PST)
'The EMPEROR's gentle eyes always made the people's mind peaceful.'

(49) ?*Heeka=no   go-byooki=ga   kokumin=ni ookina syoogeki=o*
     emperor=GEN HON-illness=NOM people=DAT big   shock=ACC
     o-atae=ni   nat-ta   (or atae-rare-ta).
     HON-give.INF=DAT RESP-PST (give-RESP-PST)
     'The EMPEROR's illness gave the people a big shock.'

4.3.6 "O > S > A" in grammar (morphosyntax): Summary

The hierarchy of "O > S > A" is attested in a wide range of languages in a wide range of morphosyntactic phenomena: compounding of a verb and a noun; noun incorporation; resultative constructions; possessor ascension; adverbial clauses with -*nagara* 'while' of Japanese; and possessor respect of Japanese.

Among the languages examined above, languages such as English and Japanese are accusative languages, while languages such as Koryak and Djaru are ergative languages. This shows that the hierarchy of "O > S > A" is attested irrespective of the case marking patterns of the languages concerned.

4.4 "O > S > A" in grammar (morphosyntax) and discourse: Discussion

As shown above, the hierarchy of "O > S > A" is abundantly attested in grammar and discourse crosslinguistically and irrespective of the morphosyntactic types of the languages concerned. In discourse, "O > S > A" is observed in new mentions and/or lexical mentions in almost all the languages examined. It is also attested in relative clauses of English. In grammar, it is attested in a wide range of languages in a wide range of morphosyntactic phenomena: compounding of a verb and a noun; noun incorporation; resultative constructions; possessor ascension; adverbial clauses with -*nagara* 'while' of Japanese; and possessor respect of Japanese. No doubt a further search will uncover many more phenomena in grammar and discourse which exhibit the hierarchy of "O > S > A". In both grammar and discourse, "O > S > A" is found, e.g., in both accusative languages and ergative languages (and no doubt in languages of some other type of alignment). The above strongly indicates that "O > S > A" operates irrespective of the morphosyntactic types of the languages concerned. The above shows clearly that, in terms of the hierarchy of "O > S > A", there is a connection between grammar and discourse. This suggests that, at least in certain respects, grammar and discourse operate on the same principle.

It seems likely that this hierarchy has a status of some kind of language universal. If this is the case, it is not an absolute universal, but a universal tendency.[18]

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18. See Comrie (1981: 19) for the terms "absolute universal" and "universal tendency".

This is because this hierarchy is not exceptionless and there are departures from it. (See Section 4.2.1 regarding discourse and Section 4.3.3 concerning grammar.)

It is tempting to say that this hierarchy (O > S > A) exists at a fundamental level of human languages and that it is manifested in their grammar and discourse. However, as seen above, there are departures from this hierarchy. A question remains: if this hierarchy exists at a fundamental level of human languages at all, why are there departures from it? At this stage of investigation, no answer to this question is forthcoming.

It is also tempting to suggest that this hierarchy (O > S > A) reflects a mode of human cognition, for example, that a patient/undergoer is more central than an agent/actor. Recall the two hierarchies that were observed regarding the acceptability of noun incorporation ([2] of Section 4.3.1).

(27)   O > inactive S > A, active S.   (Based on Gertds 1998: 87, 92–93)

(28)   O > patientive S > A, agentive S.   (Based on Mithun 1984: 875)

Note that the inactive/patientive S outranks the active/agentive S in these hierarchies. This may provide support to the tentative view that, in human cognition, a patient/undergoer is more central than an agent/actor. However, again, a question remains: if this hierarchy (O > S > A) reflects a mode of human cognition, why are there departures from it? Again, at this stage of investigation, no answer to this question is forthcoming.[19]

As seen in Section 2, regarding the relationship between grammar and discourse, if we use the word "shape", we can set up the four logical possibilities.

(2)   Grammar and discourse (2)
      (a)   Grammar shapes discourse.
      (b)   Discourse shapes grammar.
      (c)   Grammar and discourse shape each other.
      (d)   Grammar and discourse are independent of each other. Neither shapes
             the other.

As for the hierarchy of "O > S > A" in grammar and discourse, obviously (d) does not apply. The logical possibilities (a), (b) and (c) remain. However, there is no evidence to support any of these. In view of this, I take a cautious stance. I do not

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19.   This leaves another question unanswered. As is well known, between an agent NP and a patient NP, the agent NP tends to be the subject, which has a syntactically privileged status. For example, see Comrie (1981: 99–100) and Tsunoda (1991: 187–191, 2009: 197–200) on English, and Tsunoda (1991: 204–210, 2009: 212–217) on Japanese. If, in human cognition, a patient/undergoer is more central than an agent/actor, then why an gent NP, not a patient NP, tends to be the subject? No answer to this question is forthcoming.

use the word "shape", but prefer to talk about connections – although the word "connection" may not be suitable for this purpose. That is, what I aim to examine is the following.

(3) Grammar and discourse (3)
   (a) There is/are a connection/connections between grammar and discourse.
   (b) There is no connection between grammar and discourse. They are independent of each other.

The findings of the present work support (a). However, they do not support a view that is dominant in one school of functional linguistics. As an example of this view, Bybee (2006: 712) states as follows: "discourse use shapes grammar". As another example, Bybee & Thompson (1997: 378) state as follows: "The primary hypothesis of functionalist or usage-based linguistics is that language use shapes grammar". As far as the hierarchy of "O > S > A" in grammar and discourse is concerned, there is no evidence that discourse shapes grammar. The most we can say at this stage of investigation is that, in terms of "O > S > A", there is a connection between grammar and discourse.

Du Bois (2003: 49) states that "grammar and discourse interact with and influence each other in profound ways".[20] He then states that "we are led to seek out crosslinguistically recurrent patterns of grammar on the one hand, and of discourse on the other". The present work has shown that one of such patterns is the hierarchy of "O > S > A".[21]

5.   Concluding remarks

The present work attempted to examine the relationship between grammar (morphosyntax) and discourse (to be more precise – patterns of discourse organization).

Section 3 compared Warrongo and English. Warrongo has case marking of the "A vs. S/O" pattern (in nouns), antipassives and syntactic ergativity (an S/O

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20. This view belongs to (c) of (2). In contrast, Du Bois (1987: 806, 850) expresses the view of (b) of (2).

21. Du Bois (2003: 48, 56) shows that one of such patterns is Preferred Argument Structure (PAS). The hierarchy of "O > S > A" can be considered a refinement of PAS. At least, this hierarchy is compatible with PAS. First, this hierarchy as manifested in new mentions (see Section 3.3 and Section 4.2.1) is compatible with Given A Constraint (Du Bois 1987: 829): Avoid new A's (Du Bois 1987: 827). Second, this hierarchy as manifested in lexical mentions (see Section 3.4 and Section 4.2.1) is compatible with Non-lexical A Constraint (Du Bois 1987: 829): Avoid lexical A's (Du Bois 1987: 823). See also Footnote 17.

pivot). In contrast, English has case marking of the "A/S vs. O" pattern (in pronouns), passives and syntactic accusativity (an S/A pivot). (Syntactic ergativity is uncommon among the world's languages.) Warrongo and English occupy the opposite ends of the morphosyntactic axis regarding case marking pattern, voice and syntactic pivot, and jointly they provide an excellent and also rare opportunity for examining whether there is any connection between grammar (morphosyntax) and discourse. Section 3 showed the following. In terms of both new mentions and lexical mentions, Warrongo and English exhibit exactly the same hierarchy: O > S > A. Also, in terms of topic continuity of new mentions, Warrongo and English are identical in that the A is the most highly topical. In these two respects, there is no connection between morphosyntactic types and discourse. However, there are two differences in discourse that have a connection with morphosyntactic differences. First, Warrongo antipassives and S/O pivot have much higher functional loads than English passives and S/A pivot in discourse, and English passives and S/A pivot have no, or almost no, functional loads. Second, Warrongo antipassives have a use (i.e. voice switch) that English passives do not have. My experience shows that it is extremely difficult to find a connection between morphosyntactic types and discourse. These two differences – which involve Warrongo antipassives and S/O pivot and English passives and S/A pivot – are rare and precious gems in a search for connections between grammar and discourse.[22]

All these may be taken to indicate that languages generally have similar or same patterns of discourse organization irrespective of their morphosyntactic types and that grammar and discourse are largely – if not entirely – independent of each other. However, Section 4 showed that grammar and discourse are not entirely independent of each other. It showed that there is a principle that is common to grammar and discourse and that is attested crosslinguistically and irrespective of the morphosyntactic types of the languages concerned. This is the hierarchy of "O > S > A". In discourse, this hierarchy is observed in new mentions and/or lexical mentions in almost all the languages examined (including Warrongo and English), and it is by far the most frequent among the four attested hierarchies. It is also seen in relative clauses of English. In grammar, this hierarchy is attested in a wide range of languages in a wide range of morphosyntactic phenomena: compounding of a verb and a noun; noun incorporation; resulta-

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22. Possibly there is a third difference. See Footnote 4. In terms of topic continuity, new mentions shown by Warrongo antipassives seem to be more highly topical than those shown by English passives. That is, Warrongo antipassives seem to contribute to a higher degree of topicality than do English passives. In this respect too, Warrongo antipassives may be said to have a higher functional load than English passives.

tive constructions; possessor ascension; adverbial clauses with -*nagara* 'while' of Japanese; and possessor respect of Japanese. The above shows clearly that, in terms of the hierarchy of "O > S > A", there is a connection between grammar and discourse. It seems likely that this hierarchy has a status of some kind of language universal: a universal tendency. It is possible, though by no means certain, that this hierarchy exists at a fundamental level of human languages and that it is manifested in their grammar and discourse.

The findings of the present work have broader implications. First, antipassives and passives are generally described as mirrors image of each other, as are an S/O pivot and an S/A pivot. This description is adequate as far as their syntactic aspects are concerned. However, it is not supported when we look at their use in discourse; there is no such mirror image in discourse. Second, regarding Sakapultek Maya, which appears to have morphological ergativity but not syntactic ergativity, Du Bois (1987) claimed that ergativity in discourse shapes ergativity in grammar. If this claim is correct, Warrongo will be expected to show ergativity in discourse more clearly than Sakapultek Maya, since Warrongo has not only morphological ergativity but also syntactic ergativity. However, this expectation is not fulfilled, and this result does not support Du Bois's claim that ergativity in discourse shapes ergativity in grammar. Third, as far as the hierarchy of "O > S > A" is concerned, there is no evidence to show that grammar shapes discourse, that discourse shapes grammar or that they shape each other. This does not support the view that is dominant in one school of functional linguistics: discourse shapes grammar.

Two decades ago, Newmeyer (2001: 120) stated, regarding "the form-function interplay" in languages, that "one of the central tasks facing theoretical linguistics today" is "coming to an understanding of the relationship between grammatical form and those external forces that help to shape that form". As of 2022, there are still many issues left to be investigated regarding the relationship between grammar and function, e.g. use in discourse. It is hoped that the present work will contribute towards a better understanding of this relationship.

Acknowledgements

Abbreviations

1	first person	NFUT	nonfuture
2	second person.	NOM	nominative
A	transitive subject	NPST	nonpast
ABL	ablative	O	transitive object
ABS	absolutive	p.c.	personal communication
ACC	accusative	PL	plural
ANTIP	antipassive	POL	polite
AP	Alf Palmer	PST	past
DAT	dative	PURP	purposive
d-S	derived S	RES	resultative
ERG	ergative	RESP	respect
GEN	genitive	S	intransitive subject
GNF	general nonfinite	SG	singular
HON	honorific	SIH	S. I. Harada
INF	infinitive	TOP	topic
LINK	linking interfix	TT	Tasaku Tsunoda
LOC	locative	Vt	transitive verb

References

Allen, Shanley E. M. & Heike Schröder. 2003. Preferred Argument Structure in early Inuktitut spontaneous speech data. In John W. Du Bois, Lorraine E. Kumpf & William Ashby (eds.), *Preferred Argument Structure: Grammar as architecture for function*, 301–338. Amsterdam: John Benjamins.

Blake, Barry J. 1985. Case markers, case and grammatical relations: An addendum to Goddard. *Australian Journal of Linguistics* 5(1). 79–84.

Brinton, Laurel. 2015. Historical discourse analysis. In Deborah Tannen, Heidi E. Hamilton & Deborah Schiffrin (eds.), *The handbook of discourse analysis*, vol. 1, 222–243. Chichester: John Wiley & Sons.

Bybee, Joan. 2006. From usage to grammar: The mind's response to repetition. *Language* 82(4). 711–733.

Bybee, Joan & Clay Beckner. 2010. Usage-based theory. In Bernd Heine & Heiko Narrog (eds.), *The Oxford handbook of linguistic analysis*, 827–855. Oxford: Oxford University Press.

Bybee, Joan & Paul Hopper. 2001. Introduction to frequency and the emergence of linguistic structure. In Joan Bybee & Paul Hopper (eds.), *Frequency and the emergence of linguistic structure*, 1–24. Amsterdam: John Benjamins.

doi Bybee, Joan & James L. McClelland. 2005. Alternatives to the combinatorial paradigm of linguistic theory based on domain general principles of human cognition. *The Linguistic Review* 22(2–4). 381–410.

doi Bybee, Joan & Joanne Scheibman. 1999. The effect of usage on degrees of constituency: The reduction of *don't* in English. *Linguistics* 37(4). 575–596.

doi Bybee, Joan & Sandra Thompson. 1997. Three frequency effects in syntax. *Berkeley Linguistics Society (BLS)* 23. 378–388.

Chafe, Wallace (ed.). 1980. *The pear stories: Cognitive, cultural, and linguistic aspects of narrative production*. Norwood, New Jersey: Ablex.

Comrie, Bernard. 1978. Ergativity. In Winfred P. Lehmann (ed.), *Syntactic typology*, 329–394. Austin: University of Texas Press.

Comrie, Bernard. 1981. *Language universals and linguistic typology*. Oxford: Basil Blackwell.

doi Cooreman, Ann. 1982. Topicality, ergativity, and transitivity in narrative discourse: Evidence from Chamorro. *Studies in Language* 6(3). 343–374.

doi Cooreman, Ann. 1988. Ergativity in Dyirbal discourse. *Linguistics* 26(5). 717–746.

doi Cooreman, A., B. Fox & T. Givón. 1984. Discourse definition of ergativity. *Studies in Language* 8(1). 1–34.

doi Corston-Oliver, Simon H. 2003. Core arguments and the inversion of the nominal hierarchy in Roviana. In John W. Du Bois, Lorraine E. Kumpf & William Ashby (eds.), *Preferred Argument Structure: Grammar as architecture for function*, 273–300. Amsterdam: John Benjamins.

doi Croft, William & D. Alan Cruse. 2004. *Cognitive linguistics*. New York: Cambridge University Press.

doi Dixon, R. M. W. 1972. *The Dyirbal language of North Queensland*. Cambridge: Cambridge University Press.

doi Dixon, R. M. W. 1977. *A grammar of Yidiɲ*. Cambridge: Cambridge University Press.

doi Dixon, R. M. W. 1994. *Ergativity*. Cambridge: Cambridge University Press.

doi Du Bois, John W. 1987. The discourse basis of ergativity. *Language* 63(4). 805–855.

Du Bois, John W. 2003. Discourse and grammar. In Michael Tomasello (ed.), *The new psychology of language*, vol. 2, 47–87. Mahwah, NJ: Lawrence Erlbaum Associates.

doi Du Bois, John W., Lorraine E. Kumpf & William J. Ashby (eds.). 2003. *Preferred Argument Structure: Grammar as architecture for function*. Amsterdam: John Benjamins.

doi Durie, Mark. 1987. Grammatical relations in Acehnese. *Studies in Language* 11(2). 365–399.

doi England, Nora C. & Laura Martin. 2003. Issues in the comparative argument structure analysis in Mayan narratives. In John W. Du Bois, Lorraine E. Kumpf & William Ashby (eds.), *Preferred Argument Structure: Grammar as architecture for function*, 131–157. Amsterdam: John Benjamins.

doi Everett, Caleb. 2009. A reconsideration of the motivations for preferred argument structure. *Studies in Language* 33(1). 1–24.

Foley, William A. & Robert D. Van Valin, Jr. 1984. *Functional syntax and universal grammar*. Cambridge: Cambridge University Press.

doi Fox, Barbara. 1981. Body part syntax: Towards a universal characterization. *Studies in Language* 5(3). 323–342.

Fox, Barbara A. 1987. The noun phrase accessibility hierarchy reinterpreted: Subject primacy or the absolute hypothesis. *Language* 63(4). 856–870.

Fox, Barbara A. & Sandra A. Thompson. 1990. A discourse explanation of the grammar of relative clauses in English conversation. *Language* 66(2). 297–316.

Genetti, Carol & Laura D. Crain. 2003. Beyond Preferred Argument Structure: Sentences, pronouns, and given referents. In John W. Du Bois, Lorraine E. Kumpf & William Ashby (eds.), *Preferred Argument Structure: Grammar as architecture for function*, 197–223. Amsterdam: John Benjamins.

Gertds, Donna B. 1998. Incorporation. In Andrew Spencer & Arnold M. Zwicky (eds.), *The handbook of morphology*, 84–100. Oxford: Blackwell.

Givón, T. 1983. Topic continuity in discourse: An introduction. In T. Givón (ed.), *Topic continuity in discourse: A quantitative cross-language study*, 1–41. Amsterdam: John Benjamins.

Givón, T. 1984. *Syntax: A functional-typological introduction*, vol. 1. Amsterdam: John Benjamins.

Goddard, Cliff. 1982. Case systems and case marking in Australian languages. *Australian Journal of Linguistics* 2(2). 167–196.

Haig, Geoffrey & Stefan Schnell. 2016. The discourse basis of ergativity revisited. *Language* 92(3). 591–618.

Harada, S. I. 1976. Honorifics. In Masayoshi Shibatani (ed.), *Japanese generative grammar*, 499–561. New York: Academic Press.

Heath, Jeffrey. 1980. Whither ergativity? A review article [on Frans Plank 1979 (ed.), *Ergativity: Towards a theory of grammatical relations*. London: Academic Press]. *Linguistics* 18(9–10). 877–910.

Herring, Susan C. 1989. Verbless presentation and the discourse basis of ergativity. *Chicago Linguistic Society (CLS)* 25(2). 123–137.

Hopper, Paul. 1987. Emergent Grammar. *Berkeley Linguistics Society (BLS)* 13. 139–157.

Hyman, Larry H. 1977. The syntax of body parts. *Haya grammatical structure* (Southern California Occasional Papers in Linguistics 6), 99–117. Los Angeles: University of Southern California.

Kärkkäinen, Elise. 1996. Preferred argument structure and subject role in American English conversational discourse. *Journal of Pragmatics* 25(5). 675–701.

Kumagai, Yoshiharu. 2006. Information management in intransitive subjects: Some implications for the Preferred Argument Structure theory. *Journal of Pragmatics* 38(6). 670–694.

Kumpf, Lorraine E. 1992. Preferred argument in second language discourse: A preliminary study. *Studies in Language* 16(2). 369–403.

Kuno, Susumu. 1973. *The structure of the Japanese language*. Cambridge, MA: MIT Press.

Kurebito, Megumi. 2001. Noun incorporation in Koryak. In Osahito Miyaoka & Fubito Endo (eds.), *Languages of the North Pacific Rim*, vol. 6, 29–57. Osaka: Osaka Gakuin University.

Litvinov, Viktor P. & Kofi H. Agbodjo. 1988. Resultative in Ewe. In Vladimir P. Nedjalkov (ed.), *Typology of resultative constructions*, 231–237. Amsterdam: John Benjamins.

Merlan, Francesca. 1976. Noun incorporation and discourse reference in Modern Nahuatl. *International Journal of American Linguistics* 42(3). 177–191.

Minami, Fujio. 1993. *Gendai Nihongo bunpoo no rinkaku* [Outline of Modern Japanese grammar]. Tokyo: Taishukan.

Mithun, Marianne. 1984. The evolution of noun incorporation. *Language* 60(4). 847–894.

Mithun, Marianne. 2015. Discourse and grammar. In Deborah Tannen, Heidi E. Hamilton & Deborah Schiffrin (eds.), *The handbook of discourse analysis*, vol. 1, 11–41. Chichester: John Wiley & Sons.

Nasilov, Dmitrij M. 1988. Stative, resultative and perfective in Uzbek. In Vladimir P. Nedjalkov (ed.), *Typology of resultative constructions*, 221–230. Amsterdam: John Benjamins.

Nedjalkov, Vladimir P. (ed.) 1988. *Typology of resultative constructions*. Amsterdam: John Benjamins.

Newmeyer, Frederick J. 2001. Where is functional explanation? *Chicago Linguistic Society (CLS)* 37(2). 99–122.

O'Dowd, Elizabeth. 1990. Discourse pressure, genre and grammatical alignment – after Du Bois. *Studies in Language* 14(2). 365–403.

Okutsu, Keiichirō. 1996. Hukabunri shoyū to shoyūsha idō [Inalienable possession and possessor float]. In his *Shūi Nihonbunpōron* [Studies in Japanese grammar: Selected writings], 267–281. Tokyo: Hituzi. (Originally published in 1983 in *Todai Ronkyū* [Bulletin of Tokyo Metropolitan University], vol. 20.)

Plank, Frans. 1979. Ergativity, syntactic typology and universal grammar: Some past and present viewpoints. In Frans Plank (ed.), *Ergativity: Towards a theory of grammatical relations*, 3–36. London: Academic Press.

Sadock, Jerrold M. 1984. Whither radical pragmatics? In Deborah Schiffrin (ed.), *Meaning, form, and use in context: Linguistic applications* (Georgetown University Round Table on Languages and Linguistics 1984), 139–149. Washington, D.C.: Georgetown University Press.

Sapir, Edward. 1911. The problem of noun incorporation in American languages. *American Anthropologist* n.s. 13(2). 250–282.

Senge, Chikako. 2015. *A grammar of Wanyjirra, a language of Northern Australia*. Canberra: Australian National University PhD thesis.

Smith, Wendy. 1996. Spoken narrative and preferred clause structure: Evidence from modern Hebrew discourse. *Studies in Language* 20(1). 163–189.

Thompson, Sandra A. 1997. Discourse motivations for the core-oblique distinction as a language universal. In Akio Kamio (ed.), *Directions in functional linguistics*, 59–82. Amsterdam: John Benjamins.

Thompson, Sandra A. 2002. "Object complements" and conversation: Towards a realistic account. *Studies in Language* 26(1). 125–164.

Tsunoda, Tasaku. 1981. *The Djaru language of Kimberley, Western Australia*. Canberra: Pacific Linguistics, Australian National University.

Tsunoda, Tasaku. 1986. Topicality in ergative and accusative languages. *Nagoya Working Papers in Linguistics* 2. 174–258. Nagoya: University of Nagoya.

Tsunoda, Tasaku. 1988a. Ergativity, accusativity and topicality. *The Journal of the Faculty of Letters Nagoya University* 100. 1–71.

Tsunoda, Tasaku. 1988b. Antipassives in Warrungu and other Australian languages. In Masayoshi Shibatani (ed.), *Passive and voice*, 595–649. Amsterdam: John Benjamins.

Tsunoda, Tasaku. 1991. *Sekai no gengo to Nihongo* [The world's languages and Japanese]. Tokyo: Kurosio.

Tsunoda, Tasaku. 1995. The possession cline in Japanese and other languages. In Hilary Chappell & William McGregor (eds.), *The grammar of inalienability: A typological perspective on body part terms and the part-whole relation*, 565–630. Berlin: Mouton de Gruyter.

Tsunoda, Tasaku. 2009. *Sekai no gengo to Nihongo* [The world's languages and Japanese]. Rev. edn. Tokyo: Kurosio.

Tsunoda, Tasaku. 2011. *A grammar of Warrongo*. Berlin: De Gruyter Mouton.

Tsunoda, Tasaku. 2018. Inalienable possession in Japanese, English and Warrongo. In Prashant Pardeshi & Taro Kageyama (eds.), *Handbook of Japanese contrastive linguistics*, 557–585. Berlin: De Gruyter Mouton.

Tsunoda, Tasaku. 2019. Danwa no nookakusee wa bunpoo no nookakusee o keeseesuru ka? [Does ergativity in discourse shape ergativity in grammar?] Paper presented at the 158th meeting of the Linguistic Society of Japan, Hitotsubashi University, 22 June.

Van Valin, Robert D. 1980. On the distribution of passive and antipassive constructions in universal grammar. *Lingua* 50(4). 303–327.

Van Valin, Robert D., Jr. & William A. Foley. 1980. Role and reference grammar. In Edith A. Moravcsik & Jessica Wirth (eds.), *Current approaches to syntax*, 329–352. New York: Academic Press.

Vaxtin, Nikolaj B. 1988. Resultative in Asiatic Eskimo. In Vladimir P. Nedjalkov (ed.), *Typology of resultative constructions*, 199–208. Amsterdam: John Benjamins.

Verhaar, John W. M. 1985. On iconicity and hierarchy. *Studies in Language* 9(1). 21–76.

Volodin, Aleksandr P. 1988. Resultative and perfect passive in Finnish. In Vladimir P. Nedjalkov (ed.), *Typology of resultative constructions*, 469–477. Amsterdam: John Benjamins.

Wierzbicka, Anna. 1981. Case marking and human nature. *Australian Journal of Linguistics* 1(1). 43–80.

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