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Correlation between Accusative/Ergative Alignment and the Lability/Stability of S=A/S=O Verb Pairs

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Abstract

Dixon (1994) claims that accusative languages tend to have verb pairs of type S=A whose intransitive and transitive members are identical in form, while ergative languages tend to have verb pairs of type S=O whose intransitive and transitive members are identical in form. This paper examines his claim and concludes that the claim should refer to accusativity/ergativity in terms of cross-referencing.

0. Introduction

This paper examines Dixon's (1994) claim on the correlation between accusative/ergative alignment and the formal identity/non-identity of intransitive and transitive verb stems that form a pair. I will attempt to examine whether this claim always holds or not, and if it does, which aspect of accusativity/ergativity of a language this claim should refer to.

This paper proceeds as follows. In Section 1, I will introduce a terminological framework for classifying intransitive-transitive pairs of verb stems. In Section 2, I will consider Dixon's claim. In Section 3, I will discuss accusative languages. In Section 4, I will examine so-called ergative languages. In Section 5, I will reexamine those languages in the light of ergativity in terms of cross-referencing. In Section 6, I will discuss languages that are ergative in terms of cross-referencing. Section 7 furnishes some concluding remarks.

1. Terminological framework

As this paper is concerned with intransitive-transitive pairs of verb stems, we need to classify those pairs in terms of the formal relationship between the intransitive and the transitive. So, in this section, I will present the terminological framework that I use in this paper to classify subtypes of intransitive-transitive pairs of verb stems, relying on Haspelmath (1993).

First, let us consider the following examples from English:

(1) a. He is eating.
b. He is eating ice cream.

(2) a. The glass broke.
b. He broke the glass.

The intransitive *eat* (1a) and transitive *eat* (1b), on the one hand, and the intransitive *break* (2a) and transitive *break* (2b), on the other, are similar in that they form pairs, but they differ in the correspondence of the arguments between the intransitive and the transitive. With the intransitive *eat* (1a) and the transitive *eat* (1b), the subject (S) of the former corresponds with the subject (A) of the latter, whereas with the intransitive *break* (2a) and the transitive *break* (2b), the subject (S) of the former corresponds with the object (O) of the latter. Thus, English has two types of pairs of intransitive and transitive verbs.

The correspondence may be in terms of formal identity, formal relationship, or semantic relationship. *eat/eat* (1) and *break/break* (2) are examples of formal identity, whereas *wait/await* and *rise/raise* are examples of formal relationship (but non-identity). Also, *die/kill* may be seen as an example of semantic relationship. This paper is concerned with such pairs of verb stems.

We can distinguish two types of such pairs according to whether S corresponds with A or O, as follows:

S=A: S corresponds with A
S=O: S corresponds with O

Examples of S=A pairs include *eat/eat* and *wait/await*, whereas examples of S=O pairs include *break/break*, *rise/raise* and *die/kill*.

Another distinction can be made among intransitive-transitive pairs according to whether the intransitive and transitive verb stem is formally identical or not. Labile pairs are those intransitive-transitive pairs whose intransitive and transitive members are identical in form. For example, English *eat*/*eat* is a labile S=A pair, while English *break*/*break* is a labile S=O pair.

On the other hand, intransitive-transitive pairs whose intransitive and transitive members are not identical in form will be called stable. Stable pairs can be further subdivided into four types depending on the nature of the formal relationship between the members. Transitivizing pairs are those intransitive-transitive pairs where the intransitive member is unmarked and the transitive is marked; intransitivizing pairs are intransitive-transitive pairs where the transitive member is unmarked and the intransitive is marked; equipollent pairs are intransitive-transitive pairs whose members are differently marked; and suppletive pairs are intransitive-transitive pairs whose intransitive and transitive members are formally unrelated. For example, in English, *wait/await* is a transitivizing S=A pair; *rise/raise* is an equipollent S=O pair; and *die/kill* is a suppletive S=O pair. Examples of transitivizing, intransitivizing, equipollent and labile S=O pairs in Japanese follow.

(3) S=O pairs in Japanese

	intransitive	transitive	type
a.	tat- ‘stand’	tat-e- ‘stand’	transitivizing
b.	war-e- ‘break’	war- ‘break’	intransitivizing
c.	ag-ar- ‘rise’	ag-e- ‘raise’	equipollent
d.	mas- ‘increase’	mas- ‘increase’	labile

Now, let us examine how English and Japanese fit into this framework. English has both S=A

pairs and S=O pairs. Most S=A pairs are labile, like *eat/eat* and *read/read*, the only exception being *wait/await*, which is stable (transitivizing). S=O pairs are also mostly labile, like *break/break* and *open/open*, and very few S=O pairs are stable, like *rise/raise* and *lie/lay*.

Japanese has both S=A pairs and S=O pairs. S=A pairs are all labile (e.g., *waraw-/waraw-* 'laugh/laugh at'). Most S=O pairs are stable (e.g., *tat-/tat-e-* 'stand/stand' and *war-e-/war-* 'break/break'), while there are very few S=O pairs that are labile (e.g., *mas-/mas-* 'increase/increase' and *hirak-/hirak-* 'open/open').

Having presented the basic terminology, let us consider Dixon's (1994) claim.

2. Dixon's claim

Here is what Dixon (1994: 218) has to say on the correlation between the accusative/ergative alignment and the nature of intransitive-transitive pairs.

> [A]n accusative language can naturally handle ambitransitives of type S=A [labile S=A pairs] and an ergative language those of type S=O [labile S=O pairs]. For the other type there must in each case be some grammatical restriction (against the omission of an O NP for an accusative and an A NP for an ergative language), or else some explicit marking of each clause type as transitive or intransitive, or something else that achieves the same ends.

This may be paraphrased in our terms as follows: in an accusative language, unless there is some grammatical restriction against the omission of an O NP of S=O labile pairs, S=O pairs must be stable, while in an ergative language, unless there is some grammatical restriction against the omission of an A NP of S=A labile pairs, S=A pairs must be stable. In other words, in an accusative language, S=O pairs are more likely to be stable than S=A pairs; on the other hand, in an ergative language, S=A pairs are more likely to be stable than S=O pairs. This may be further paraphrased as follows:

(4) Correlation between alignment and lability/stability

a. In accusative languages, labile pairs are more prominent in the S=A class, while stable pairs are more prominent in the S=O class.

b. In ergative languages, stable pairs are more prominent in the S=A class, while labile pairs are more prominent in the S=O class.

At first sight, this does seem to hold, as Dixon (1994: 216–218) explains. As we saw in Section 1, in English, an accusative language, there is only one stable S=A pair, *wait/await*, while there are a few stable S=O pairs, such as *rise/raise* and *lie/lay*, agreeing with (4). In Japanese, an accusative language, S=A pairs are all labile, while most S=O pairs are stable, again agreeing with (4).

When we examine more languages, however, especially various types of ergative languages, this turns out not to always hold. Actually, it is (4b), which deals with ergative languages, that proves

problematic. In the following sections, we will see whether data from other languages proves or disproves (4), and if they do, in what ways. In Section 3, we will examine accusative languages, and in Sections 4 through 6, we will look at ergative languages.

3. Accusative languages

In this section, I will show that (4) does hold for accusative languages. (4a), concerning accusative languages, is repeated below:

(4) a. In accusative languages, labile pairs are more prominent in the S=A class, while stable pairs are more prominent in the S=O class.

Actually, this is not problematic. In sample languages that I investigated, there is no accusative language for which (4a) does not hold. Let us look at some accusative languages to illustrate the point.

Thai

In Thai, there are S=A labile pairs, as exemplified by *kròt/kròt* 'be angry/be angry at' in the following examples:

(5) Thai (Iwasaki and Ingkaphirom (2005: 116)) *kròt/kròt* 'be angry/be angry at'

a. Phôɔ kròt mâak.
father be.angry very
'Father is very angry.'

b. Phôɔ kròt Nút.
father be.angry (name)
'Father is angry at Nut.'

However, there are not S=A stable pairs. Turning to S=O pairs, there are labile S=O pairs, as exemplified by *pàət/pàət* 'open/open*'* as in the following examples:

(6) Thai (Iwasaki and Ingkaphirom (2005: 116)) *pàət/pàət* 'open/open*'*

a. Pratuu pàət.
door open
'The door opened.'

b. Phǒm pàət pratuu.
I open door
'I opened the door.'

However, there are not stable S=O pairs. Thus, in Thai, S=A and S=O pairs are both all labile.

Amele (?), Jalonke, Tariana and Kobon are like Thai in having only labile pairs, both S=A and

S=O. (The symbol '(?)' indicates that the data for the language are not very conclusive on this point.)

Tamil

In Tamil, there are S=A labile pairs, as exemplified by *caappiɻu/caappiɻu* 'eat/eat' in the following examples:

(7) Tamil (Asher (1985: 153)) *caappiɻu/caappiɻu* 'eat/eat'

a. Appaa caapɻukiʈʈirukkaraaru.
father eat.PROG.PRES.3S.HON
'Father is eating.'

b. Appaa cooru caapɻukiʈʈirukkaraaru.
father rice eat.PROG.PRES.3S.HON
'Father is eating rice.'

However, there are not stable S=A pairs. As for S=O pairs, there are transitivizing and equipollent pairs, as shown by the following examples:

(8) Tamil (Asher (1985: 154), Lehmann (1993: 52))

	intransitive	transitive	type
a.	viɻu 'leave'	viɻu-vi 'liberate'	transitivizing
b.	era-ŋku 'go down'	era-kku 'take down'	equipollent

Also, there are 'one or two rare cases' (Asher (1985: 152)) of labile S=O pairs, as exemplified by *keeɻu/keeɻu* 'hear/be heard' in the following examples:

(9) Tamil (Asher (1985: 152)) *keeɻu/keeɻu* 'hear/be heard'

a. Anta caʈʈi vizuɻnta cattam keeʈʈ-atu.
that pan fall.PAST.RP sound be.heard.PAST-3S.N
'The sound of the pan falling was heard.'

b. Naan caʈʈi vizuɻnta cattatte keeʈʈ-een.
I pan fall.PAST.RP sound.AC hear.PAST-1S
'I heard the sound of the pan falling.'

Thus, in Tamil, S=A pairs are all labile, while S=O pairs are either labile or stable.

Other languages like this are Awa Pit, Burmese (?), Japanese, Jarawara, Korean, Mongolian, Nivkh, Huallaga Quechua, Russian, and Swahili (?).

Turkish

In Turkish, there are S=A labile pairs, as illustrated by the following examples:

(10) Turkish (Konfilt (1997: 329)) *ye/ye* ‘eat/eat’

a. Hasan elma-yı ye-di.
Hasan apple-AC eat-PAST
‘Hasan ate an apple.’

b. Hasan ye-di
Hasan eat-PAST
‘Hasan ate.’

However, there are not stable S=A pairs. As for S=O pairs, there are transitivizing, intransitivizing and equipollent pairs, as shown by the following examples:

(11) Turkish (Underhill (1976: 344, 345, 357–358))

	intransitive	transitive	type
a.	bat- ‘sink’	bat-ır- ‘sink’	transitivizing
b.	taşı-n- ‘move’	taşı- ‘carry’	intransitivizing
c.	kal-k- ‘get up’	kal-dır- ‘get up’	equipollent

However, there are not S=O labile pairs. Thus, in Turkish, S=A pairs are all labile while S=O pairs are all stable.

Other languages like this in our sample are Amharic, Guaraní (?), Hixkaryana (?), Hungarian, Mosetén (?), Retuarã (?) and Copala Trique.

Saliba

In Saliba, an Oceanic language, S=A pairs are transitivizing, intransitivizing, equipollent or labile, as illustrated by the following examples:

(12) Saliba (Margetts (1999: 94, 145, 182, 184))

	intransitive	transitive	type
a.	bahe ‘carry’	bahe-i ‘carry’	transitivizing
b.	kai-gwali ‘spear (fish)’	gwali ‘spear’	intransitivizing
c.	kai-katu ‘catch fish’	katu-ni ‘catch’	equipollent
d.	hedede ‘talk’	hedede ‘talk about’	labile

On the other hand, S=O pairs are transitivizing, intransitivizing or labile, as illustrated by the following examples:

(13) Saliba (Margetts (1999: 95, 165, 199))

	intransitive	transitive	type
a.	bida ‘be dirty’	he-bida ‘make dirty’	transitivizing
b.	ta-kesi ‘be broken’	kesi ‘break’	intransitivizing
c.	bui ‘turn’	bui ‘turn’	labile

Thus, both S=A and S=O pairs have labile and stable members. However, they differ in the proportion of their labile members to the whole class. That is, Margetts (1999: 94) gives six instances of S=A labile pairs; she does not explicitly give their number, so there may or may not be more, but there are at least six of them. On the other hand, there is only one instance of an S=O labile pair; she gives (12c) as ‘[t]he only attested labile root of this type [S=O]’ (p. 95). Thus, labile pairs are more numerous in S=A pairs than in S=O pairs. That means that the proportion of labile pairs to the whole class is greater in S=A pairs than in S=O pairs. In other words, labile pairs are more prominent in S=A pairs than in S=O pairs.

Manam, another Oceanic language, is like Saliba in that both S=A and S=O pairs have labile and stable members and that labile pairs are more prominent in S=A pairs than in S=O pairs.

Kolyma Yukaghir

In Kolyma Yukaghir, Nagasaki (2003) gives two instances, and Maslova (2003: 353) gives another instance, of labile S=A pairs, one of which, *o:že-/o:že-* ‘drink/drink’, is illustrated in the following examples:

(14) Kolyma Yukaghir (Nagasaki (2003: 34)) *o:že-/o:že-* ‘drink/drink’

a. o:že-t-če
drink-FUT-1S
‘I will drink.’

b. met ča:j o:že
1S tea drink
‘I drank tea.’

There are also transitivizing and intransitivizing S=A pairs, as shown by the following examples:

(15) Kolyma Yukaghir (Maslova (2003: 224–225))

	intransitive	transitive	type
a.	jaqte- ‘sing’	jaqte-rī- ‘sing about’	transitivizing
b.	aŋsī-d’- ‘search’	aŋčī- ‘look for’	intransitivizing

As for S=O pairs, there are transitivizing and equipollent pairs, as shown by the following examples:

(16) Kolyma Yukaghir (Maslova (2003: 216, 217))

	intransitive	transitive	type
a.	modo- ‘sit, stay’	modo-te- ‘make sit down’	transitivizing
b.	šoh-ie- ‘get lost’	šohu-še- ‘lose’	equipollent

However, no S=O labile pairs are reported. Thus, in Kolyma Yukaghir, S=A pairs are either labile or stable, while S=O pairs are all stable.

Boumaa Fijian

In Boumaa Fijian, in both S=A and S=O pairs, the transitive member is derived from the intransitive member by attaching either *-Ca ~ -Ci* or *-Ca’ina ~ -Ca’ini*, depending on the stem. Following are examples with an S=A pair:

(17) Boumaa Fijian (Dixon (1988: 204)) *rabe/rabe* ‘kick/kick’

a.	au	rabe		
	1S	kick		
	‘I’m kicking.’			
b.	au	rabe-ta	a	polo
	1S	kick-TR	ART	ball
	‘I’m kicking the ball.’			

Examples with an S=O pair follow:

(18) Boumaa Fijian (Dixon (1988: 204)) *qaqi/qaqi* ‘be crushed/crush’

a.	e	qaqi	a	dovu
	3S	crush	ART	sugar.cane
	‘The sugar cane is being crushed.’			
b.	au	qaqi-a	a	dovu
	1S	crush-TR	ART	sugar.cane
	‘I’m crushing the sugar cane.’			

Thus, in Boumaa Fijian, both S=A and S=O pairs are all transitivizing, that is, stable.

In our sample, Creek and Tok Pisin are like Boumaa Fijian in that S=A and S=O pairs are both all stable.

The results of our examination may be summarized as in Table 1.

Table 1. S=A and S=O pairs in accusative languages

		S=O pairs		
		labile	either labile or stable	stable
S=A pairs	labile	Amele (?), Jalonke, Kobon, Tariana, Thai	Awa Pit, Burmese (?), Japanese, Jarawara, Korean, Mongolian, Nivkh, Huallaga Quechua, Russian, Swahili (?), Taiwanese Southern Min (?), Tamil	Amharic, Guaraní (?), Hixkaryana (?), Hungarian, Mosetén (?), Reguarã (?), Copala Trique, Turkish
	either labile or stable	(none)	English, Manam, Saliba	Kolyma Yukaghir
	stable	(none)	(none)	Creek, Fijian, Tok Pisin

From this table, we can see the following patterns:

(i) If, in a language, the S=A pairs are all labile, the S=O pairs are (a) all labile, (b) either labile or stable, or (c) all stable.

(ii) If, in a language, the S=A pairs are either labile or stable, the S=O pairs are either (a) labile or stable, in which case labile pairs are more prominent in the S=A pairs than in the S=O pairs, while stable pairs are more prominent in the S=O pairs than in the S=A pairs; or (b) all stable.

(iii) If, in a language, the S=A pairs are all stable, the S=O pairs are all stable.

These patterns in totality lead us to the following conclusion:

> In accusative languages, the proportion of labile pairs in the S=A class is not smaller than that in the S=O class, while the proportion of stable pairs in the S=A class is not greater than that in the S=O class.

That is:

> In accusative languages, labile pairs are not less prominent in S=A pairs than in S=O pairs, while stable pairs are not less prominent in S=O pairs than in S=A pairs.

which is what (4a) predicts. Thus, (4a) does hold for accusative languages in our sample that have both S=A and S=O pairs.

Having examined clause (4a), let us now turn to (4b), concerning ergative languages, which, as we will see, is more problematic.

4. Ergative languages

Now, let us examine (4b), repeated below.

(4) b. In ergative languages, stable pairs are more prominent in the S=A class, while labile pairs are more prominent in the S=O class.

Actually, this does not seem to hold for many so-called ergative languages. Let us look at some of them in turn.

Iñupiaq

Iñupiaq, an Eskimo language that is often considered to be a typical example of an ergative language, does not conform to (4b). S=A pairs are all labile, as illustrated by the following examples:

(19) Iñupiaq *niġi-/niġi-* 'eat/eat'
a. Aŋun niġi-ruq.
man.AS.S eat-IND.3S
'The man ate.'
b. Aŋuti-m niqi niġi-yaa.
man-RL.S meat.AS.S eat-IND.3S3S
'The man ate the meat.'

On the other hand, S=O pairs are either labile or transitivizing. Most S=O pairs are labile, as illustrated by the following examples:

(20) Iñupiaq *navik-/navik-* 'break/break'
a. Ayaupiaq navik-tuq.
cane.AS.S break-IND.3S
'The cane broke.'
b. Aŋuti-m ayaupiaq navik-kaa.
man-RL.S cane.AS.S break-IND.3S3S
'The man broke the cane.'

There are also about 20 transitivizing S=O pairs, involving the transitivizing suffix *-t-*, as illustrated by the following examples:

(21) Iñupiaq *tuqu-/tuqu-t-* 'die/kill'
a. Qipmiq tuqu-ruq.
dog.AS.S die-IND.3S
'The dog died.'
b. Aŋuti-m qipmiq tuqu-t-kaa.
man-RL.S dog.AS.S die-TR-IND.3S3S
'The man killed the dog.'

Thus, in Iñupiaq, S=A pairs are all labile, while S=O pairs are either labile or stable.

Basque

In Basque, another well-known ergative language, S=A pairs are all labile, as exemplified by the following examples:

(22) Basque (Etxepare (2003: 369)) *igaro/igaro* 'pass/cross'

a. Ibai hartatik igaro dira.
river that.through pass PRES.IND.3P
'They went through that river.'

b. Ibai hura igaro dute.
river that.AS cross PRES.IND.3P3S
'They crossed that river.'

As for S=O pairs, there are labile ones, as exemplified by the following examples:

(23) Basque (Ortiz de Urbina (2003: 592)) *hil/hil* 'die/kill'

a. Hil da ene txakurra.
die pres.IND.3S my dog
'My dog has died.'

b. Albaiteroak txakurra hil zuen.
vet.EG dog kill past.IND.3S3S
'The vet killed the dog.'

There are also transitivizing S=O pairs, involving the prefix *era-*, as shown by the following examples:

(24) Basque (Hualde (2003: 351))

	intransitive	transitive
a.	egin 'do'	era-gin 'cause'
b.	jaik(i) 'rise'	era-ik(i) 'build'
c.	joan 'go'	eraman, eroan 'take'

Thus, in Basque, S=A pairs are all labile, while S=O pairs are either labile or stable.

Chukchi

In Chukchi, another well-known ergative language, S=A pairs are labile, transitivizing or intransitivizing, as illustrated by the following examples:

(25) Chukchi (Inènlikèj and Nedjalkov (1967:251), Inènlikèj *et al*. (1969:263), Kurebito (1997:85))

	intransitive	transitive	type
a.	waljom ‘hear’	waljom ‘hear’	labile S=A
b.	waŋ ‘sew’	rə-waŋe-w ‘sew’	transitivizing S=A
c.	ejwe-t ‘share’	ejwe ‘share’	intransitivizing S=A

On the other hand, S=O pairs are labile, transitivizing, intransitivizing or equipollent, as illustrated by the following examples:

(26) Chukchi (Inènlikèj and Nedjalkov (1967: 249), Kurebito (1997: 85, 87))

	intransitive	transitive	type
a.	jər’et ‘fill’	jər’et ‘fill’	labile S=O
b.	čimet ‘break’	ry-čime-w ‘break’	transitivizing S=O
c.	pela-t ‘remain’	pela ‘leave’	intransitivizing S=O
d.	keŋ-et ‘bend’	rə-keŋ-ew ‘bend’	equipollent S=O

Thus, both the S=A and S=O classes have labile and stable pairs. But the proportion of the labile pairs in the whole class is not the same for these two classes. Thus, according to Inènlikèj and Nedjalkov (1969: 265), the numbers of labile/stable S=A/S=O pairs found in this language are as follows:

	labile	stable
S=A	120	80
S=O	40	1125

That is, in the S=A class, labile pairs are more prominent than stable pairs, while in the S=O class, stable pairs are more prominent than labile pairs.

Kham

In Kham, a Tibeto-Turman language, S=O pairs are transitivizing, intransitivizing, equipollent or labile, as exemplified by the following examples:

(27) Kham (Watters (2002: 106, 237))

	intransitive	transitive	type
a.	kyah- ‘break’	ke:h- [< *kəh-t-] ‘break’	transitivizing S=O
b.	boh-s- ‘uproot’	bo:h- ‘uproot’	intransitivizing S=O
c.	thas- [< *tha-s-] ‘be heard’	thəi- [< tha-t-] ‘be heard’	equipollent S=O
d.	‘pa:- ‘break’	‘pa:- ‘break’	labile S=O

On the other hand, Watters (2002) does not explicitly address S=A pairs. This most likely means either that (a) Kham does not have S=A pairs, or (b) it does have labile S=A pairs but not stable S=A pairs. At any rate, however, it is not highly likely that it has stable S=A pairs, which would not have

escaped Watter's (2002) attention.

To summarize, in Kham, S=A pairs, if there are any, are most likely labile, while S=O pairs are either labile or stable.

Shipibo-Konibo

In Shipibo-Konibo, a Panoan language, S=A pairs are all labile, as exemplified by the following examples:

(28) Shipibo-Konibo (Valenzuela (2003: 362)) *xonxin/xonxin* 'whistle/whistle at'

a. Tsoma-ra xonxin i-ke.
Tsoma.AS-EV whistle do.intr-CMPL
'Tsoma whistled.'

b. Tsoma-n-ra ainbo xonxin a-ke.
Tsoma-EG-EV woman.AS whistle do.tr-CMPL
'Tsoma whistled at the woman.'

Turning to S=O pairs, there are transitivizing S=O pairs, involving the suffix *-n*, as exemplified by the following examples:

(29) Shipibo-Konibo (Valenzuela (2003: 623)) *pani/pani-n* 'hang/hang'

a. Ani texó jiwi-n-ra nato shino pani-ai.
big *quinilla* tree-LC-EV this monkey.AS hang-INC
'This monkey (usually) hangs on the big *quinilla* tree.'

b. Nokon koka-n awinin-ra jawen chopa patsa-a pani-n-ai.
my mat.uncle.GN wife.EG-EV her clothes wash-PP2.AS hang-TR-INC
'My maternal uncle's wife is hanging her recently washed clothes.'

There are intransitivizing S=O pairs, involving the suffix *-mee* or its allomorphs, as exemplified by the following examples:

(30) Shipibo-Konibo (Valenzuela (2003: 792–793)) *mii-mee/miin* 'get buried/ bury'

a. Joni-n-ra koríki miin-ke
man-EG-EV money.AS bury-CMPL
'The man buried the money.'

b. Mashi-n meosoti pake-kan-a-ra mii-mee-ke
sand-LC ring drop-P-PP2.AS-EV bury-INTR-CMPL
'The ring that they dropped in the sand got buried.'

There are also equipollent S=O pairs, involving the alternation of the suffixes *-n* and *-t*, as exemplified by the following examples:

(31) Shipibo-Konibo (Valenzuela (2003: 624)) *raka-t/raka-n* 'lie/lay'

a. … bo-xon kawin taraman-ki raka-n-kan-a iki.
carry-P rush.mat extend.LC-HS lie-TR-P-PP2 AUX
'… carrying [the white-lipped peccaries] they laid them on the extended rush mat'

b. Nato yawa rabé rete-kan-a raka-t-a chopa bi-xon mapo-we!
this w.-l.pecc. two.AS kill-P-P lie-INTR-PP2.AS cloth.AS get-P cover-IMP
'Get a cloth and cover these two white-lipped peccaries that [they] have killed and that are lying (there)!'

Finally, there are labile S=O pairs, as exemplified by the following examples:

(32) Shipibo-Konibo (Valenzuela (2003: 363)) *tii/tii* 'blow/blow'

a. Moa-ra tii i-ke.
already-EV blow do.intr-CMPL
'(The horn) blew already.'

b. E-n-ra moa tii a-ke.
1-EG-EV already blow do.tr-CMPL
'I made the horn blow already.'

Thus, in Shipibo-Konibo, S=A pairs are all labile, while S=O pairs are either labile or stable.

Yimas

According to Foley (1991), Yimas, a Papuan language, has at least one S=A pair, *wapal/wapal* 'climb/climb', which is labile, as illustrated by the following examples:

(33) Yimas (Foley (1991: 234)) *wapal/wapal* 'climb/climb'

a. Irpm-um na-wapal.
coconut.palm.classIV.S-OL 3S.S-climb
'He climbed up on the coconut palm,'

b. Irpm mu-n-wapal.
coconut.palm.classIV.S classIV.S.O-3S.A-climb
'He climbed the coconut palm.'

On the other hand, S=O pairs are all equipollent, as exemplified by the following examples:

(34) Yimas (Foley (1991: 290)) *kumprak-ara/kumprak-aca* 'split/snap'

a. Yan na-kumprak-ara-t.
tree.classV.S classV.S.S-split-INTR-PF
'The tree split.' (say, along its base and fell over)

b. Yan na-n-kumprak-aca-t.
tree.classV.S classV.S.O-3S.A-split-TR-PF
'He snapped the tree.' (with his hands)

Thus, in Yimas, the only S=A pair found in Foley (1991) is labile, while S=O pairs are all stable.

Coast Tsimshian

Coast Tsimshian has labile S=A pairs, as illustrated by the following examples:

(35) Coast Tsimshian (Fumiko Sasama, p.c.) *luma:ks/ luma:ks* 'do the laundry/wash'
a. Təm luma:ks-ə-n'u.
TA wash-IV-1S(S)
'I'm doing the laundry.'
b. Təm luma:ks-u nə-p'axs-u.
TA wash-1S(A) POSS-pants-1S.POSS
'I'm going to wash my pants.'

According to Sasama (p.c.), labile pairs are the commonest of the S=A pairs.

Turning to stable S=A pairs, there are a number of intransitivizing S=A pairs involving the intransitivizing suffix *-m'a*, as illustrated by the following examples:

(36) Coast Tsimshian (Sasama (2001: 133)) *sət'á:-m'a/ sət'á:* 'start/start'
a. Łə=n sət'á:=n cáp-a cám.
TA=1S(A) start=1S(A) make-POSS jam
'I started to make jam.'
b. Təm sət'á:-m'a-n'u ta hałáls-u cikjic'ì:p.
TA start-INTR-1S(S) OL work-1S.POSS tomorrow
'I'll start working tomorrow.'

Next, there are a number of equipollent S=A pairs, involving the suffix *-t'əs* for the intransitive and *-n'* for the transitive, as illustrated by the following examples:

(37) Coast Tsimshian (Sasama (2001: 131)) *k'^{w}á:-t'əs/k'^{w}á:-n'* 'miss, worry about/lose'
a. Ła k'^{w}á:-t'əs-u ta=s Tiffany.
TA lost-INTR-1S(S) OL=CN (name)
'I'm missing Tiffany; I worry about Tiffany.'
b. ʔata=n k'^{w}á:-n'=təts Leona nət^{h}a-tá:la-t ta c'əm-Zeller's.
and=1S(A) lost-TR=CN (name) receptacle-money-3.POSS OL in-Zeller's
'And Leona lost her purse in Zeller's (= a store's name).'

There is another type of equipollent S=A pair, involving the suffixes *-'əs* and *-k*, of which Fumiko Sasama (p.c.) has only one example, *lu:p-'əs/lu:p-k* 'sew/sew'.

Let us move on to S=O pairs. There are a small number of labile S=O pairs, such as *t'al/t'ał* 'exist/put' (Sasama, p.c.).

Turning to stable S=O pairs, there are transitivizing S=O pairs involving the transitivizing suffix *-n'*, *-l'* or *s*ə-, as illustrated by the following examples:

(38) Coast Tsimshian

	intransitive	transitive
a.	*hałáls* 'work'	*hałáls-ən* 'hire'
b.	*pé:q* 'be torn'	*pé:q-'al* 'tear'
c.	*máxs* 'grow'	*sə-máxs* 'grow'

There are a number of intransitivizing S=O pairs involving the intransitivizing suffix *-tk*, as illustrated by the following examples:

(39) Coast Tsimshian (Sasama (2001: 127)) *qá:p-k /qá:p* 'scratch oneself/scratch'

a. Qá:p-u hak'ó:-j-u.
scratch-1S(A) back-IC-1S.POSS
'I scratch my back.'

b. Qá:p-k=a tú:s.
scratch-INTR=CN cat
'The cat is scratching itself.'

There are also equipollent S=O pairs, involving the suffix *-tk* for the intransitive and the suffix *-n'* or *-l'* for the transitive, as illustrated by the following examples:

(40) Coast Tsimshian (Sasama (2001: 127)) *sáks-k/sáks-əl* 'be clean/clean'

a. Na sáks-k=a j'ù:t^{h}a.
TA clean-INTR=CN boy
'The boy was clean (e.g., after taking a bath).'

b. Ksə-sáks-ə-l=s Ricky hó:n.
out-clean-IV-TR=CN (name) fish
'Ricky is cleaning the fish.'

To summarize, in this language, S=A pairs are mostly labile, while S=O pairs are mostly stable.

Now, let us summarize our examination of these so-called ergative languages. In Iñupiaq, Basque, Kham, Shipibo-Konibo and Yimas, S=A pairs, if there are any, are all labile, while S=O pairs are either labile or stable. In Chukchi and Coast Tsimshian, both S=A and S=O classes have labile and

stable pairs, but in the S=A class, labile pairs are prominent, while in the S=O class, stable pairs are prominent. That is, these ergative languages have it in common that S=A pairs are more likely to be labile than S=O pairs, while S=O pairs are more likely to be stable than S=A pairs, which is in sharp contrast to what (4b) predicts.

Thus, (4b) does not hold, at least for some so-called ergative languages. At this point, we may want to ask ourselves this question: are there really such ergative languages that (4b) should refer to? Actually, as Palmer (1994: 59) says, '[i]t is misleading to divide languages into those that are ergative and those that are accusative', since usually one and the same language has both accusative and ergative patterns in different parts of the grammar. So, it may be the case that (4b) should be considered in light of a particular part of the grammar, and that those 'ergative' languages we have just considered are really accusative, or not ergative enough, in that part of the grammar. Indeed, if we consider them as accusative languages, they do conform to (4a), since in those languages labile pairs are prominent in the S=A class, while stable pairs are prominent in the S=O class.

5. Ergativity in terms of case-marking and ergativity in terms of cross-referencing

In the previous section, we have seen that the so-called ergative languages that we treated above may be accusative in some respects. Now, let us get back to Iñupiaq and consider in what way it is ergative and in what way it is accusative.

Generally, a language can be morphologically accusative or ergative in two different ways:

(a) in terms of case-marking
(b) in terms of cross-referencing

With this in mind, let us examine Iñupiaq to see in what way this language is ergative or accusative.

Inupiaq, as well as Eskimo languages in general, is often considered to be an ergative language. This does not necessarily mean that this language is totally ergative in all respects, however. Rather, as we will see shortly, it is ergative in some respects and accusative in others. We will now examine how Iñupiaq is ergative or accusative in terms of case-marking and cross-referencing.

Iñupiaq is ergative in terms of case-marking, as illustrated by the following examples:

(41) Iñupiaq

a.	Iġniġ-a	pisruk-tuq.	
	son-AS.1SS	walk-IND.3S	
	'My son walked.'		
b.	Aġna-m	tautuk-aa	iġniġ-a.
	woman-RL.S	see-IND.3S3S	son-AS.1SS
	'The woman saw my son.'		
c.	Iġniġ-ma	tautuk-aa	aġnaq
	son-RL.1SS	see-IND.3S3S	woman.AS.S
	'My son saw the woman.'		

Now, let us see how this language is ergative or accusative in terms of cross-referencing. In

reference grammars of Eskimo languages, it is customary to present each transitive ending as a whole, rather than as a combination of a suffix cross-referencing A and another suffix cross-referencing O. This is because transitive endings cannot always be decomposed very clearly into two portions in Eskimo. However, this does not mean that one cannot identify in Eskimo a portion of a transitive ending that is identical or similar to an intransitive ending. Consider the following examples:

(42) Iñupiaq

a. pisruk-tugut
walk-IND.1P
'We walked.'

b. pisruk-tutin
walk-IND.2S
'You walked.'

c. tautuk-kiptigut
see-IND.2S1P
'You saw us.'

(42a) shows us that the suffix cross-referencing first person plural S is *tugut*, actually *gut*, since *tu* marks intransitive indicative mood; (42b) shows us that the suffix cross-referencing second person singular S is *tutin*, actually *tin* for the same reason; and (42c) shows that the suffix cross-referencing second person singular A and first person plural O is *kiptigut*, actually *ptigut*, since *ki* marks transitive indicative mood. In summary:

1P S: gut
2S S: tin
2S A + 1P O: ptigut

This indicates that the portion *gut* of *ptigut* cross-references first person plural O, and as a result, the remaining portion, *pti*, may be regarded as cross-referencing second person singular A. That is:

	S	A	O
1p:	gut		gut
2s:	tin	pti	

Thus, the portion of the transitive ending that cross-references O is identical with the intransitive ending, while the portion of the transitive ending that cross-references A is not identical with the intransitive ending. This leads us to conclude that the transitive ending that cross-references second person singular A and first person plural O operates on an ergative pattern.

By contrast, consider the following examples:

(43) Iñupiaq

a. pisruk-tusri
walk-IND.2P
'You (plural) walked.'

b. pisruk-tut
walk-IND.3P
'They walked.'

c. tautuk-kisri
see-IND.2P3P
'You (plural) saw them.'

From these examples, just as we did above, we can identify the suffixes that cross-reference second person plural S, third person plural S, and second person plural A and third person plural O, as follows:

2P S: sri
3P S: t
2P A + 3P O: sri

Or, to put it differently:

	S	A	O
2P	sri	sri	
3P	t		ø

Thus, the portion of the transitive ending that cross-references A is identical with the intransitive ending, while the portion of the transitive ending that cross-references O is not identical with the intransitive ending. Therefore, the transitive ending that cross-references second person plural A and third person plural O operates on an accusative pattern. In this way, we can decide for each transitive ending whether it operates on an accusative or ergative pattern, as Vaxtin (1979, 1986) and Miyaoka (1986, 1987) did for Central Siberian Yupik and Central Alaskan Yup'ik, respectively. We can adopt their methods to Iñupiaq and get Table 2.

Table 2. Iñupiaq indicative endings

Intransitive		Transitive									
			O								
S		A	1S	1D	1P	2S	2D	2P	3S	3D	3P
1S	ŋa	1S				kpiñ	ptik p-tik	psi p-si	ga ø-ka	ka k-ka	tka t-ka
1D	guk	1D				ptikkiñ	ptigiñ	ptigiñ	kpuk kpu-k	vuk vu-k	vuk vu-k
1P	gut	1P				ptigiñ	ptigiñ	ptigiñ	kput kpu-t	vut vu-t	vut vu-t
2S	tin	2S	kma	ptiguk pti-guk	ptigut pti-gut				n ø-n	kiñ k-i-n	tin t-i-n
2D	tik	2D	ptikŋa ptik-ŋa	ptiguk pti-guk	ptigut pti-gut				ktik k-tik	tik ø-tik	tik ø-tik
2P	si	2P	psiŋa psi-ŋa	ptiguk pti-guk	ptigut pti-gut				ksi k-si	sri ø-si	sri ø-si
3S	q	3S	aŋa a-ø-ŋa	atiguk ati-guk	atigut ati-gut	atin a-tin	atik a-tik	asri a-si	a a-ø	k k-ø	i i-ø
3D	k	3D	akŋa a-k-ŋa	atiguk ati-guk	atigut ati-gut	atin a-tin	atik a-tik	asri a-si	ak a-k	ŋik ŋi-k	ŋik ŋi-k
3P	t	3P	atŋa a-t-ŋa	atiguk ati-guk	atigut ati-gut	atin a-tin	atik a-tik	asri a-si	at a-t	ŋich ŋi-t	ŋich ŋi-t

In the transitive paradigm, the ending is given on the first row, and on the second row it is analyzed into portions cross-referencing A and O, where possible. Where the portion of the transitive ending cross-referencing A is identical or similar to the intransitive ending, the cell is shaded with horizontal lines; where the portion of the transitive ending cross-referencing O is identical or similar to the intransitive ending, the cell is shaded with vertical lines; and where both the portions cross-referencing A and O are identical or similar to the respective intransitive endings, the cell is shaded with grids. Thus, cross-referencing operates on an accusative pattern in cells shaded with horizontal lines, on an ergative pattern in those shaded with vertical lines, on both accusative and ergative patterns in those shaded with grids, and on neither accusative nor ergative pattern in unshaded cells. In my analysis on the table, transitive cross-referencing operates on an accusative pattern in 21 out of 63 cells, on an ergative pattern in 23 cells, on both accusative and ergative patterns in 11 cells, and on neither accusative nor ergative pattern in 8 cells. This shows us that in Iñupiaq, cross-referencing operates on an accusative pattern almost equally as an ergative pattern in the indicative mood. Similar results will be obtained by examining other moods, such as interrogative and imperative.

To summarize, Iñupiaq is ergative in terms of case-marking, but partly accusative and partly ergative in terms of cross-referencing. Thus, despite being generally considered to be an ergative

language, Iñupiaq is not totally ergative, as is the case with most other languages generally considered to be ergative (Dixon (1994)).

Now, keeping in mind that Iñupiaq is ergative in some grammatical aspects but accusative in others, let us recall (4):

(4) Correlation between alignment and lability/stability

a. In accusative languages, labile pairs are more prominent in the S=A class, while stable pairs are more prominent in the S=O class.

b. In ergative languages, stable pairs are more prominent in the S=A class, while labile pairs are more prominent in the S=O class.

We have seen above that Iñupiaq, which is generally considered to be an ergative language, does not bear out (4b). That is, in this language, labile pairs are more prominent in the S=A class, while stable pairs are more prominent in the S=O class. Now, given that

(i) this property is exactly what is expected for accusative languages (4a), and

(ii) Iñupiaq is partly accusative in cross-referencing,

we may suspect that

(i) (4) should be tested against accusativity or ergativity in some specific part of the grammar rather than overall accusativity or ergativity, and

(ii) Iñupiaq will be accusative in that particular part of the grammar.

If this is the case, then Iñupiaq will not be an exception to (4) but rather will support (4).

Then, we need to ask ourselves the next question: which specific part of the grammar is relevant to (4)? We have considered accusativity or ergativity in case-marking and cross-referencing. We will next consider which is more likely to be relevant to the lability/stability of an intransitive-transitive pair.

Now, these mechanisms differ from each other in two respects:

(i) Cross-referencing markers are always in a clause, and are closer to the verb stem than are case-markers.

(ii) Case-markers are not always in a clause, and are farther away from the verb stem than are cross-referencing markers.

Let us consider what prediction we can make from these properties with regard to which part of the grammar is most likely to condition the lability/stability of intransitive-transitive pairs. Now, generally, obligatory elements are more likely to condition the form of other elements in a clause than optional elements are. Generally, the form of an element is more likely to be conditioned by an element that is closer to it than by an element that is farther away from it. That is, we may assume that cross-referencing markers are more likely to condition the lability/stability of intransitive-transitive pairs of verb stems than are case-markers.

Then, it follows that we may revise (4) as follows:

(44) Correlation between alignment and lability/stability (II)

a. In languages that are accusative in terms of cross-referencing, labile pairs are more prominent in the S=A class, while stable pairs are more prominent in the S=O class.

b. In languages that are ergative in terms of cross-referencing, stable pairs are more prominent in the S=A class, while labile pairs are more prominent in the S=O class.

Now, let us test (44) against those so-called ergative languages we have seen above.

Basque

Basque is ergative in terms of case-marking, as illustrated by the following examples:

(45) Basque (Hualde (2003: 180–181))

a. Gizon-a d-ator.
man-DET.AS 3S-come.PRES.IND
'The man is coming.'

b. Gizon-a-k zakurr-a ikusi du.
man-DET-EG dog-DET.AS see have.3S3S
'The man has seen the dog.'

On the other hand, in terms of cross-referencing, it is partly accusative and partly ergative. Thus, there is one series of cross-referencing markers for intransitive verbs, but two series for transitive markers. In one of the latter, used in past or conditional forms in which O is third person, S is marked in the same way as A and differently from O, which is zero-marked, while in the other series, S is marked in the same way as O and differently from A. Consider the following examples:

(46) Basque (Hualde (2003: 206, 208, 210, 237))

a. past intransitive
n-e-n-torr-en
1S-PAST-NON3-come-PAST
'I came.'

b. past transitive
n-e-karr-en
1S-PAST-bring.3SO-PAST
'I brought it.'

c. present intransitive
n-a-tor
1S-PRES-come
'I come.'

b. present transitive

n-a-kar-zu
1S-PRES-bring-2S
'You bring me.'

Notice that, in the past tense, the prefix *n-* marks first person singular S in (46a) and first person singular A in (46b), operating on an accusative pattern, while in the present tense it marks first person singular S in (46c) and first person singular O in (46d), operating on an ergative pattern. That is, Basque is partly ergative and partly accusative in terms of cross-referencing, and as we saw above, in this language S=A pairs are all labile, while S=O pairs are either labile or stable.

Chukchi

Chukchi is ergative in terms of case-marking, as illustrated by the following examples:

(47) Chukchi (Comrie (1979: 224))

a. Reqoka-lgən yet-gʔi.
arctic.fox-AS.S come-3S
'The arctic fox came.'

b. Riquke-te ge-nu-lin tekičg-ən.
arctic.fox-IN past.II-eat-3S3S meat-AS.S
'The arctic fox has eaten the meat.'

In terms of cross-referencing, it is partly accusative and partly ergative. Consider the following examples:

(48) Chukchi (Comrie (1979: 224–225))

a. Gəm tə-wiri-gʔek.
1S.AS 1S-descend-1S
'I descended.'

b. Gəm-nan gət-ø tə-lʔu-gət.
1S-EG 2S.AS 1S-see-2S
'I saw you.'

c. Turi wiri-tək.
2P.AS descend-2P
'You (plural) descended.'

d. ərgə-nan turi ne-lʔu-tək.
3P-EG 2P.AS 3P-see-2P
'They saw you (plural).'

The prefix *tə-* marks first person singular S in (48a), and first person singular A in (48b), operating

on an accusative pattern, while the suffix *-tək* marks second person plural S in (48c), and second person plural O in (48d), operating on an ergative pattern. Thus, Chukchi is partly ergative and partly accusative in terms of cross-referencing, and as we have already seen, in this language, labile pairs are more prominent in the S=A class, while stable pairs are more prominent in the S=O class.

Kham

Kham is partly ergative, partly accusative and partly tripartite in terms of case-marking. Examples of ergative case-marking follow:

(49) Kham (Watters (2002: 66))

a. La:-ø si-ke.
leopard-AS die-PF
'The leopard died.'

b. Tipəlkya-e la:-ø ø-səih-ke-o.
Tipalkya-EG leopard-AS 3S-kill-PF-3S
'Tipalkya killed a leopard.'

On the other hand, in terms of cross-referencing, it is accusative. Consider the following examples:

(50) Kham (Watters (2002: 79))

a. No-rə-ø nihm-da ba-ke-rə.
3-P-AS house-AL go-PF-3P
'They went to the house.'

b. No-ra-e zihm-ø jəi-ke-rə.
3-P-EG house-AS make-PF-3P
'They made a house.'

c. No-e no-ra-lai ya-səres-ke-o.
3S-EG 3-P-OJ 3P-recognize-PF-3S
'He recognized them.'

Notice that the cross-referencing marker for third person plural is a suffix *-rə* for S (50a) and for A (50b), but a prefix *ya-* for O (50c), thus forming an accusative pattern.

That is, although Kham is partly ergative in terms of case-marking, it is accusative in terms of cross-referencing, and as we have seen above, in this language, S=A pairs, if there are any, are most likely all labile, while S=O pairs are either labile or stable.

Yimas

Yimas is neutral in terms of case-marking, as illustrated by the following examples:

(51) Yimas (Foley (1991: 106, 194))

a.	Panmal	tantukwan	na-na-awŋkcpa-n.
	man.classI.S	alone	3S.S-DEF-bathe-PRES
	'The man is bathing alone.'		
b.	Panmal	narmaŋ	na-mpu-tay.
	man.classI.S	woman.classII.S	3S.O-3S.A-see
	'The man saw the woman.' *or* 'The woman saw the man.'		

In terms of cross-referencing, it is partly accusative and partly ergative. Consider the following examples:

(52) Yimas (Foley (1991: 195))

a. pu-wa-t
   3P.S-go-PF
   'He went.'
b. pu-n-tay
   3P.O-3S.A-see
   'He saw them.'
c. na-mpu-tay
   3S.O-3P.A.-see
   'They saw him.'

Notice that the prefix *pu-* marks third person plural S in (52a) and third person plural A in (52b), while the prefix *mpu-* marks third person plural O in (52c). So here cross-referencing works on an ergative pattern. This is how cross-referencing markers for third person work. On the other hand, consider the following examples:

(53) Yimas (Foley (1991: 196, 198))

a. ama-wa-t
   1S.S-go-PF
   'I went.'
b. pu-ka-tay
   3P.O-1S.A-see
   'I saw them.'
c. mpu-ŋa-tay
   3P.A-1S.O-see
   'They saw me.'

Notice that the prefix *ama-* marks first person singular S in (53a), the prefix *ka-* marks first person singular A in (53b), and the prefix *ŋa-* marks first person singular O in (53c). So here

cross-referencing works on a tripartite pattern. This is how cross-referencing markers for first and second persons work. However, there is some accusative element in these cross-referencing markers. Thus, when a modal prefix is attached to a verb, the A marker appears where the S marker is otherwise expected. Consider the following examples:

(54) Yimas (Foley (1991: 197))

a. ama-tmuk-t
1S.S-fall-PF
'I fell down.'

b. ant-ka-tmuk-t
POT-1S.A-fall-PF
'I almost fell down.'

c. * ant-ŋa-tmuk-t
POT-1S.O-fall-PF

Notice that, in (54b), the A marker, *ka-*, replaces the S marker, *ama-* (54a), in the presence of the modal prefix, *ant-*. One cannot replace it with the O marker, as shown by (54c). Thus, we can see an accusative pattern here, conflating S and A. To summarize, Yimas is partly ergative and partly accusative in terms of cross-referencing, and as we have seen above, this language has at least one S=A pair, which is labile, and a number of S=O pairs, which are all equipollent.

Coast Tsimshian

Coast Tsimshian marks core arguments with enclitics, called predicative connectives, that attach to the preceding word. They operate on an ergative, neutral or tripartite pattern, depending on the tense/aspect of the clause and whether the NP is common or proper, but not on an accusative pattern. Examples of the ergative case-marking pattern follow:

(55) Coast Tsimshian (Sasama (2001: 93))

a. Mí:lk=ət Kayla.
dance=AS Kayla
'Kayla is dancing.'

b. Lutám=s Teresa=t Kayla.
hug=EG Teresa=AS Kayla
'Teresa hugs Kayla.'

Notice that the enclitic *=(ə)t* marks the following S (55a) or O (55b), while *=s* marks the following A (55b).

Let us now turn to cross-referencing, which employs three sets of clitics or affixes, called dependent pronominals, attached to verbs or tense/aspect markers. Mulder (1994) states that these cross-referencing markers operate on an ergative, tripartite, or 'transitive' (S≠A=O) pattern,

depending on the mood, but not on an accusative pattern. Examples of the ergative cross-referencing pattern follow:

(56) Coast Tsimshian (Mulder (1994: 52–54))

a. Hasag-ay-u da dm-t bax-good-a
want-IV-1S(S) CN.PREP FUT-3(A) up.along.ground-go.to.place-CN.PRED
łams-u mati hu-waal-d-ada gyilhawli.
son.in.law-1S.POSS mt.goat P-be-3-CN.PREP woods
'I wish for my son-in-law to go up for the mountain goats there in the woods.'

b. Ada n dm sa-l'i-t'uus-a na-galdm-aksg-u.
and 1S(A) FUT sudden-on-push-CN.PRED POSS-container-get.water-1S.POSS
'Then I shall suddenly push over my bucket.'

c. Ada wil m way-u.
and then 2S(A) find-1S(O)
'Then you found me.'

Notice that *-u* marks first person singular in S function (56a) or in O function (56c), but not in A function (56b), forming an ergative pattern.

Although Mulder (1994: 61) (in consonance with other earlier works such as Dunn (1995 [1978, 1979])) states that cross-referencing does not work on an accusative pattern, according to Sasama (2001, p.c.), there are small cases where cross-referencing operates on a partially accusative pattern: namely, when the tense/aspect marker is *na* and S, A, O are all first or second person. Consider the following examples:

(57) Coast Tsimshian (Sasama (2001: 82; p.c.))

a. Na=n ləsál'i-n'u ta ʔól.
TA=1S(S) watch-1S(S) OL bear
'I was watching a bear.'

b. Na=n ni:c-ə-n.
TA=1S(A) see-IV-2S(O)
'I saw you.'

c. Na=msəm hókskw-u n'ì:.
TA=2P(A) come.with-1S(O) TQ
'You (plural) came with me, didn't you?'

Notice that *=n* marks first person singular in S function (57a) or in A function (57b), but not in O function (57c), forming an accusative pattern.

Thus, Coast Tsimshian is mostly ergative, but partially accusative, in terms of cross-referencing, and, as we saw above, in this language, labile pairs are prominent in the S=A class, while stable pairs are prominent in the S=O class.

To summarize, we have seen so far that so-called ergative languages that do not conform to (4b) are at least partially accusative, and not totally ergative, in terms of cross-referencing.

6. Languages that are totally ergative in terms of cross-referencing

In the previous section, we saw that the ergative languages we have examined above are actually partially accusative in terms of cross-referencing. The question we will then ask ourselves in this section is the following: what about languages that are totally ergative? Let us now examine such languages.

Trumai

In Trumai, a language isolate of Brazil, S's and O's are zero-marked, while A's are marked by the suffix *-(V)k*, as illustrated by the following examples:

(58) Trumai (Guirardello (1999: 256–258))

a. Pet'ew-ø achïkida.
frog-AS jump
'The frog jumps.'

b. Ine-k atlat-ø mapa.
3-EG pan-AS break
'He broke the pan.'

c. Ine-k hi-ø hotaka.
3-EG 2-AS deceive
'He deceived you.'

Thus, Trumai is ergative in terms of case-marking.

As for cross-referencing, there are two relevant divides. First, when third person S or O is not lexically present in a clause because of discourse continuity, the last element of the verbal phrase receives third person enclitic *-n~-e*, while when A is absent, there is no additional mark on the verb. Thus, compare (64a, b, c) with

(59) Trumai (Guirardello (1999: 257–258))

a. Ø Achïkida-n.
jump-3.AS
'He jumps.'

b. Ine-k Ø mapa-n.
3-EG break-3.AS
'He broke it.'

c.	Ø	Tsi-tle-ø	hotaka	de.	
		3.POSS-mother-AS	deceive	already	
	‘(He) already deceived his mother.’				

Notice that in (59a, b), where the third person S or O, respectively, is absent, the verb is marked by *-n*, while in (59c), where the missing argument is A, the verb is not marked.

Second, unmarked S and O appear immediately before the verb, as shown in (58a, b, c) and (59c), but when they appear in other positions, the morpheme *ke* appears after the verb. On the other hand, the position of A does not cause any extra morphology on the verb. Consider the following examples:

(60) Trumai (Guirardello (1999: 257–258))

a.	Dinoxo	yi-ø	ka_in	achĭkida	ke.	
	young.lady	NPFM-AS	FC/TS	jump	KE	
	‘The young lady jumped.’					
b.	Kandida	yi-ø	ka_in	hai-ts	wa-padi	ke.
	Cândida	NPFM-AS	FC/TS	1-EG	long-wait	KE
	‘I am waiting for Cândida.’					

Notice that in (60a, b) S and O, respectively, do not immediately precede the verb, because of the intrusion of the focus/tense marker in the former and the focus/tense marker and A in the latter, and that the verb is followed by *ke*. By contrast, notice that in (58b, c) the verb is not followed by *ke* despite the intrusion of some element between A and the verb.

There is no other device for cross-referencing. That is, Trumai is totally ergative in terms of cross-referencing. Now, let us look at intransitive-transitive pairs in this language.

First let us examine S=A pairs. O may be omitted when not relevant, not definite, or unimportant. First consider the following example:

(61) Trumai (Guirardello (1999: 340))

Ina	hen,	wan	midoxos	midoxos-e	hen.
there	then	P	call	call-3.AS	then
‘Then, then, in this occasion, they call them.’					

In (61), O is not lexically present. But *-e* ‘3.AS’ on the verb indicates that it should be retrievable from the context. Therefore, *midoxos* in (61) has O that is ellipted, that is, it is a transitive verb. Now compare (61) with the following example:

(62) Trumai (Guirardello (1999a: 340))

Ina	hen,	midoxos	midoxos	hen.
there	then	call	call	then

'Then, in this occasion, they call (other people, not defined here).'

O is not present in (62) just as in (61), but its status is different from that in (61). Notice that the verb is not marked by *-n~-e*, which should appear if O is ellipted. The absence of *-n/-e* indicates that O is non-realized rather than ellipted in this case. So (62) is an intransitive clause, and *midoxas* in it is an intransitive verb. Thus, these sentences show that *midoxos* forms a labile S=A pair: *midoxos/midoxos* 'call/call'. The range of the verbs that form such labile S=A pairs is not clear from Guirardello's (1999: 340–342) description, but anyway at least one verb forms such a pair.

Next, let us look at stable S=A pairs. In Trumai, some verbal events may be expressed by two suppletively related verbs, one transitive and the other intransitive, called 'lexical Antipassive' by Guirardello (1999: 355). The following are some examples of such pairs of verbs:

(63) Trumai (Guirardello (1999: 355))

	intransitive	transitive
a.	fa 'hit/kill'	disi 'hit/kill'
b.	make 'bite'	tako 'bite'
c.	chuda 'make'	kapan 'make'

And the followings are examples of clauses with the verbs in (63a):

(64) Trumai (Guirardello (1999: 356))

a. intransitive

Ha	fa-tke	ka_in	ine-tl.
1.AS	hit/kill.intr-DES	FC/TS	3.DT

'I want to kill/hit him.'

b. transitive

Ha	disi-tke	ka_in	inak	wan-ek.
1.AS	hit/kill.tr-DES	FC/TS	3	P-EG

'They want to kill me.'

The verb in (64a), *fa* 'hit/kill', is intransitive, because the agent *ha* 'I' appears in the absolutive case and the patient *ine-tl* 'him' appears in the dative, while the verb in (64b), *disi* 'hit/kill', is transitive, because the agent *inak wan-ek* 'they' appears in the ergative case and the patient *ha* 'I' appears in the absolutive case. The difference between such two clauses is, roughly, due to the importance of the patient: if it is important, the transitive verb is selected, while if it is less important, the intransitive verb is selected (Guirardello (1999: 357)). Anyway, such pairs as shown in (63) are stable S=A pairs, or more precisely, suppletive S=A pairs.

Let us now turn to S=O pairs. In Trumai, A can be freely suppressed from transitive clauses, without any special marking on the verb or elsewhere, which gives us intransitive clauses, and intransitive verbs. Thus, consider the following examples:

(65) Trumai (Guirardello (1999: 351)) *mapa/mapa* 'break/break'

a. Hai-ts atlat-ø mapa.
1-EG clay.pan-AS break
'I broke the clay pan.'

b. Atlat-ø mapa.
clay.pan-AS break
'The clay pan broke.'

(66) Trumai (Guirardello (1999: 344)) *tïchï/tïchï* 'get scared/scare'

a. Hai-ts Atawaka-ø tïchï.
1-EG Atawaka-AS scarify
'I scared Atawaka.'

b. Atawaka-ø tïchï.
Atawaka-AS scarify
'Atawaka scared herself.' or 'Atawaka got scared (by somebody).'

Thus, such verbs as *mapa* 'break' (65) and *tïchï* 'scarify' (66) form labile S=O pairs. The meaning of the intransitive verbs in such pairs ranges from spontaneous to middle to reflexive to passive, depending on the meaning of the verb, but from Guirardello's description (1999: 342–352) there does not appear to be any restriction on the verbs that allow this suppression of A.

As for stable S=O pairs, there is one set of candidates, which involve causative marker *ka*. Consider the following example:

(67) Trumai (Guirardello (1999: 302))

Hai-ts Yakairu-ø sa ka.
1-EG Yakairu-AS dance CAUS
'I made Yakairu dance.'

This example alone may suggest the status of *sa/sa ka* 'dance/make dance' as an S=O pair. However, this is actually not so. In fact, *ka* is a productive, rather than lexical, causative formative, as is shown by the fact that it can be freely used with transitive verbs, as illustrated by the following example:

(68) Trumai (Guirardello (1999: 303))

Hai-ts chï_in Atawaka-k atlat-ø mapa ka.
1-EG FC/TS Atawaka-EG clay.pan-AS break CAUS
'I made Atawaka break the clay pan.'

As *ka* is a productive causative formative, pairs involving it are not intransitive-transitive pairs. Thus, the only type of S=O pairs in Trumai are labile S=O pairs.

To summarize on Trumai, this language is totally ergative in terms of cross-referencing (as well as case-marking), and in this language, S=A pairs are either labile or stable, while S=O pairs are all labile.

Adyghe

Adyghe, a Northwest Caucasian language, is ergative in terms of case-marking, as illustrated by the following examples:

(69) Adyghe (Jakovlev and Ašxamaf (1941: 34))

a. Šy-r ma-c”è.
horse-AS 3.AS-run
‘The horse runs.’

b. Šy-m zèntx”y-r ø-e-šxy.
horse-EG oats-AS 3.AS-3S.EG-eat
‘The horse eats oats.’

Let us then look at cross-referencing. While cross-referencing markers for first and second person arguments operate on a neutral pattern, those for third person arguments operate on an ergative pattern. We cannot see this in (69), because the third person marker for S and O, *ma-/mè-*, alternates with zero when some other prefix comes between it and the verb stem (so that actually third person O is always marked with a zero prefix, since the marker for A always appears after it). Compare (69) with the following example:

(70) Adyghe (Jakovlev and Ašxamaf (1941: 34))

Kocy-r ø-k”è-kIy.
wheat-AS 3.AS-here-grow
‘The wheat grows here.’

where S is marked by zero, like O in (69b), because of the presence of another prefix, *k”è-*, after it.

Another way of cross-referencing is in terms of number. A suffix *-x* marks the plurality of S or O, while the plurality of third person A is marked with a different prefix than that of singular A (singular *e-* vs. plural *a-*), as illustrated by the following examples:

(71) Adyghe (Jakovlev and Ašxamaf (1941: 35–36))

a. Udarnikxè-r ma-kIo-x.
shock.worker-AS 3.AS-come-P
‘Shock-workers come.’

b. ø-k”-e-txy-x.
3.AS-here-3.S.EG-write-P
‘He writes them here.’
c. ø-k”-a-txy.
3.AS-here-3.P.EG-write
‘They write it here.’

Thus, Adyghe is totally ergative in terms of cross-referencing.

Now, let us move on to intransitive-transitive pairs. We will begin with S=A pairs. There are labile S=A pairs, as illustrated by the following examples:

(72) Adyghe (Gišev (1989: 75)) *xy/xy* ‘mow/mow’
a. Kombajnè-r mè-xy.
combine-AS 3.AS-mow
‘The combine mows.’
b. Kombajnè-m kocy-r ø-e-xy.
combine-EG field-AS 3.AS-3S.EG-mow
‘The combine mows the field.’

Also, there are pairs of intransitive and transitive verbs that have the following characteristics:
(i) The intransitive verb ends in *è*, while the transitive verb ends in *y*.
(ii) The S of the intransitive verb corresponds with the A of the transitive verb.
See the following examples:

(73) Adyghe (Jakovlev and Ašxamaf (1941: 321))

	intransitive	transitive
a.	txè ‘write’	txy ‘write’
b.	dè ‘sew’	dy ‘sew’
c.	laž’è ‘work’	lèž’y ‘work on’

The followings are examples of such a pair in sentences:

(74) Adyghe (Gišev (1989: 80)) *laž’è/lèž’y* ‘work/work on’
a. Kolxozniky-r dèg”ou mè-laž’è.
collective.farmer-AS well 3.AS-work.intr
‘The collective farmer works well.’
b. Kolxozniky-m cIygu-r dèg”ou ø-e-lèž’y.
collective.farmer-EG land-AS well 3AS-3S.EG-work.tr
‘The collective farmer works on the land well.’

This alternation is unproductive, for the following reasons:

(i) As Gišev (1989) notes, such pairs are 'rather rare' (1989: 78).

(ii) It is not applied to all the pairs of intransitive and transitive verbs, as evidenced by the fact that *xy/xy* 'mow/mow' (72) does not show this alternation, despite the fact that its transitive verb meets the phonological condition for it in ending in *y*.

As long as it is unproductive, such pairs as shown in (73, 74) that show this alternation are equipollent S=A pairs.

Thus, Adyghe has labile and equipollent S=A pairs.

Let us next look at S=O pairs. First, there are labile S=O pairs, as illustrated by the following examples:

(75) Adyghe (Gišev (1989: 75)) *sty/sty* 'burn/burn'

a. Px"è-r mè-sty.
firewood-AS 3.AS-burn
'The firewood is burning.'

b. Ž"oku-m px"è-r ø-e-sty.
ember-EG firewood-AS 3.AS-3S.EG-burn
'The ember burns the firewood.'

Turning to stable S=O pairs, there is a causative prefix, *g"è-~g"a-* as illustrated by the following examples:

(76) Adyghe (Jakovlev and Ašxamaf (1941: 328))

a. Ma-štè.
3.AS-be.afraid
'He is afraid.'

b. S-e-g"a-štè.
1.AS-3S.EG-CAUS-be.afraid
'He makes me afraid.'

Pairs of intransitive and transitive verbs involving *g"è-~g"a-*, such as *štè* 'be afraid' and *g"a-štè* 'make afraid', would at first sight appear to form a transitivizing S=O pair. However, this is not really the case, because *g"è-~/g"a-* is a productive causative formative, for the following reasons:

(i) Causatives formed by this prefix indicate indirect causation. As Jakovlev and Ašxamaf (1941) note, 'the causative voice expresses a fairly wide range of shades of meaning and can be conveyed in Russian descriptively by the infinitive of the original verb and such words as 'zastavljaet [makes]', 'dopuskaet [lets]', 'daet [allows]', 'posvoljaet [permits]' ((1941: 327); my translation).

(ii) Causatives can be formed by this prefix 'from almost all verbs, both intransitive and transitive' (Jakovlev and Ašxamaf (1941: 327); my translation).

As long as this prefix is productive, pairs involving it, such as *štè* 'be afraid' and *g"a-štè* 'make afraid', are not transitivizing S=O pairs. Thus, Adyghe does not have stable S=O pairs.

To summarize, Adyghe is totally ergative in terms of cross-referencing, and in this language S=A pairs are either labile or stable, while S=O pairs are all labile.

We have examined two languages that are totally ergative in terms of cross-referencing, and in both the languages stable pairs are more prominent in the S=A class, while labile pairs are more prominent in the S=O class. The languages that belong here are not many, because it is rather rare to find a language that is totally ergative in terms of cross-referencing. So, we cannot say anything conclusive, but we can at least revise (44) as follows:

(77) Correlation between alignment and lability/stability (III)

a. In languages that are totally ergative in terms of cross-referencing, it may be the case that stable pairs are more prominent in the S=A class, while labile pairs are more prominent in the S=O class.

b. In other languages, labile pairs are more prominent in the S=A class, while stable pairs are more prominent in the S=O class.

7. Concluding remarks

As Dixon (1994) claims, accusativity/ergativity are correlated with lability/stability in the S=A or S=O class. Accusativity conditions labile pairs prominent in the S=A class and stable pairs prominent in the S=O class, while ergativity conditions stable pairs prominent in the S=A class and labile pairs prominent in the S=O class.

However, the conditioning is not straightforward. Stable pairs may be prominent in the S=A class and labile pairs in the S=O class only when the language is totally ergative in terms of cross-referencing. Partial ergativity in terms of cross-referencing or total ergativity in terms of case-marking is not enough. That is, total ergativity in terms of cross-referencing is a necessary condition for a language to have stable pairs prominent in the S=A class and labile pairs prominent in the S=O class.

On the other hand, accusativity is a sufficient condition for a language to have labile pairs prominent in the S=A class and stable pairs prominent in the S=O class. That is, if a language is at least partly accusative in terms of cross-referencing or case-marking, the language will have labile pairs prominent in the S=A class and stable pairs prominent in the S=O class.

As a result, stable pairs prominent in the S=A class and labile pairs prominent in the S=O class, on the one hand, and labile pairs prominent in the S=A class and stable pairs prominent in the S=O class, on the other, are not equally distributed in the world's languages. The former pattern is found only in a small number of languages, such as Trumai and Adyghe, that are totally ergative in terms of cross-referencing.

That is, we can see asymmetries involved here. First, there is asymmetry between ergativity and accusativity. The conditioning force of ergativity towards the prominence of labile pairs in the S=O

class is much weaker than the conditioning force of accusativity towards the prominence of labile pairs in the S=A class.

Second, there is asymmetry between the prominence of labile pairs in the S=O class and the prominence of labile pairs in the S=A class. The former is much rarer than the latter. This is related to asymmetry between S=A pairs and S=O pairs. That is, there is a general tendency for S=A pairs to be more labile than S=O pairs, and for S=O pairs to be more stable than S=A pairs, this general tendency being possibly overridden only in the presence of total ergativity in terms of cross-referencing.

Dixon (1994: 217) states:

> [A]mbitransitive S=A verbs have to be treated just as carefully in ergative languages as the S=O variety must be in accusative languages.

Actually, however, the S=O variety turns out to be treated more carefully not only in accusative languages but also in most ergative languages, the only exception being those languages that are totally ergative in terms of cross-referencing.

Why there should be such asymmetry between S=A and S=O pairs, which Dixon's claim seems to assume to be fairly symmetrical, should be left for further research.

List of abbreviations

A	subject of transitive verb	IN	instrumental
AC	accusative	INC	incompletive
AL	allative	IND	indicative
ART	article	intr	intransitive
AS	absolutive	INTR	intransitivizer
AUX	auxiliary	IV	inserted vowel
CAUS	causative	LC	locative
CMPL	completive	N	neuter
CN	connective	NPFM	noun phrase final morpheme
DEF	definitive	O	object of transitive verb
DES	desiderative	OJ	objective
DET	determiner	OL	oblique
DT	dative	P	plural; previous event
EG	ergative	PAST	past
EV	direct evidential	PF	perfective
FC/TS	focus/tense	POSS	possessive
FUT	future	POT	potential
GN	genitive	PP2	completive participle
HON	honorific	PRED	predicate
HS	hearsay	PREP	preposition
IC	inserted consonant	PRES	present
IMP	imperative	PROG	progressive

RL	relative	tr	transitive
RP	relative participle	TR	transitivizer
S	singular	1	first person
S	subject of intransitive verb	2	second person
TA	tense-aspect marker	3	third person
TQ	tag question		

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対格性／能格性と S=A/S=O 動詞ペアの自他同形性／非同形性との関連

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キーワード：　対格性　能格性　自他同形性　自他非同形性　S=A　S=O　格表示　相互照応

要旨

Dixon (1994)は、対格言語は S=A 型の自他同形動詞ペアを持ち、能格言語は S=O 型の自他同形動詞ペアを持つ傾向があると主張する。本論文はこの主張を検討し、ここでいう対格性／能格性とは相互照応における対格性／能格性であるべきであると結論する。

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